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Special issue:
Healthcare Communication Discourses
and the Applied Linguist

Guest Editors:

Stefania M. Maci, University of Bergamo, Italy

Roxanne H. Padley, Pegaso University, Italy

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Introduction: Applying linguistics to healthcare communication discourses

Stefania M. MACI, University of Bergamo, Italy¹

Roxanne H. PADLEY, Pegaso Digital University, Italy

The diversity of contexts in which healthcare communication unfolds also reflects wider societal developments, such as the digitalisation of healthcare information, the increasing importance of patient-centred care models and the growing recognition of linguistic and cultural diversity in clinical settings. For this reason, healthcare communication is a vast and multi-faceted area of linguistic research, broadly encompassing any form of communication that takes place in a medical or healthcare context or relates to the description of health and illness. Given this rich and complex landscape, this special issue offers an interdisciplinary study of the role of discourse analysis and applied linguistics in healthcare communication. It offers insights into (1) past and present professional discourses on health and the body, (2) discourse analysis and healthcare communication, (3) the role of the applied linguist in healthcare communication, (4) the application of corpus linguistics to healthcare communication, and (5) the impact of applied linguistics on communicative practices.

Keywords: Communicative Practices; Corpus Linguistics; Discourse Analysis; Discourses on Health; Discourses on Body Healthcare Communication

1. Introduction

Healthcare communication constitutes a vast and multifaceted domain of linguistic inquiry, broadly encompassing any form of communication (a) that occurs within a medical or healthcare context or (b) that refers to the description of health and illness. It is not restricted to formal or clinical interactions but extends across a wide communicative spectrum, ranging from casual conversations about wellbeing, to the dissemination of health information through digital media (cf., for instance, Ndlangamandla et al., 2024; Padley, 2022; Zollo, 2022. See also Creten & Heynderickx, 2023), to structured institutionalised exchanges (Donadio & Passariello, 2022) which also include doctor-patient consultation (Brookes & Collins, 2023). As a result, healthcare communication has increasingly drawn the attention of scholars

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working in various disciplines, including corpus linguistics, discourse analysis, conversation analysis, applied linguistics, cultural studies, and literary and narrative inquiry. Each of these perspectives offers distinct yet complementary insights into how health is talked about, represented, and experienced through language.

The diversity of contexts in which healthcare communication unfolds also reflects broader societal developments, such as the digitisation of health information, the increasing prominence of patient-centred care models, and the growing recognition of linguistic and cultural diversity in clinical settings (Gotti et al., 2015). These developments have opened up new avenues for research and critique, especially as healthcare professionals, patients, and institutions attempt to navigate complex communicative demands in high-stakes environments. Consequently, there is a growing imperative to understand not only the linguistic patterns that characterise healthcare communication, but also the ideological, cultural, and institutional forces that shape them.

Within this expanding field, discourse analysis has emerged as one of the most widely adopted and productive approaches (Padley, 2022). It provides researchers with the tools to examine language as social action, illuminating how meanings are constructed, identities negotiated, and power relations enacted through talk and text. Nonetheless, discourse analysis is by no means a unified field (Fairclough, 1989, 1995). As Gee (1999) has noted, the term 'discourse' itself is used in various ways, referring both to small-scale linguistic exchanges (sometimes denoted as 'discourse' with a lowercase 'd') and to broader sociocultural narratives and ideologies ('Discourse' with an uppercase 'D'). This distinction between micro and macro levels of analysis is echoed in Gwyn's (2002) work, which examines how individuals communicate about illness in narrative and conversational forms, but also how such communication is situated within prevailing cultural understandings of the body, disease, and authority.

The flexibility and adaptability of discourse analysis have contributed to its popularity within healthcare research, but they have also led to concerns about definitional vagueness and methodological inconsistency. Baker (2006), for example, highlights the diverse ways in which discourse can be studied, particularly through corpus-assisted approaches that aim to enhance the transparency and replicability of findings. Similarly, Brookes and Hunt (2021) argue that while discourse analysis has yielded important insights into health communication, the term 'discourse' is often deployed with inconsistent meanings, which can obscure rather than clarify the analytical focus. Such critiques suggest that, while discourse analysis remains a powerful lens for

examining healthcare communication, there is a need for greater conceptual precision and methodological rigour in its application.

In tandem with these methodological questions, there is also an ongoing debate about the role of the applied linguist within healthcare contexts. Applied linguistics, as a discipline concerned with real-world language problems, is uniquely positioned to contribute to the analysis, understanding, and improvement of healthcare communication. Yet the precise function of the applied linguist in this setting is far from settled. Sarangi (2005) raises important questions about whether applied linguists should be seen merely as observers and analysts, or whether they also have a more interventionist role to play—as educators, facilitators, or collaborators working alongside healthcare professionals. He suggests that applied linguists can occupy multiple roles simultaneously: mediating between disciplinary perspectives, solving communication problems in clinical contexts, and contributing to training and education initiatives aimed at improving professional discourse.

This ambiguity in professional identity reflects a broader issue in applied linguistics: the tension between description and prescription, between the analytic and the practical. While some researchers maintain that the applied linguist's primary task is to describe and analyse language use objectively, others advocate for a more engaged and participatory model, in which linguists work directly with stakeholders to implement communicative improvements. The healthcare context—where communication can have life-or-death consequences—intensifies this debate, as linguistic misunderstandings, misalignments in expectations, and failures of interpersonal rapport can significantly affect patient outcomes. In this respect, applied linguistics is not only relevant to healthcare communication—it is vital to its ethical and functional success.

Moreover, the methodological innovations within applied linguistics further enhance its relevance to healthcare research. The use of corpus linguistics, for instance, enables the systematic analysis of large bodies of health-related texts, revealing recurring patterns in the language of diagnosis, treatment, risk communication, and patient education. Brookes and Collins (2023) provide a detailed framework for applying corpus linguistic tools to healthcare data, demonstrating how frequency analysis, collocation, and concordancing can shed light on discursive trends that might otherwise remain invisible. Similarly, conversation analysis offers a fine-grained view of interactional dynamics in clinical encounters, allowing researchers to examine how turns-at-talk are managed, how empathy is expressed or withheld, and how authority is negotiated between medical professionals and patients.

Given this rich and complex landscape, this special issue seeks to generate interdisciplinary discussion on the role of discourse analysis and applied

linguistics within healthcare communication. It aims to offer insights into past and present professional discourses regarding health and the body, discourse analysis and healthcare communication, the role of the applied linguist in healthcare communication, the application of corpus linguistics to healthcare communication, and the impact of applied linguistics on communicative practices. Collectively, these themes offer an opportunity to reflect critically on how language functions within healthcare and how it shapes, and is shaped by, institutional practices, social ideologies, and interpersonal relationships. They also raise important questions about the ethical and professional responsibilities of researchers working at the intersection of language and health. Ultimately, this special issue aims to foster dialogue across disciplinary boundaries, encouraging more collaborative, reflective, and socially responsive approaches to the study of healthcare communication.

2. Outline of the special issue

This issue is opened by Paola Catenaccio's contribution which investigates the linguistic features of anorexia recovery narratives, comparing discourse from two distinct sources: (a) Reddit posts by individuals currently struggling with recovery, and (b) curated success stories from eating disorder support websites. Using a corpus-based approach complemented by discourse analysis, the study identifies lexical and syntactic patterns that reveal key differences in how recovery is articulated. Struggling recovery narratives often express ambivalence, uncertainty, and therapeutic jargon (e.g., 'weight restored', 'ED'), while successful recovery stories show greater epistemic certainty, a stronger sense of identity reconstruction, and distance from the illness. The findings suggest that linguistic markers can serve as diagnostic cues for clinicians and support more nuanced understanding in narrative therapy. This study contributes to applied linguistics and clinical practice by offering empirical evidence of how language reflects and shapes recovery trajectories in anorexia.

Stefania D'Avanzo explores how the UK's National Health Service (NHS) represents citizens in its digital health communication, with a focus on how digital transformation is changing the perceived role of 'patients'. Using a corpus-based approach, official NHS documents are investigated considering the terminology used to describe those receiving healthcare services—such as 'patients', 'individuals', 'citizens', and 'people'—and the linguistic patterns surrounding them. By applying Halliday's transitivity framework, the study finds that these terms function not just as neutral descriptors but as indicators of shifting power dynamics and expectations. 'Patients' and 'citizens' are increasingly portrayed as active participants and co-creators in healthcare processes, reflecting a more collaborative, digitally-enabled model of care. However, the analysis also reveals an institutional focus on services rather than on people, suggesting a tension between empowering language and actual

user engagement. Ultimately, the study underscores the discursive construction of agency in digital healthcare and calls for further attention to how language shapes evolving medical relationships.

Girolamo Tessuto investigates how authors in the field of Complementary and Alternative Medicine (CAM) use language to construct credibility, assert professional identity, and gain visibility within the competitive domain of academic publishing. Drawing on a corpus of 30 English-medium CAM research articles from reputable open-access journals, the study applies Hyland's stance framework and discourse analysis to identify evaluative markers that writers employ to promote their research. Findings show that CAM scholars strategically use promotional and persuasive language such as positive adjectives, epistemic boosters, and self-referential expressions to emphasise the importance, novelty, and reliability of their work. These rhetorical strategies serve not only to legitimise CAM within a biomedically dominated academic environment, but also to respond to pressures of the 'publish or perish' culture and the 'attention economy' of scholarly publishing. The paper highlights how CAM researchers must balance scientific rigour with promotional discourse to assert their place in the wider medical research community and to ensure their work is seen, cited, and valued.

Rosita Maglie and Francesca Filograsso explore how adolescent cancer patients and their healthy peers use metaphors to understand, express, and cope with cancer. Drawing on semi-structured interviews with eight Italian adolescents and using both thematic and discourse analysis, the study investigates metaphor preferences based on the 'Metaphor Menu for People with Cancer.' The analysis reveals that both patients and nonpatients most frequently selected the 'New Value' metaphor, indicating a shared recognition of cancer as a life-altering experience. However, patients tended to use metaphors in more empowering and resilient ways—especially the 'Fight' metaphor—while nonpatients often viewed cancer as overwhelming or permanent, sometimes adopting metaphors with disempowering implications. The study also examined coping strategies, finding that cancer patients employed a wider range, especially problem-focused and emotional support strategies, whereas healthy adolescents leaned more on acceptance and humour. The findings highlight how metaphorical framing impacts emotional processing, coping styles, and health beliefs, and suggest that carefully chosen metaphors can support adolescent well-being and improve communication in healthcare settings.

Finally, to close the issue, Roxanne H. Padley examines the effectiveness of corpus linguistic feedback in improving healthcare communication, with a focus on cosmetic surgery consultations. Using a mixed-methods approach that combines quantitative corpus analysis with qualitative feedback from

surgeons, the research explores how language shapes patient-provider interactions—particularly through the use of lay vs. medical terminology, stigmatising discourse, and conversational asymmetries such as interruptions. Data from recorded consultations across UK clinics revealed that, while surgeons often used lay terms to improve comprehension, medical terminology remained common and was frequently explained. Notably, patients interrupted more than surgeons, challenging traditional power dynamics. An executive report summarising these findings was shared with participating surgeons, whose responses, via questionnaires and debriefings, showed heightened awareness and a willingness to adjust communicative practices. The study demonstrates how corpus linguistics can yield actionable insights for clinicians, supporting patient-centred care and offering a model for future interdisciplinary collaboration in healthcare communication research.

Authors' Statement

This introduction to the special issue was written collectively by both authors.

The Authors

Stefania M. Maci (Email: stefania.maci@unibg.it) (PhD, Lancaster University, UK) is Full Professor of English Language, Translation and Linguistics at the University of Bergamo, where she is Coordinator of the MA in Digital Humanities, Director of the Research Centre on Specialised Languages, and Scientific Coordinator of the Research Group on Digital Humanities. She served on the executive board of AIA (Associazione Italiana di Anglistica 2019-2023) and she is now serving on the executive board of CADAAD (Critical Approaches to Discourse Analysis across Disciplines). Her research is focused on the study of the English language in academic and professional contexts, with particular regard to the analysis of medical and tourism discourses.

Roxanne H. Padley, PhD (Email: roxanneholly.padley@unipegaso.it) is currently tenure track assistant professor in English linguistics and translation at the Pegaso University and was previously research fellow at the University of Bergamo. She holds a PhD in English linguistics specialising in healthcare communication. She has taught extensively in the fields of English for Medical purposes as well as English for Professional, Technical and Communicative purposes at undergraduate and postgraduate level at the University of Salerno, the University of Sassari and the University of Bergamo. She is also visiting professor in English for Academic Purposes at the University of Oxford Language Centre. Her research interests include English for specific purposes (scientific-medical English), healthcare communication, corpus-based discourse

analysis and English language teaching with new technologies. She has published and presented widely on an international level on topics related to healthcare communication and English language teaching.

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Unpacking recovery talk: Applied linguistics and anorexia recovery narratives

Paola CATENACCIO, Università degli Studi di Milano, Italy

Narrative therapy has been widely used in the study of eating disorders (EDs), in line with a trend in therapeutical intervention (not limited to eating disorders) that has successfully probed patients' reports of their illness and recovery journeys in an attempt to better understand them and improve treatment outcomes. Recently, interest in recovery narratives has increased, not least because ED sufferers, and especially anorexia patients, often show ambivalence toward recovery—a factor that leads to high relapse rates. In light of this, investigating the linguistic features characterizing, respectively, the discourse of former anorexia sufferers who have successfully recovered, and of those who are still struggling, can help identify linguistic cues that may contribute to assessing patients' attitudes towards recovery. This paper examines the discursive construction of illness and recovery in anorexia stories from Reddit's r/AnorexiaRecovery, where recovering ED sufferers engage in conversation with their peers, often with the aim of finding support or solace (henceforth, 'struggling recovery posts'), and ED-focused medical websites featuring full recovery stories ('successful recovery narratives'). By analyzing recurrent lexical and syntactic features, this corpus-based study compares how ambivalence toward recovery is negotiated in successful versus struggling recovery discourse.

Keywords: Anorexia Recovery Discourse; Clinical Linguistics; Corpus-Based Clinical Research; Eating Disorders; Narrative Inquiry

1. Introduction

Eating disorders, including anorexia nervosa, bulimia nervosa, and binge eating disorder, affect millions worldwide. A recent meta-analytical study (van Eeden et al., 2021) suggests that lifetime prevalence rates of anorexia nervosa might be up to 4% among females and 0.3% among males, though incidence figures vary quite substantially depending on the criteria adopted (cf. also Martínez-González et al., 2020), and other studies put the prevalence at a much higher rate (for instance Galmiche et al., 2019, put it in the range of 8%). While there appears to be some evidence that overall incidence rate has remained stable over the past decades, not all scholars agree, with some claiming a steady increase over the years. There seems to be general consensus, however, that

anorexia—historically considered a disorder affecting mainly young women in Western countries—has now spread globally, (Kokaze & Pike, 2024), and can be found across socioeconomic groups, cultures, genders, and sexual orientation (Calzo et al., 2017; Murray et al., 2017; Pike et al., 2014). There is also general agreement that onset age has decreased, with a growing number of young people (under 15 years of age) being diagnosed. Although such increase may be due to earlier detection (in turn driven by increased awareness), it is a cause of concern; rising evidence of links between social media use and poor body image and disordered eating (Frost & Rickwood, 2017; Holland & Tiggemann, 2016; Mingoia et al., 2017; Ryding & Kuss, 2020; Saiphoo & Vahedi, 2019; de Valle et al., 2021), compounded with the rise of social media use among children, add to this concern, making the argument for early intervention—long recognized as crucial (cf. Currin & Schmidt, 2005; le Grange & Loeb, 2007; Treasure & Russell, 2011; Hart et al., 2011)—even more pressing.

A further aspect of EDs in general, and anorexia nervosa in particular, is their typically chronic nature, with periods of recovery and relapse across the lifespan (Turner et al., 2015). Only 50% of affected individuals fully recover; anorexia has the highest mortality amongst all mental disorders (van Hoeken & Hoek, 2020). Treatment for anorexia nervosa has often proved elusive. Recently, narrative therapy has gained recognition as an effective approach by virtue of its presumed advantage over other treatment options to successfully help individuals reframe and reshape their relationship with food and their bodies (cf. Weber et al., 2006; Scott et al., 2013). As a therapeutic approach, it centers on the idea that people's identities are shaped by the stories they tell about themselves, a widespread assumption being that narrative therapy allows individuals to separate their identity from the disorder, viewing it as something external that they can challenge and transform. By externalizing the eating disorder, patients are encouraged to see it as a problem they can address, rather than an intrinsic part of who they are. This is argued to be potentially effective in reducing shame and fostering a sense of agency and empowerment, and though recent studies have shown an occasionally ambivalent attitude towards externalization on the part of patients (Voswinkel et al., 2021), it remains a key component of narrative therapy.

The importance of narrative in the treatment of anorexia has prompted an interest in the analysis of such narratives, primarily with a view to identifying in them cues that may signal patients' progress or relapse. More specifically, over the last few years a growing body of literature has emerged, focusing in particular on narratives of recovery (Chancellor et al., 2016; Conti, 2018; Shohet, 2007). While there is a widespread acknowledgement that full recovery is not easy to achieve in anorexia nervosa patients, and that narratives of 'successful' and 'struggling' recovery bear recognizable differences (see in

particular Shohet, 2007), most studies are qualitative in nature and offer limited evidence of linguistic patterns beyond the qualitative cases they are based on.

In this study, I aim to contribute to this growing field of inquiry by broadening the range of data analysed to include narratives of recovery—both successful and struggling—retrieved from online repositories, and investigating it using corpus linguistic techniques. In doing so, I draw on a burgeoning tradition of linguistic inquiry which has been making a growing contribution to healthcare practice. More specifically, as highlighted by Hunt and Harvey (2015, p. 151), the data-driven approach to language learning which characterizes corpus linguistics, with its emphasis on the analysis of authentic discourse, is a “natural match” for the ethos of evidence-based care in medicine (Harvey & Brown, 2012), which makes it particularly well suited to pedagogical interventions for healthcare providers. Extending the analysis to more diversified data, testing insights previously gained through purely qualitative studies, may help provide more robust evidence of the differences in the linguistic makeup of successful and struggling recovery stories, thus potentially contributing to a better understanding of anorexia recovery patterns.

2. Background

Anorexia nervosa is known for being particularly difficult to treat, not least (and possibly mainly) because of patients’ reluctance to accept and continue treatment. Studies of anorexia patients have detected “ambivalence about recovery and resistance to treatment” (Rance et al., 2017, p. 133; see also Cockell et al., 2003; Williams & Reid, 2010) accompanied by “high levels of awareness—about both their illness and themselves” (Rance et al., 2017, p. 133). As stressed by Rance et al. (2017), “irrespective of their position in the recovery process, all the women spoke both from a position of being caught up in their AN and from one of being at a distance from, and able to reflect on, it.” (p. 133).

Analysing anorexia patients’ discourse, Ronai (1994) talks about patients’ use of “narrative resistance,” a discursive behaviour that has been described by Rich (2006, p. 299) as “a way of resisting discursive constraint and constructing a positive ‘anorexic’ identity” which involves “rejecting the negative labels of pathology or irrationality and instead constructing a narrative of anorexia as affording them status, and empowerment.” As Rich underlines, for some of the (all female) patients participating in her study,

... the ending of anorexia would entail the loss of a particular subject position, and thus it was not unusual for them to engage in boundary

maintenance between those who were inside and those who were outside anorexia—or those who might ‘take it away’. (Rich, 2006, p. 299)

The quote above would appear to confirm the view that anorexia sufferers may benefit from therapeutic approaches “externalizing” the disorder so as to enable them to distinguish between their selves and their illness. A focus on the self—and on how one’s understanding of one’s self can be reconceptualized so as to enable life after anorexia—appears to be key to recovery, which, according to Shohet (2007, p. 346), may in fact “be understood as a psychological and interactionally discursive reframing of past, present, and imagined future selves, collaboratively authored by the self-starver and her clinicians and/or other relational partners.” While a common theme of narrativity is indeed “the ability to understand health and illness as transformation of identities and networks” (Arribas-Ayllon, 2021, p. 88), studies of anorexia recovery narratives suggest that such transformations often result from a discursive reframing which does not entail an abandonment, or a relinquishment, of a sufferer’s anorexic self. In a study by Conte, far from “giv[ing] up or eras[ing] their history” (Conte, 2018, p. 89), former sufferers saw it as “an identity position from which they authored and reauthored” a narrative of their self as both ill and recovered which they considered “acceptable” (Wetherell, 2005, p. 170) precisely because it did not erase any of their former identities. Conte suggests that such narratives may be read in terms of what Holland and Lave (2001, p. 3) call “history in person.” From this perspective, narrativity becomes a “gift” of sense-making after illness has disrupted the continuity of experience (Bruner, 2002): in the face of illness, events are translated into episodes (Somers, 1994, p. 616), with order being reassembled through a form of “emplotment” (Ricoeur, 1981) that turns such episodes into a story.

Within this overarching perspective, a small but significant number of studies has delved deeper into the linguistic make-up of anorexia recovery stories in an attempt to identify recurring discursive patterns which may help identify nodal points in the anorexia recovery process. Shohet (2007), whose research has already been mentioned, identifies four dimensions along which the small number of narratives of full and struggling recovery she analyzes differentiate, namely (1) epistemic certainty; (2) affiliation with clinical typifications and master narratives of the disorder; (3) continuity between past and present selves; and (4) linearity of temporal and causal progression of events (Shohet 2007). More specifically, compared to narratives of struggling recovery, narratives of full recovery display a higher level of epistemic certainty, greater affiliation with institutional narratives, a sharper break between the anorexic and the recovered self, and descriptions of recovery as a step-like progression complete with back- and fore-shadowing. By contrast, narratives of struggling recovery presented with less certainty, a high level of ambivalence towards

institutional narratives, porous boundaries between the anorexic and the recovered self, and an account of progression as cyclical, full of sideshadowing and hypotheticals (Shohet, 2007).

Identity positioning plays a key role also in the investigation of anorexia recovery online support groups carried out by Stommel (2009). In her study, Stommel highlights the importance of adopting what she calls the 'sick role' in order for sufferers to initiate a process of recovery. Using Conversation Analysis to study online interaction, she identifies recurrent patterns in participants' contributions; more specifically, she highlights novice users' deployment of interactive strategies aimed at minimizing vulnerability and displaying legitimacy, something which they do by using oral discourse features that express ambivalence, or an in-group/expert vocabulary that employs abbreviations and diagnoses. The latter are also crucial in demonstrating new entries' willingness to adopt the above-mentioned 'sick role', which is actively—and normatively—promoted by both participants and moderators as a necessary condition for starting the journey towards recovery.

Distinctive patterns of identity construction *vis-à-vis* anorexia were also identified by Hunt and Harvey's (2015) corpus-assisted analysis of pro-ana and of anorexia recovery. In their investigation of the lemmas *anorexic*, *anorexia*, and *ed/ED* (eating disorder) and their contexts of occurrence, they found that the adjective *anorexic* occurs more frequently in pro-ana websites, while in anorexia recovery discourse preference is given to the nouns *anorexia* and *ed/ED*, a use that appears to be both empowering in so far as it meets the need to separate sufferers from their illness, and disempowering in that it signals surrender to the authority of the therapist. Comparison with practitioners' reported patterns and the resulting finding triangulation show substantial alignment, thereby confirming the reliability of linguistic research for the purposes of significant patterns identification.

The above-mentioned findings offer valuable insights into anorexia sufferers' discourses and constitute the linguistic knowledge base on which the research presented in this article is built.

3. Method

3.1. Materials

In this article, I study anorexia recovery discourse as told by recovering and recovered anorexia patients. Following Shohet (2007), I distinguish between successful and struggling recovery discourse. The materials used for the analysis were collected from publicly available internet sources. Full recovery stories were retrieved from dedicated English-language websites, which were identified by putting the search string 'anorexia recovery stories' in the

popular search engine Google and manually sifting through the results to identify suitable sources. These were found in public repositories of stories, mostly curated by charities, featuring first-person accounts of recovery journeys authored by former sufferers. Such stories have been gaining increasing popularity over the last few years as awareness of the toll taken by eating disorders on individuals and their families has grown, and have been found to be successful not only in fostering hope among recovering anorexics, but also potentially reducing stigma (cf. Sheens et al., 2016). As for the struggling recovery stories, these were retrieved from the Reddit subgroup r/AnorexiaRecovery. Reddit—a popular internet-based platform that facilitates social interaction through the sharing of news stories, content ratings, and active discussion forums—has gained recognition as “an inexpensive source for high-quality data” (Jamnik & Lane, 2017) which can be particularly useful in psychological research and have indeed been used in prior studies of eating disorders (Nutley et al., 2021). The platform is structured into numerous communities, each focused on specific topics, known as subreddits, where registered users come together to discuss and exchange ideas related to their particular interests or—as in this case—concerns and conditions. These communities provide a rich environment for researchers to gather insights for their studies. In the case at hand, the Reddit subgroup from which materials were extracted can be described as functioning as a support group for recovering ED sufferers. Such support groups (not necessarily Reddit-based) are growing in popularity (Stommel, 2009) and testify to the rising importance of cyberspace as a “critical context for the construction of alternative identities and narratives relating to eating disorders” (Rich, 2006, p. 295).

Table 1
Corpus Composition

(Sub)corpus	Sources	Tokens	Type/token ratio
Successful recovery stories	Beat Eating Disorders (UK) (15 stories); OC87 Recovery Diaries (USA) (7 stories); Eating Disorders Victoria (AU) (10 stories); 32 stories in total	33,140	14.60
Struggling recovery posts	r/AnorexiaRecovery (215 posts)	35,380	11.77
TOTAL		68,520	

All materials were collected in April 2023; while the anorexia recovery stories cannot be dated with certainty, the Reddit posts covered the two-month period from February 1st to March 31st 2023. All materials are publicly available; for

the Reddit threads, usernames have been omitted to ensure user anonymity. The texts collected amount to just over 68,000 words, fairly equally split between full anorexia recovery stories and struggling recovery posts, as shown in Table 1 (above). Successful recovery stories vary in length, as do posts, the latter being, however, by and large more homogeneous. Only original posts were included in the corpus, comments being excluded because not relevant to the current study.

The two corpora comprise two very different sets of texts. Reddit posts are by their very nature short, focused on a single topic or issue, with limited narrative scope. Whether they can indeed qualify as 'narratives' is debatable, as they lack some of the hallmarks of narratives as they are commonly understood, i.e., in Ochs and Capp's (2001) words, as "coherent temporal progression[s] of events that may be reordered for rhetorical purposes and that is typically located in some past time and place" or as "plot line[s] that encompass a beginning, a middle, and an end, convey a particular perspective, and [are] designed for a particular audience who apprehend and shape its meaning" (p. 57). However, as Ochs and Capp point out,

Understanding narrative . . . compels going beyond these exemplars to probe less polished, less coherent narratives that pervade ordinary social encounters and are a hallmark of the human condition. These narratives have the character of rough works in progress, because interlocutors use narrative to grapple with unresolved life experiences . . . The plot line of these narratives may or may not encompass a beginning, middle, and end, given that the plot is what interlocutors are attempting to craft and that life events are not necessarily coherent nor immediately resolvable. (Ochs & Capp, 2001, p. 57)

This understanding of narrative may be argued to include both 'story statements', 'episodes' and complete narratives (Black & Bower, 1979). Some of the posts may indeed be understood as episodes resulting from the clustering of multiple story statements, qualifying as 'units of discourse analysis' (van Dijk, 1981); others may be closer to story statements not yet combined into episodes. By contrast, successful recovery stories are invariably narratives of the kind mentioned above: they have a beginning, a middle and an end, and typically some sort of moral teaching they are trying to convey. In a sense, however, they are the ultimate outcome of multiple tentative narratives, life events having been "not necessarily coherent nor immediately resolvable" prior to their successful reconstruction in story format. As this paper aims to identify the linguistic traits of these two different stages in anorexia recovery journeys, the different nature of the texts comprising the two subcorpora not only is not a disqualifying factor for comparative analysis,

but may indeed be a component of the narratives. Of course, Reddit posts cannot by their very nature coalesce into complete narratives, but it may well be that their event-focused or at most episodic configuration be one of the differential traits. This aspect is beyond the scope of this paper, but may be worth considering in future explorations.

3.2. Procedure

As mentioned above, the study aimed at identifying recurrent linguistic patterns in the two subcorpora, with a view to providing insights into the discursive features characterizing successful and struggling recovery stories respectively. To pursue this aim, classic corpus linguistic techniques (wordlists, keywords, wordsketches, concordances) were used in combination with discourse analysis against the background of the clinical narrative practices described above.

In combining (critical) discourse analysis with corpus linguistics, I am drawing on a well-established tradition (Baker, 2012; Baker et al., 2008; Gray & Biber, 2011; Mautner, 2009; Nartey & Mwinlaaru, 2019; Partington & Marchi, 2015) that has been yielding notable results for the best part of three decades now. The “useful methodological synergy” highlighted by Baker et al. (2008) has proven hugely influential, and especially so when applied to the investigation of issues that have societal impact.

Quantitative corpus analysis was conducted using the online software suite SketchEngine (Kilgariff et al., 2008; Kilgariff et al., 2014), which offers all the tools mentioned above and more. The research design is best described as corpus-driven, with salient discursive nodes being identified on the basis of statistical data, qualitatively investigated in their contexts of occurrence via discourse analytical approaches interpreting corpus data in the light of existing literature on anorexia and anorexia discourse.

As for the research design, a first step in the analysis was the extraction of frequency lists for each of the two subcorpora, with a view to identifying salient lexical items whose analysis in context may provide insights into the discursive construction of, respectively, struggling and successful recovery. Of particular importance were deemed to be differences in the collocational patterns of lexical items that occur in both corpora (for instance, *life*), as they may suggest different attitudes towards the same issue. At the same time, lexical features that appeared to be salient in one of the two subcorpora helped pinpoint elements of difference. To identify them, besides frequency lists, keywords (KWIC) were also extracted. These are words that, despite not necessarily being frequent in (one of) the two corpora in absolute terms, occur in said corpus with a significantly higher frequency than the other, thus indicating lexical items that are specific to one subcorpus compared to the other. This

helped identify corpus specificities, which were later investigated qualitatively through an in-depth analysis of the concordance lines in which they occurred.

4. Results

As mentioned above, as a first step in the investigation, frequency lists were extracted. This was done separately for different parts of speech. Owing to the similarity in size between the two corpora, raw frequencies are reported.

The first pair of frequency lists concerns nouns. Nouns are the first means we have to categorize reality, and as such they can be argued to embody in discourse those aspects of reality which are most relevant to its representation (see Table 1).

Table 1

Frequency List of Nouns in Struggling Versus Successful Recovery Discourse

Struggling RD	<i>f</i>	Successful RD	<i>f</i>
recovery	303	disorder	156
weight	234	time	150
food	163	recovery	135
day	136	life	127
time	128	weight	107
year	118	body	93
month	106	food	92
meal	104	thing	86
hunger	102	year	82
anorexia	96	people	79
body	89	Day	72
week	87	friend	64

While the two sets of nouns have considerable overlaps, with *recovery*, *weight*, *food*, *body*, *day*, *year* occurring in both subcorpora, the struggling recovery discourse corpus features *hunger* and *anorexia* among its most frequent nouns, while in the successful recovery discourse corpus appear *disorder*, but also *life*, *people* and *friend*, with the latter three nouns indicating an approach to life that includes a recovery of social relationships. This is confirmed by an overview of the passages in which the lemma occurs, some of which are reported below.

- (1) I am back at work full time and genuinely enjoy life, I have plans for the future! I can eat out with friends, go to events and places with people, I am living. (Successful recovery discourse)

- (2) Having anorexia, I was seen as a sick person, someone who was suffering and was never happy. Now I am seen as me, Riley: a happy, outgoing person. Someone who has gotten their life back and someone who is living life to the fullest. Life without anorexia brings so much happiness. I have rebuilt relationships with family and friends, started a new job, started a relationship and done so much more that I never thought would be possible. (Successful recovery discourse)

By contrast, occurrences of *life* in the struggling recovery corpus, besides being less frequent, are mostly embedded in negative statements, as shown in the following examples:

- (3) I've been in and out of general hospital and admitted to a children's EDU where I was sectioned and had the most traumatic experience of my life. (Struggling recovery discourse)
- (4) It's embarrassing to see myself this way and I hate every minute of my life. (Struggling recovery discourse)
- (5) I feel so trapped because the fear of gaining weight controls my entire life. (Struggling recovery discourse)

Time expressions (*time, day, week, month, year* in the struggling recovery discourse corpus, and *time, day, year* in the successful recovery discourse one) are frequent in both, suggesting that discourse is narratively organized, with the timeframe for struggling recovery narratives being broken down into smaller units, each of them being the object of specific focus. In both corpora, *time* typically occurs in the expression *the first time* (as confirmed by the high frequency of the adjective *first* in Tables 2); in struggling recovery stories, this refers for the most part to first times either posting, or having a specific experience associated with the recovery process, while in successful recovery stories it can refer to both illness and recovery experiences. In the successful recovery discourse corpus, time references are frequent but not as specific as in the struggling recovery posts. To those emerging from the frequency list, the adverb *now* must be added, which complements the other time expressions. The third most frequent adverb in successful recovery discourse with 63 occurrences, preceded only by *not* and *so*, *now* typically marks the difference between the recovered/recovering self and the sick self:

- (6) I still have bad days, but that is ok, I'm handling them a lot better now and using coping mechanisms that are not ED behaviours, which is a huge step. (Successful recovery discourse)

- (7) Over 5 years I would see people's posts on recovering or starting recovery, but for me that was always a dream far from my reach. Now after 6 years, I have made my dream into a reality. (Successful recovery discourse)
- (8) Exercise can be stress-relieving and not stress-inducing. I run in a proper pack now and I know people at Park Run because we wear the same T-shirts. My dog (and a village of other people) taught me to have fun with exercise. (Successful recovery discourse)

The lemma *weight*, whose appearance in the top ranks of both subcorpora is hardly surprising, given the type of discourse analyzed, lends itself to some interesting considerations. While an in-depth analysis of all its contexts of occurrence cannot be carried out because of space constraint, one pattern does stand out. In the struggling recovery discourse subcorpus, the expression *weight restored* occurs 20 times, compared to only 6 in the successful recovery discourse corpus. What is more, in the struggling discovery corpus *weight restored* appears as a clear identity label, as shown in the examples below:

- (9) Worried recovery is not safe for me i really truly want to recover fully. i'm weight restored atp and so incredibly unstable. i want full recovery very badly but keep getting extremely suicidal.
- (10) So, I am weight restored but still massively struggling with being rigid around food.
- (11) Background: Weight restored and have been meal plan compliant. I have been maintaining my weight. 6 months post discharge. I have been struggling to switch the plate by plate method from the exchange system.

The term—which is used as a classifier in the examples above (Halliday & Matthiessen, 2004) identifies an anorexia sufferer whose weight is now in the normal range, though possibly still struggling with the eating disorder. Being *weight restored* appears to be associated with considerable anxiety, with sufferers mentioning multiple struggles associated with this stage in the recovery journey. The paucity of occurrences of *weight restored* in the successful recovery corpus, by contrast, would appear to indicate that the label is not as (or may no longer be) relevant once recovery has been achieved. The usage suggests the adoption, on the part of sufferers, of medical labels presumably introduced in the course of therapy, as suggested also, in example 11 above, by the expression *meal plan compliant*, which also would appear to be lifted wholesale from therapy talk or medical records. Frequency lists for adjectives, parts of which are reported in Tables 2, also provide interesting insights:

Table 2
Frequency List of Adjectives in Struggling Versus Successful Recovery Discourse

Struggling RD	<i>f</i>	Successful RD	<i>f</i>
extreme	64	eating	77
good	62	good	72
normal	58	first	40
hungry	51	sick	39
bad	45	hard	35
full	41	mental	32
first	40	same	28
healthy	39	able	26
hard	38	different	26

In the struggling recovery discourse corpus, *extreme* co-occurs regularly with *hunger*, which does indeed feature in the noun frequency list. The adjective/adverb *hard* occurs in both, highlighting the difficulties that beset the recovery journey, which fully recovered anorexia patients also recognize. *Good* also occurs in both, but *bad* is only present in the top position in struggling recovery discourse, where the adjective *healthy* also appears.

Healthy typically occurs with reference to *weight*, but its contexts of occurrence often suggest that being a healthy weight is not the hallmark of a success story. Quite the opposite—it typically occurs in passages where the dominant feeling is one of worry for perceived problems that persist despite the apparent improvement:

- (12) I've been trying to get through anorexia recovery, but all I can think about is food food food. I'm at the low end of a healthy bmi and was wondering when this will go away, as I literally can't focus on anything else. (Struggling recovery discourse)
- (13) Im not eating 100% freely so knowing that ill gain even MORE weight is difficult to hear. I don't want to eat anymore because Im at a "healthy" weight but i don't want to live with my eating disorder. (Struggling recovery discourse)
- (14) Has anorexia ruined by face? This sounds kinda weird but I've gotten back into a more healthy [*sic*] weight but my face is horrendously emaciated. Have I permanently ruined something? (Struggling recovery discourse)

The most noticeable difference between the two frequency lists, however, is the presence, in successful recovery discourse, of multiple references to *eating*

disorders (rarely referred to with the abbreviation ED), as well as the acknowledgement of having been *sick* and of having *mental* issues. These are remarkably absent from the top positions in the frequency lists of struggling recovery narratives, but are definitely salient in the successful recovery stories:

- (15) How many people are out there that were like me, starting to snowball and wanting it to stop, but getting overlooked because they weren't seen as sick enough yet to need help. (Successful recovery discourse)
- (16) I was convinced that nothing was wrong, and I just wanted a doctor to confirm that, however I walked out of that doctors appointment with referrals and a diagnosis of Anorexia Nervosa (AN) among other mental health conditions. I didn't accept my diagnosis, I didn't think anything was wrong because I didn't feel sick, I was convinced I was 'too big to be sick'. (Successful recovery discourse)
- (17) Despite the physical and emotional toll of my illness, I never believed that I was sick enough. Anorexia was the only eating disorder I grew up learning about, and unlike the "heroin-chic" imagery that was associated with it in the media, I wasn't dangerously skinny. (Successful recovery discourse)

The verb frequency lists also offered some interesting data. While the most frequent verbs in the two subcorpora by and large overlapped, some differences, however subtle, were detectable. Beside *be*, *have* and *do*, quite expectably the most frequent ones, there were similar rankings (but different frequencies, with struggling recovery discourse appearing to have a very high concentration of the same verbs) also for *feel* (329 vs 138 in struggling and successful recovery discourse respectively) and *eat* (415 vs 139). Both subcorpora also feature *know* in the top ranking positions (with 134 and 81 occurrences respectively for struggling and successful recovery discourse). *Recover* (109 occurrences) and *try* (107) are more salient in struggling recovery stories, whereas *start* (78) and *think* (77) emerged as more relatively frequent in successful recovery discourse.

Patterns associated with *know* in the two subcorpora are especially revealing. In struggling recovery discourse, the most frequent pattern is *I don't know* (33 occurrences), with several further occurrences of the verb appearing in questions, either direct or indirect (*does anyone know?* 5 occurrences; *how to know if*; *how do I know*; *I just wanted to know*). This is of course in line with the nature of the corpus, Reddit communities being loci where users post their questions. In the successful recovery stories, *know* occurs primarily in the past tense, with *I knew* appearing 26 times, while *I don't know* never occurs, and *I didn't know* occurs only twice. In the struggling recovery posts the *I don't know*

pattern is further compounded by 17 occurrences of the initialism *idk* (*I don't know*), which further emphasizes the uncertainty with which such discourse is imbued.

The verb *try*, rather salient in struggling recovery discourse, appears mostly in negative statements, indicating in the majority of cases frustrated attempts at either getting better or finding suitable help:

- (18) I've been trying so hard for so long but I'm just in a recovery limbo. (Struggling recovery discourse)
- (19) I'm trying hard to start following my MP. (Struggling recovery discourse)
- (20) I'm really trying recovery on my own this time and it's clearly not working, what can I do if my doctor isn't being of any help?? (Struggling recovery discourse)

As for verbs characterizing successful recovery discourse, the above-mentioned *start* appears, on the one hand, to indicate awareness of the onset of the disorder or of subsequent behavioral changes associated with it (see excerpts 21 and 22 below) and, on the other, to signal trust in recovery (excerpts 23 and 24):

- (21) Throughout years 7-8 I started eating less and less and, although I lost weight, it was never enough. (Successful recovery discourse)
- (22) I started browsing on Incognito Mode to learn how to lose weight faster. (Successful recovery discourse)
- (23) . . . I am starting to learn that I am OK as I am. (Successful recovery discourse)
- (24) I'm starting to try to accept my weight restored body. (Successful recovery discourse)

As the excerpts suggest, identifying the starting point of one's descent into anorexia is crucial to its recognition as an illness, which, as shown above, is another hallmark of successful recovery discourse. By the same token, former sufferers also display an awareness of when their journey to recovery started—again, establishing definite boundaries within which the illness has been finally constrained.

In addition to the above-mentioned patterns, identified on the basis of frequency data, further insights could be gleaned from the analysis of keywords—i.e., words which are significantly more frequent in one corpus compared to the other, despite not being highly frequent in absolute terms and therefore escaping detection in frequency lists. To identify keywords, the

frequency lists of two corpora are compared to each other, with each corpus being used as reference corpus for the other. The keywords identified for the successful recovery discourse corpus were *illness*, *deserve*, *trust* and *pretend*; those for the struggling recovery discourse corpus were *overshoot*, *freak*, *bloat* and *confuse*.

The two sets of keywords are striking in their indicating clearly defined attitudinal positions in the two subcorpora. In successful recovery discourse there is an acknowledgement of one's condition as an illness, and the recognition that one's sick behavior involved pretending; there is also a realization of one's value (*deserve*), and restored trust in oneself and one's social network:

- (25) It is an illness, much as it tries to convince us that it is an irremovable part of us.
- (26) I was recklessly approaching a precipice of thinness that few could attain, and, immersed in my illness, I viewed my size as an achievement.
- (27) I felt so much shame because, deep down, I wasn't the confident, talented girl that everyone thought me to be. I was a fraud. I had mastered the art of pretending, at pushing aside and locking away the insecurities I felt. I am strong in my recovery: imperfect, but resilient. I cling to my truth, above all else, that I deserve to nourish and love my whole self.
- (28) The recovery and discovery requires [*sic*] patience and confidence both from within and from those around you. The patience to discover the true nourishment you seek and the confidence to regain your Self. It requires trust in yourself once more and an acceptance of the encouragement from those who support you.

References to *illness* seem to be especially significant, especially in light of the need for sufferers to adopt a 'sick' role as a necessary step in their recovery journey. While *illness* occurs 31 times in the successful recovery discourse corpus, it is totally absent from the struggling recovery one. There are indeed some occurrences of *ill* (5) and *sick* (28), but the latter often has a more specific meaning, indicating vomiting as a consequence of overeating. When referring to anorexia (mentioned 91 times in the struggling recovery discourse corpus, and only 41 in the successful recovery discourse corpus), however, the struggling recovery discourse corpus features the use of the initialism ED. With 83 occurrences, this is just below the top 10 in the struggling recovery discourse corpus, while it only occurs 6 times in the successful recovery discourse corpus. As was the case with *weight restored*, *ED* appears to be part of a code shared by sufferers (cf. Hunt & Harvey, 2015) and possibly originating in therapeutic discourse, as inferable from the excerpts below:

- (29) after IP, i did OP for a couple of years which was very helpful. i can't afford either right now and the ED tries to convince me that i can't afford food at all. i know this isn't true and i know resources are available in my area if this were true.
- (30) don't really crave meat, but I haven't touched meat for years and I have no idea if I actually like it. Meat freaks me out, but I'm not sure if it's just my ed talking.
- (31) I challenged myself and bought some food which I don't know the calories of when I felt like it the past days. I couldn't enjoy all cause the ed thoughts are there but quieter.

In all these examples, ED is used in structures that externalize the illness, drawing a distinction between it and the sufferer.

Further characteristics of struggling recovery discourse which emerge from the keyword list are feelings of fear and confusion. *Overshoot*—a verb which is used to indicate that a recovering patient has gained more weight than planned—is a huge concern, while *bloating* (not necessarily related to overshooting) generates anxiety, a dominant feeling (as suggested by the salience of *freaking*) together with *confusion*:

- (32) Someone just asked why I've become fat. Please help me. Will the overshoot subside?
- (33) I have been told overshoot will go away but it really hasn't on me.
- (34) After eating a lot in extreme hunger, how do you deal with the bloating and the pain?
- (35) Today was my highest day at I'm freaking out.
- (36) It's not even 10am and I've consumed a days [*sic*] worth of food. Is there a point where I need to tell myself no?? I'm confused. Surely this is not healthy??

Caught in the dilemma of wanting to recover, and yet being reluctant to do so, sufferers voice their struggle, confirming the ambivalent attitude towards recovery often mentioned in the clinical literature on the topic.

5. Discussion

The data analyzed above confirm and reinforce some of the findings of recent literature on anorexia recovery discourse. On a purely qualitative level, and as already suggested when discussing corpus composition, it is to be pointed out that struggling recovery posts report on *events*: concise, occasionally to the

point of lacking internal cohesion, they can be considered as “authentic” (Ochs & Capps, 2001, p. 17) narratives qualifying as ‘history in the making’; by contrast, successful recovery stories are best understood as *episodes*—“coherent” narratives (Ochs & Capps, 2001, p. 17) within which history is reconstructed and identity re-authored. As Shohet (2007) highlights, following Ochs (2004),

. . . “coherent” narratives tend to be presented as an orderly, linear temporal and causal progression of events involving a beginning, middle, and end and a certain and constant moral stance, leading to a clear resolution of the problematic or unexpected event being recounted. By contrast, narratives that prioritize “authentic” experience often involve musing, inquiry, contradiction, dispute, and revision and present experience as an “enigmatic life episode” (Ochs, 2004, p. 269). (Shohet, 2007, pp. 347-348)

These different characteristics are clearly reflected in the lexical and rhetorical structuring of the two types of discourse investigated in this paper. Rhetorically, both discourses are organized around temporal frames, but while those used in struggling recovery discourse focus on specific instances (*the first time, this week* etc.), in successful recovery discourse the timeframe is broader, with verbs such as *start* identifying boundaries in a succession of steps or phases. The salience of the adverb *now*, which functions as a marker of distance from the past, confirms not only the existence of such temporal boundaries, but also an awareness of the demarcation between illness and recovery. In this respect, the use of the term *illness*, and the salience of the adjective *sick*, confirm that successful recovery goes through the adoption of the ‘sick role’ mentioned by Stommel (2009). The salience of the cognitive verb *know*, typically used in the past tense, also suggests a re-reading (or indeed re-authoring; Conti, 2018) of their identities. In the same direction goes also the use of the verb *pretend*, whereby former sufferers signal an awareness of their former, isolated self. This would appear to confirm Shohet’s (2007) claim that successful recovery discourse is characterized by epistemic certainty.

In struggling recovery discourse, confusion and ambivalence dominate. Not only is the word *confusion* a keyword, but expressions indicating uncertainty are salient. These include *I don’t know* and *idk*, but also interrogative structures such as *does anyone know?* The latter may be argued to be facilitated (or indeed prompted) by the discursive environment in which the discourse analyzed is embedded: after all, Reddit fora also act as support groups, where asking questions is the norm. However, it also supports Shohet’s (2007) finding that struggling recovery is characterized by uncertainty. In this corpus, moreover, ambiguity towards recovery (Rance et al., 2017) often emerges, with sufferers

voicing their concern about overshooting and at feeling bloated, with fear and anxiety coming through as dominant feelings.

Another characteristic of the struggling recovery discourse corpus is the frequent use of terminology and discursive patterns drawn from therapy talk. In particular, expressions such as *weight restored* and *overshooting* appear to belong to this shared language of anorexia therapy discourse (Stommel, 2009). The use of the initialism ED to refer to anorexia, and especially to distinguish between sufferers and their illness, is in line with this (as shown by Hunt & Harvey, 2015), and aligns with common therapeutic approaches (Sykes et al., 2022; Voswinkel et al., 2021): patients struggling with recovery adopt the lingo of therapy, but do not espouse its content to the full, maintaining an ambivalent attitude which fully recovered anorexic have overcome, together with the language associated with it—as if only complete recovery made it possible to distance themselves from the in-group discourse of anorexia sufferers.

6. Conclusion

In this article, I have endeavored to identify salient linguistic traits of struggling and successful anorexia recovery discourse. In doing so, I have relied on existing literature, both linguistic and carried out from within other disciplines. The analysis has confirmed the existence of such different discursive traits, corroborating findings from previous qualitative research. That this corpus-based study confirms such findings is significant, as it suggests that their validity may be extended beyond individual case studies.

Research such as the one presented in this article is eminently suited to being used in medical training. As Hunt and Harvey (2015) have convincingly argued, integrating linguistic analysis in anorexia research can have multiple benefits. Clinicians who are still in training could be made more aware of the language patients use when discussing their beliefs about weight and eating; by understanding the narratives patients share about their illness and the roles these serve both internally and in social interactions, professionals may be prompted to critically assess the discourses on weight and eating that they rely on; and large enough datasets may help healthcare professionals engage in practice-based research and derive conclusions that are supported by the empirical evidence contained within such data (Hunt & Harvey, 2015).

Clinical research has much to gain from engaging with applied linguistics; at the same time, applied linguists can learn much from clinicians' insights. Hopefully, closer collaborations will be forged in the future among researchers and professionals in these disciplines, thus jointly contributing to better understand, and possibly treat, an illness that claims too many lives.

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The digitalized medical services on NHS website: The changing role of 'patients'

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In recent years, a new digitalized system has been introduced by the National Health Service (NHS) in order to offer support and care to UK citizens. In particular, the Transformation Directorate at NHS England aims to drive the digital transformation of the NHS and social care. For instance, thanks to 'technology-enabled remoter monitoring' the NHS can deliver care to people in their homes. Starting from this assumption, this work is aimed at showing the significant role of corpus based tools when health services and care are offered to citizens. In particular, the immediate co-text of the nouns denoting the addressees of NHS policy is investigated in order to analyse the discursive strategies enacted by the NHS when people are informed about the new digitalized forms of healthcare communication. The study is based on a corpus based approach along with studies on transitivity processes, which will help to focus on the changing roles of the receivers of these new services. The outcomes confirm the existence of different lexical choice denoting the addressees of the NHS, thus revealing some changes due to the introduction of new digitalized tools of medical communication.

Keywords: Agency; Changing Roles; Digital Transformation; Digitalized Systems; Medical Communication; NHS

1. Introduction

The spread of the Covid-19 pandemic has had severe consequences for populations all around the world, mainly related to their health and rehabilitation practices (Cummings, 2021). Thus, the dissemination of medical knowledge and practices has become relevant in the post-Covid era, along with the improvement of digital health and services including telemedicine and teleconsultation, remote monitoring, connected devices, and digital health platforms.¹ Following these changes, some different roles acted by patients and doctors have been observed (Brown et al., 2006). For instance, during GP-patient consultation, counselling-based approaches have been introduced by teams of health professionals. These approaches emphasize the autonomy of the patients and shared responsibilities. Specifically, the use of open questions allows the patients to take part in conversations and decision making and the

professionals to show empathy towards the patients (Babaul-Hirji et al., 2010; Fairclough, 1995).

Starting from these theoretical premises, the present study tries to explore terminology denoting the people addressed by the NHS when the new digitalized forms of medical communication are delivered to them. The final aim is to focus on the changing role of patients, which may involve some changing practices in the interaction between the potential patients and the British institution.

Before focusing in detail on the procedure of the present study, some relevant information concerning the main services provided by the Transformation Directorate at NHS is necessary. The Transformation Directorate at NHS England is aimed at driving the digital transformation of the National Health Service (NHS) and social care. In particular, some key tools have been introduced over time in order to innovate medical communication. As can be read on the NHS website, the strategy for technology in health and care is to make the services digitalized, in order to facilitate service transformation.² Some strategies are mentioned, including "Data Saves Lives: Reshaping Health and Social Care with Data"—the Government's strategy which starts out a vision and clear actions to make better use of data to save human beings. Further tools included in the governmental actions consist of the introduction of the NHS Artificial Intelligence Laboratory (NHS AI Lab), which is aimed at addressing that challenge through the cooperation among government, health and care professionals, academics, and technology companies. Furthermore, an Information governance (IG) portal provides all the instructions concerning how to manage and share information cautiously.

Further tools are represented by digital playbooks, which have been introduced to support teams in redesigning care pathways and system support by showcasing tested technologies to solve real-world problems. Finally, people in need of special care can be supported from the comfort of their own home through technology-enabled remote monitoring. The Directorate also includes "The Innovation Collaborative for digital health a network." The network helps health and care professionals offering digitally enabled services to support people at home. As can be seen on the NHS website, while introducing these tools, the UK citizens are addressed to be informed about and involved in its activities and services. The corpus under scrutiny includes 35 documents listed in these subsections, which belong to both the institutional and legal field, namely (a) regulations, (b) delivery plans, (c) projects, (d) case studies, and (e) the introduction of the website's HTML pages. In the future, it would be interesting to focus on further case studies, blogs and forum in order to investigate the reaction of patients to these new digitalized medical services.

2. Background

Some previous studies from a discourse analysis perspective focused on some changes in health care communication. For instance, in academic writing, changing perspectives concerning proximity between physicians and readers have been explored (Donadio & Passariello, 2022). Furthermore, more attention towards patient empowerment and patient-centred medicine has been paid (Harvey & Adolphs, 2012). These changes are mirrored in shifts in contemporary discursive practices: for instance, the word 'patient' has been replaced by the more recent 'clients'. Shevell (2009) states that a passive role is implied in the word 'patient' while removing responsibility from the service user. Specifically, scholars from medicine, psychology, and social work state that the word 'patient' represents a paternalistic model of health care where this care is imposed upon people who are referred to as 'patients'. The term denotes identities, relationships, and power dynamics that convey the nature of social work, which also influences our perceptions and actions (McDonald, 2006; McLaughlin, 2009; Shevell, 2009). In contrast, the newer phrase 'service user' may have lost its function to describe the relationship between the professional and the person who uses services (McLaughlin, 2009). 'Client' has been often chosen with the intention of being more empowering and eliminating the 'patient' connotations (Shevell, 2009). It conveys a more active part in treatment and rehabilitation and involves responsibility for progress (Lloyd et al., 2008).

From a broader perspective in the linguistic field, language contributes significantly to the creation of fundamental practices that take place within a range of medical settings in healthcare and health communication, as it contributes to determine successful outcomes and patient satisfaction. It is also relevant to observe that healthcare communication is constantly changing, and through linguistic investigations it is possible to focus on the changes that are taking place and their direction (Harvey & Adolphs, 2012). Thus, in this work, an analysis of terminology denoting the people involved in institutional health communication upon being informed about the new digitalized tools and service offered by the Transformation Directorate at NHS will be provided. The final aim will be to shed light on the new role of the patient who is increasingly involved in the expertise traditionally associated to physicians and/or health professionals.

3. Method

In this section, more detailed information concerning the procedural steps will be illustrated. From a methodological perspective, a corpus-based approach (Baker, 2006; Flowerdew, 2012), by means of *AntConc* 3.5.9 (Anthony, 2017), helped to explore the immediate co-text of the addressees of NHS policy.

Theoretical studies on transitivity (Halliday & Matthiessen, 2014) guided the data interpretation, as it is a notion that has been analysed from different perspectives (see Hopper & Thompson, 1980; Martínez Vázquez, 1998; Rice, 1987), although, perhaps, the most popular one is the Hallidayan perspective. According to Halliday and Matthiessen (2014), six process types can be observed—(a) material, (b) mental, (c) relational, (d) verbal, (e) behavioural, and (f) existential. The first three are generally considered to be the most frequent ones (Halliday & Matthiessen, 2014).

Material processes (Halliday & Matthiessen, 2014) mainly refer to abstract and concrete actions or events focussing on the idea of introducing some changes. These processes involve a main actor who takes part in material processes and is responsible for the change, referred to as the 'Actor'. There may be a further participant influenced by the transformations, who is denoted as a 'Goal'. Some subtypes of material processes may imply the changes of the Actor or Goal. Further participants are referred as the 'Recipient' (the person provided with goods), the 'Client' (the one a service is offered), the 'Scope/Range' (the one related to the domain over which the process occurs or the actual process itself, e.g., have a shower) or 'Attribute' (which is used to denote the resultant qualitative condition of either the Actor or the Goal, after the process is complete, e.g., they stripped her [Goal] clean [Attribute] of all her clothes).

Mental processes are related to our subjective experience. They involve (a) perception, (b) cognition, (c) emotion, and (d) desire. The main participants are represented by the 'Senser', or mindful being who understands, loves, hears, etc., and the 'Phenomenon', which may refer to any type of entity, conscious or not, understood, loved, heard, etc. The subcategories of mental processes include (a) mental cognitive, denoting thought and reflection (e.g., believe); (b) mental perceptive, referred to sensorial perception (e.g., see); (c) mental emotive, denoting feelings and emotions (e.g., abhor); and (d) mental desiderative, denoting volition (e.g., want).

The third and important process type to consider is relational processes, which, as opposed to sensing or doing, includes both inner and outer experiences, and represents the notions of being and becoming (Halliday & Matthiessen, 2014). In the study, attention will be mainly paid to the material processes, as they have been shown to be the most frequent ones in the whole corpus. Furthermore, the main focus of the study was to reflect upon the actual actions and plans offered by the institution to involve the patients into the new forms of medical communication.

The first step of the methodological procedure was to generate a wordlist in order to find the most frequent nouns denoting the addressees of the new digitalized forms of medical communication. Then, the immediate co-text of these words was investigated; in particular, concordance and collocate tools

helped focused on the transitivity patterns. As mentioned in the 'Introduction', the corpus under scrutiny includes 35 documents, which belong to both the institutional and legal field such as regulations, delivery plans, projects, case studies, and Introduction section of website's HTML pages and is made up of 105149 tokens. In Table 1, a list of the examined words along with their frequency in the corpus is provided:

The words in Table 1 were selected as they registered the highest number of hits in the frequency list. They denote the potential addressees of the information and services offered by the NHS. Future analysis could include pronouns in order to explore the strategies enacted by the Directorate to establish proximity with the users of the services (Hyland, 2010). Proximity is defined as a writer's control of the linguistic features which convey both authority as an expert

Table 1

Words and Their Frequencies

Words	Frequency
Patient	238
Patients	123
People	150
Individual	123
Individuals	79
Citizens	25
Citizen	12

and a subjective position towards topics in progressing narratives. Thus, some future investigations could help to focus on the engagement of the institution while providing the citizens with new digitalized tools.

Table 2

Collocates of the Word 'Patient'

Collocate	Rank	Freq (Scaled)	FreqLR	FreqL	FreqR	Range	Likelihood	Effect
confidential	1	160	10	9	1	4	47.764	4.790
information	2	6060	46	11	35	9	47.511	1.749
electronic	3	340	11	10	1	7	38.454	3.840
engagement	4	1020	16	0	16	8	34.888	2.796
charities	5	140	7	7	0	4	30.338	4.468
consent	6	400	10	4	6	3	30.133	3.468
will	7	11670	4	2	2	4	29.889	-2.720
explicit	8	220	8	7	1	3	29.738	4.009
shorter	9	10	3	1	2	1	24.376	7.053
representatives	10	90	5	1	4	2	22.703	4.620
records	11	1130	13	1	12	5	21.574	2.349
identifiable	12	190	6	1	5	4	20.689	3.805
outcomes	13	850	11	4	7	7	20.376	2.518
public	14	4170	25	9	16	8	17.808	1.408
record	15	1180	12	5	7	6	17.552	2.171
involvement	16	80	4	0	4	3	17.331	4.468
lacks	17	30	3	0	3	1	17.179	5.468
interests	18	90	4	1	3	2	16.411	4.298
safety	19	550	8	0	8	5	16.387	2.687

As can be observed from Table 1, the words 'patient', 'individual', and 'citizen' were found in the corpus in the singular and plural forms. Their function as premodifiers—mainly found in their singular form—was explored due to its high frequency. It is necessary to point out that a KWIC concordance of the word 'citizen' in Figure 1 instead of its collocates is provided due to the low frequency of this word in the whole corpus (only 12 concordance lines). In contrast, the choice of focusing on the collocates of the two other words (e.g., 'patient' in Table 2 and 'individual' in Table 3) rather than concordances was motivated by the need to make the data observation clearer because of the frequent occurrence number of these words:

Table 3
Collocates of the Word 'Individual'

Collocate	Rank	Freq(Scaled)	FreqLR	FreqL	FreqR	Range	Likelihood	Effect
an	1	3470	28	26	2	7	61.103	2.792
circumstances	2	140	8	0	8	1	47.109	5.616
care	3	14390	51	10	41	9	46.072	1.605
eligible	4	180	7	5	2	1	35.829	5.061
icss	5	610	9	1	8	1	29.289	3.663
or	6	4680	21	11	10	4	25.792	1.945
applicants	7	390	7	5	2	1	25.341	3.945
identity	8	70	4	2	2	1	23.542	5.616
suit	9	90	4	4	0	1	21.525	5.254
beyond	10	200	5	5	0	3	21.261	4.424
per	10	200	5	5	0	1	21.261	4.424
tailored	12	100	4	4	0	1	20.688	5.102
trusts	13	560	7	2	5	1	20.632	3.424
about	14	1860	11	8	3	3	18.181	2.344
purposes	15	470	6	4	2	3	17.912	3.454
lmns	16	60	3	2	1	1	16.848	5.424
because	17	180	4	0	4	1	16.099	4.254
identifiable	18	190	4	2	2	2	15.684	4.176

The results deriving from the observation of the Tables 2 and 3 and Figure 1 will be illustrated in the 'Results & Discussion' section. The second step of the investigation deals with the words in their plural forms (see Table 1). Particularly, the patterns where 'patients', 'individuals', 'people' and 'citizens' are found will be analysed in order to focus on the related transitivity processes and reflect on the changing roles of the actors taking part in British medical communication. The following KWIC patterns of the four words are provided in Figures 2, 3, 4, and 5. Then, observations concerning their underlying transitivity processes underlying them will be outlined in the Results section.

Figure 1.
Selected Concordance Lines of 'Citizen'

Target Corpus
Name: temp
Files: 35
Tokens: 105149

KWIC Plot File View Cluster N-Gram Collocate Word Keyword Wordcloud ChatAI

Total Hits: 12 Page Size 100 hits 1 to 12 of 12 hits

File	Left Context	Hit	Right Context
1 READ THE ...	ect health and care providers, improve outcomes and put the	citizen	at the heart of their own care. Our commitments
2 READ THE ...	support a vibrant hub of genomics, imaging, pathology, and	citizen	generated data, where AI-enabled tools and technologies can
3 UNIFIED ...	primary goals are delivery of: an improved user experience -	citizen	and professional an enhanced safety profile increased service effic
4 WHAT GOO...	alth and care outcomes by regularly engaging with partners,	citizen	and front line groups invest in regular board development
5 WHAT GOO...	ICS would: develop a single, coherent ICS-wide strategy for	citizen	engagement and citizen-facing digital services that is led
6 WHAT GOO...	nd coherent user experience ensure and monitor a consistent	citizen	offer by ICS organisations ensure a system-wide approach
7 WHAT GOO...	a single, coherent strategy, in conjunction with your ICS, for	citizen	engagement and citizen-facing digital services that is led
8 WHAT GOO...	ngle, coherent ICS-wide strategy for citizen engagement and	citizen-	facing digital services that is led by and has
9 WHAT GOO...	egy, in conjunction with your ICS, for citizen engagement and	citizen-	facing digital services that is led by and has
10 WHO DOES ...	future state 1. EPR levelling-up and What Good Looks Like 2.	Citizen-	centred data/national digital channels 3. Federated data hubs 4. API
11 READ THE ...	and senior manager, and perhaps most importantly as a UK	citizen,	I have both welcomed and valued the timely, focused
12 READ THE ...	data is authoritative and reduce traceability of data for the	citizen.	Duplication of data also has an environmental impact. Where

Search Query ☒ Words ☐ Case ☐ Regex Results Set All hits Context Size 10 token(s)

citizen Start ☐ Adv Search

Figure 2.
Selected Concordance Lines of 'Patients'

Target Corpus
Name: temp
Files: 35
Tokens: 105149

KWIC Plot File View Cluster N-Gram Collocate Word Keyword Wordcloud ChatAI

Total Hits: 233 Page Size 100 hits 1 to 100 of 233 hits

File	Left Context	Hit	Right Context
1 AI ETHICS.txt	the use of data for AI We want to involve	patients	and the public in deciding how and why ac
2 AI ETHICS.txt	researchers and developers engaging with	patients	and the public about the risks and benefits
3 AI ETHICS.txt	ope to demonstrate the value of involving	patients	and the public earlier in the development p
4 DIGITAL ...	on, diagnostics and clinical teams. Provide	patients	with the information they need to effective
5 IMPLEMENT...	lives. Improving experience and access for	patients	and people The Data Strategy set out a visi
6 IMPLEMENT...	ease its functionality. For example, helping	patients	understand and act on information in their
7 IMPLEMENT...	GP record, including test results, and allow	patients	to nominate a proxy who can access their n
8 IMPLEMENT...	ccess their records on the App. One in four	patients	now have online access to their new health
9 IMPLEMENT...	ber this year this should be provided to all	patients	unless they have individually opted-out or i
10 IMPLEMENT...	timately improve the overall experience of	patients	and people. To support direct individual ca
11 IMPLEMENT...	y 2030 and in turn improving the safety of	patients	and service users drawing on care in an inc
12 IMPROVING...	rite views on the best ways to engage with	patients	and the wider public in an accessible way. 1

Search Query ☒ Words ☐ Case ☐ Regex Results Set All hits Context Size 10 token(s)

patients Start ☐ Adv Search

Figure 3.
Selected Concordance Lines of 'Individuals'

File Edit Settings Help

Target Corpus
Name: temp
Files: 35
Tokens: 105149

KWIC Plot File View Cluster N-Gram Collocate Word Keyword Wordcloud ChatAI

Total Hits: 79 Page Size 100 hits 1 to 79 of 79 hits

File	Left Context	Hit	Right Context
8 READ THE ...	responsive services for children. Operating in a way that supports	individuals	to be active partners in their care also means
9 READ THE ...	that provide quick and easy access to information about the	individuals	in my care, even if they have been treated
10 READ THE ...	for information so I can spend more time with the	individuals	I am caring for all relevant information about individual
11 READ THE ...	the individuals I am caring for all relevant information about	individuals	in my care, including if they wish to share
12 READ THE ...	I feel empowered to access data for the benefit of	individuals	in my care and for the running of the
13 READ THE ...	nation about other professionals or unpaid carers involved in supporting	individuals	in my care so that I understand the whole
14 READ THE ...	be appropriate and accessible for the range of organisations and	individuals	relying on it. We need to change the culture
15 READ THE ...	access the most up to date information – this will ensure	individuals	only have to tell their story once, and that
16 READ THE ...	information they need, whenever and wherever they need it. Staff,	individuals	who draw on care and support, and their carers
17 READ THE ...	used successfully to provide more targeted care, such as for	individuals	with dementia living at home, preventing or delaying es
18 READ THE ...	safely and securely, respect privacy, and improve the experiences of	individuals	who draw on care and support. Technical and data
19 READ THE ...	health data sets to better understand and improve outcomes for	individuals	drawing on care Taking this further Improving access to

Search Query ☒ Words ☐ Case ☐ Regex Results Set All hits Context Size 10 token(s)

individuals Start Adv Search

Figure 4.
Selected Concordance Lines of 'People'

Target Corpus
Name: temp
Files: 35
Tokens: 105149

KWIC Plot File View Cluster N-Gram Collocate Word Keyword Wordcloud ChatAI

Total Hits: 150 Page Size 100 hits 1 to 100 of 150 hits

File	Left Context	Hit	Right Context
24 NHS AI CAS...	enabled us to identify and prioritise follow-up care for	people	who may have early-stage chronic kidney disease that
25 NHS AI CAS...	process is thorough but labour-intensive and with not enough	people	in the system, it leads to delays for women.
26 NHS AI ...	government and NHS partners. We are also engaging with the	people	developing and using AI, as well as members of
27 NHS AI ...	AI Lab are designed and run in collaboration with the	people	we hope will benefit from them. This page provides
28 NHS AI ...	information about some of the ways we are working with	people	to hear your views and shape our programmes together.
29 NHS AI ...	NHS AI Lab Virtual Hub is a community space for	people	to interact and share knowledge and ideas about AI (
30 NHS AI ...	you about the NCCID We have been engaging with the	people	using or affected by our imaging database to understand
31 NHS AI ...	including X-Rays, CT Scans, MRI, Mammograms, and Ultrasound. What	people	wanted to know Across the workshops run by the
32 NHS AI ...	know Across the workshops run by the NHS AI Lab,	people	wanted to understand how data about them is being
33 NHS AI ...	Our next steps from these workshops, it is clear that	people	are eager to understand the technical nuances around dat
34 NHS AI LAB...	NHS AI Lab Virtual Hub is a community space for	people	to interact and share knowledge and ideas about AI (
35 NHS ...	most likely to miss appointments. It customises communications to contact	people	in the most helpful way and links existing appointments

Search Query ☒ Words ☐ Case ☐ Regex Results Set All hits Context Size 10 token(s)

people Start Adv Search

Figure 5.
Selected Concordance Lines of 'Citizens'

Target Corpus

KWICPlotFile ViewClusterN-GramCollocateWordKeywordWordcloudChatAI

Name: temp

Total Hits: 25Page Size100 hits1 to 25 of 25 hits

Files: 35

Tokens: 105149

AI ETHICS.txt
AI REGULATION.txt
DATA STRATEGY ADVISORY
DELIVERY PLAN_digitalis
DIGITAL PLAYBOOKS.txt
IMPLEMENTATION UPDATES
IMPROVING PUBLIC TRUST
IMPROVING PUBLIC HEALTH
INFORMATION GOVERNANCE
INNOVATION COLLABORATION
INTRODUCTION.txt
NATIONAL PUBLIC ENGAGEMENT
NHS AI AWARD.txt
NHS AI CASE STUDIES
NHS AI CASE STUDY_1
NHS AI LAB.txt
NHS AI LAB_GET INVOLVED
NHS AI LAB_GET INVOLVED
NHS AWARD_CASE STUDY
NHS_AI IMAGING.txt
READ THE STRATEGY_FOR
TECHNOLOGY ENABLED
THE CENTRE FOR IMPROVING

File	Left Context	Hit	Right Context
6	WHAT GOO...	S collectively own and drive the digital transformation journey, placing	citizens and frontline perspectives at the centre. All leaders promote
7	WHAT GOO...	ey own and drive the digitally enabled transformation journey, placing	citizens and frontline perspectives at the centre. Your organisation wo
8	WHAT GOO...	and contribute to their health and care data ensure that	citizens have access to care plans, test results, medications, history,
9	WHAT GOO...	ICS Success measure 5 - Empower citizens What does good look like?	Citizens are at the centre of service design and have
10	WHAT GOO...	digital services that suit all literacy and digital inclusion needs.	Citizens can access and contribute to their healthcare information, taki
11	WHAT GOO...	ices Success measure 5 - Empower citizens What does good look like?	Citizens are at the centre of service design and have
12	WHAT GOO...	digital services that suit all literacy and digital inclusion needs.	Citizens can access and contribute to their healthcare information, taki
13	READ THE ...	ensuring that they provide benefits and improve outcomes for all	citizens maintain respect for data privacy do not widen existing
14	WHAT GOO...	I led Ensure smart foundations Safe practice Support people Empower	citizens Improve care Healthy populations How we're supporting you
15	WHAT GOO...	: digital support services across your ICS Success measure 5 - Empower	citizens What does good look like? Citizens are at the
16	WHAT GOO...	that is led by and has been co-designed with	citizens make consistent, ICS-wide use of national tools and
17	WHAT GOO...	to improve care by regularly enaaging with frontline users and	citizens invest in regular board development sessions to develop digi

Search QueryWordsCaseRegexResults SetAll hitsContext Size10 token(s)

citizensStartAdv Search

4. Results and discussion

The first observation is related to the most frequent lexis co-occurring with the words as premodifiers, as can be inferred from the collocates illustrated in Tables 2 ('patient') and 3 ('individual') and the concordances of 'citizen' in Figure 1. Specifically, 'patient' is mostly found in patterns such as 'improve patient care', 'share patient information', 'that is necessary for the purpose of processing confidential patient information in accordance', 'our aim is to provide information about how patient data is used', 'get more information about how patient data is used', 'we *need* to leverage maximum benefit from information to enhance patient care and improve services', as can be observed in the following instances:

- (1) We will support ICSs in making digital and technology choices, that drive value, help to reduce health inequalities, and *improve patient care*, ensuring this happens within a coherent framework (emphasis added)³
- (2) Progress so far
To support the COVID-19 pandemic response:
NHSX issued one page of simple information governance guidance to help staff access data with confidence, with the support of the Information Commissioner and the National Data Guardian

government used the Health Service (Control of Patient Information) Regulations 2002 to issue notices requiring public sector organisations *to share patient information* to support the COVID-19 response (emphasis added)⁴

- (3) The response to COVID-19 has been supported by the timely sharing of data under the COPI regulations 2002. Subject to specified safeguards (limitations, exclusions and approval processes), these regulations provide a legal basis for *the sharing of confidential patient information*, setting aside the common law duty of confidence for anything that is necessary for the purpose *of processing confidential patient information* in accordance with the regulations (emphasis added)⁵

This result emphasizes the institution's need to explore information about the patients and improve the knowledge and safety of the patient data. This is also confirmed by the high frequency of 'electronic', which mostly occurs in phrases like 'Electronic Patient Records':

- (4) Fully realising the benefits of digital technology *by increasing coverage of Electronic Patient Records* and Digital Social Care Records, so frontline health and care staff can spend less time on administrative tasks and more time delivering personalised care (emphasis added)⁶

'Electronic Patient Records' is a system whose aim is to have all patients with a centralized electronic health record. A slightly different co-text is found when 'individual' (Table 3) is examined. In particular, the word co-occurs with 'care', which is very frequent in some instances such as 'with all individual care information', 'to keep the public safe both for their individual care and to improve guidance and regulations', thus revealing the institutional interest towards the efficiency of treatments addressed to each individual. Finally, from the investigation of the word 'citizen' (Figure 1), it is possible to observe an institutional concern related to the involvement of the UK citizens into a deeper knowledge of the new digitalized services. The first step of the analysis also highlighted the significant frequency of the words 'patient', 'individual' and 'citizen' as premodifiers, more so than the nouns in their plural forms. This emphasizes a greater attention to the services offered rather than the people involved in this process. This result is confirmed by the occurrence of these words in phrases denoting the institutional need to improve care services and enrich information about the new digitalized forms of medical communication.

As far as the second step of this investigation is concerned, which is referred to the words in their plural forms and the transitivity processes underlying them, the first finding relates to the word 'patient'. As can be observed in Figure 2, the most relevant semantic field emerging from the context concerns the engagement and involvement with the institutions and the public. This data is

consistent with the most frequent words collocating with 'patients'—'and' (scaled frequency = 50400), 'for' (scaled frequency = 16380), 'with' (scaled frequency = 8460), 'public' (scaled frequency = 4170), 'service' (scaled frequency = 1440). 'Patients' are mentioned along with 'public' as Actors of the new medical forms of communication, as they are engaged with the institution, researchers and developers into the co-design of the processes involved, the knowledge of their risks and benefits, and the making-decision process. This is also confirmed by the preposition 'with', which is mostly co-occurring in the pattern 'engaging with'. Nevertheless, 'patients' are also conceived as 'Recipients' and 'Clients' of the institutional actions, as confirmed by the high frequency of 'for' mainly in patterns such as 'the five principles to help NHS realise *benefits* for patients and the public', 'Digital services enhance services for patients and ensure that they get the right care', 'enabling better care for patients hospitalized with a severe infection'. The two roles of 'Recipients' and 'Clients' seem to be relevant in the other words explored, namely 'individuals' (Figure 3) and 'people' (Figure 4). In particular, starting from the most frequent collocates of 'individuals' ('their', 'my', 'who', 'care'), 'people' ('care', 'at', 'with'), and concordance lines in Figures 3, and 4, it is possible to state that they are mostly addressed as receivers of doctors care but also as the reasons why professionals commit themselves to improving their digital literacy ('I feel empowered to access data for the benefit of individuals in my care', 'information about other professionals or unpaid carers involved in supporting individuals in my care so that I understand the whole', 'to identify and prioritise follow-up care for people who may have early-stage chronic kidney'). A more active role is implicit in 'citizens' (Figure 5), which mainly collocates with 'what', 'does', 'look', 'care'. These words refer to the 'What Good Looks Like (WGLL) programme, which is aimed at providing clear guidance for health and care leaders to digitise, connect and transform services safely and securely.⁷ 'Citizens' are addressed both as receivers of the institutional services ('drive the digital transformation journey, placing citizens and frontline perspectives at the centre') and as empowered individuals who are invited to take part in the new digitalized forms of medical communication ('Citizens can access and contribute to their healthcare information', 'that is led by and has been co-designed with citizens' make consistent').

5. Conclusion

The initial aim of this study was to explore the terminology denoting people addressed by the NHS about the new digitalized forms of medical communication in order to focus on the changing role of patients in the doctor/institution-patient interaction. The outcomes emerging for the first step of the investigation revealed more attention by the institution to the new services offered rather than the people involved in the process. This was

confirmed by the high frequency of the words examined in their adjectival function. This is probably due to the urgent institutional need to inform the people about the medical innovations rather than devote attention to instruct them on their use, although this data interpretation should be confirmed in further future investigations.

As regards the second step of the analysis concerning the investigation of the co-text of the nouns, a more active role was found, mainly in relation to the words 'patients' and 'citizens'. In particular, they are involved both as Actors and Recipients of the institutional actions. The active role of citizens could be motivated by their actual involvement in an institutional project aimed at transforming medical services. The active role of 'patients', instead, may be explained through their condition as subjects who are expected to already be part of the medical services as opposed to 'people' or 'individuals', who are mostly addressed as receivers of medical services and information.

In short, this study confirms the changing roles of the actors involved in medical communication. Specifically, 'patients' and 'citizens' are expected to interact with the new forms of medical services to obtain their own benefits. Nevertheless, in light of the higher institutional concentration on services rather than people involved in the process, in the future, more attention could be paid to the strategies enacted by the NHS to enable them to become more familiar with technological innovations.

Notes

1. [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690548/EPRS_BRI\(2021690548_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690548/EPRS_BRI(2021690548_EN.pdf)
2. <https://transform.england.nhs.uk/digitise-connect-transform>
3. <https://transform.england.nhs.uk/key-tools-and-info/centre-improving-data-collaboration/centre-improving-data-collaboration-what-we-do>
4. <https://www.gov.uk/government/publications/data-saves-lives-reshaping-health-and-social-care-with-data>
5. <https://www.gov.uk/government/publications/data-saves-lives-reshaping-health-and-social-care-with-data>
6. <https://transform.england.nhs.uk/digitise-connect-transform/who-does-what>
7. <https://transform.england.nhs.uk/digitise-connect-transform/what-good-looks-like/what-good-looks-like-publication>

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Building credibility and visibility in alternative and complementary medicine: A linguistic and discursive perspective

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As non-mainstream medical practice is making headway and resisting the dominant discourse of biomedical practice, there is the need to understand how non-mainstream, alternative/complementary scholars provide a credible representation of themselves by creating a convincing discourse from within the boundaries of their discipline while enhancing visibility and impact to stay ahead of competition in today's regime of 'patronage and fear' of academic life. Using a representative corpus of academic articles in this field, I look at how authors 'position' themselves and carve out a distinct knowledge space that reflects their professional identity and promotes the quality and credibility of their own research to the scientific community. To do this, I consider the markers of evaluation and stance in academic discourse analysis for their meaning making, in both quantitative and qualitative terms, and elucidate a context for interpretation, showing how patterns of promotional language are used to enhance visibility of, and attention for, both research and researchers within a super-crowded and competitive world of digital scholarly publishing.

Keywords: Academic Discourse; Attention-seeking; CAM; Complementary and Alternative Medicine; Credibility

1. Introduction

As mainstream biomedical practice continues to dominate the discourse about health, disease and treatment, non-mainstream, alternative/complementary medical practice is moving forward and becoming increasingly visible in scientific journals, where it competes with the might of mainstream research outputs as well as a digital publishing system of 'patronage and fear'. In this system, non-mainstream scholars are not only under immense pressure to publish papers and resist the dominant discourse of biomedicine, but they are also required to provide a credible representation of themselves and their research work using the persuasive patterns of language that rhetorically raise their professional visibility and compete for reader's attention within a super-crowded world of digital scholarly publishing. Although much work has been devoted to interpersonal and evaluative features of language that contribute to academic persuasion in mainstream medical discourse, analyses of non-

mainstream medical discourse that display persuasive practices through an interpersonal and evaluative system of linguistic expressions are largely missing from this research landscape. To bridge this gap, I use a representative corpus of academic articles in non-mainstream medical discourse to examine how authors ‘position’ themselves and establish a distinct knowledge space that reflects their professional identity and promotes the credibility of their own research to the wider scientific community. I attend to the markers of evaluation in academic discourse analysis for their stance meaning making, showing how patterns of promotional language enhance visibility of, and attention for, both research and researchers, while framing the persuasive practices of non-mainstream researchers who take sides in relation to valid arguments in a context of greater competition in online scholarly publications.

2. Background

At a time when medical pluralism is growing throughout the Western world as part of a globalized health market (Hampshire & Owusu, 2012), the use of a plurality of treatment choices has become a common standard in all Western societies over the past twenty years, making it possible for people to choose both mainstream and non-mainstream approaches to medical care (Shih et al., 2010). While there are several decision factors driving such pluralistic choices, the tangible presence of multiple therapeutic modalities not only provides evidence for different representations of knowledge discourses about health, but also for differently conceived systems and traditions characterized by opposition and labelling.

When it comes to non-mainstream healthcare terms, the comprehensive label ‘Complementary and Alternative Medicine’ (CAM), is often used to describe a complex system of healing practices and disciplines that fall outside of mainstream or conventional medicine. The US National Center for Complementary and Integrative Health (NCCIH, 2024) describes this overarching term, ‘complementary and alternative medicine’ (CAM), as “a group of diverse medical and health care systems, practices, and products” that are either used “*together with* conventional medicine” (complementary), such as acupuncture used alongside medications and immunotherapy, or “*in place of* conventional medicine” (alternative), such as homeopathy instead of pharmaceutical medications (*my italics*). Over and above stands ‘Integrative Health’ (IH), defined as a system that “brings conventional and complementary approaches together in a coordinated way . . . , with an emphasis on treating the whole person rather than, for example, one organ system” and “aim[ing] for well-coordinated care among different providers and institutions” (NCCIH, 2024, p. 1). Yet, to compound matters, we also have ‘Integrative Medicine’ (IM), defined rather similarly as “an approach to medical care that combines conventional medicine with CAM practices that have shown through science to

be safe and effective . . .” (National Institutes of Health-National Cancer Institute, 2023, p. 1). No matter which term is employed, it is far too obvious that CAM modalities draw upon their ancient healing philosophies, traditions and belief systems developing across different societies and cultures, where “magical or spiritual healing practices and herbal remedies are the oldest traditional systems of folk medicine” (Tessuto, 2024a, p. 2).

What is implied in these definitions is that the very terms used to designate ‘complementary’, ‘alternative’, or ‘integrative’ say as much about the residual nature of such healing modalities as about the hegemonic role held by mainstream, Western ‘biomedicine’ internationally (Baronov, 2008; Davies, 2016; Keating & Cambrosio, 2003). The hegemonic role played by ‘hard-core’, evidence-based logic of biomedical science is in fact so commonplace that there is neither shortage or flaws in understanding biomedicine as a dominant medical ideology that “represents an expression of social power” and “privilege within capitalist societies” (Baronov, 2008, p. 235) in which it inherently “bears a distinct cultural authority” (Davies, 2016, p. 71).

Standing alongside this is the public debate over CAM. Here, biomedical practitioners could be anywhere on the spectrum, from disparaging non-mainstream medicine outright to accepting it to a greater or lesser degree (Beyerstein, 2001; Grandinetti, 2000), with decriers of CAM obviously basing their arguments on Western biomedical notions of ‘truth’ that satisfies the standards of scientific evidence treatment through particularly “randomized controlled clinical trials and their meta-analyses” (Yakoot, 2013, p. 83), thereby providing a polarized understanding of CAM and biomedical knowledge. Despite this, there is a growing awareness that “CAM research” is on the road to “methodological rigour and disciplinary training” and that “evidence-based CAM therapies have shown remarkable success in treating diseases” (Adams et al., 2012, p. 3). In other words, non-mainstream CAM is mature enough to gain from a good dose of empiricism in terms of “evidence-based information sharing” and efficacy in Integrative Medicine therapies (Mortada, 2024, p. 1).

But, any such debate is not without a process of boundary division when the power and authority of biomedicine is exercised within its own professional field. As a matter of fact, earlier studies in sociology of science, medicine and professions pioneered, for example, by Gieryn (1999), and taken up more recently by Brosnan (2015) and Vuolanto et al. (2020), have drawn considerable attention to the processes of boundary division by which scientific disciplines and modern professions seek to maintain their autonomous position, defend their territory, and gain legitimacy. More precisely, in Gieryn’s (1999) theory, “boundary work” describes “the discursive attribution of selected qualities to scientists, scientific methods, and

scientific claims for the purpose of drawing a rhetorical boundary between science and some less authoritative residual non-science practitioners” (Gieryn, 1999, pp. 4-5). These boundary-setting discourses, then, not only put the seemingly non-science position of CAM in one of those methodological straightjackets and polarized representations, but also involve CAM researchers making conciliatory efforts by using scientific evidence (Zerbe, 2007) to counterbalance perceived biases among the wider scientific community and reframe their knowledge boundary by virtue of their stringency in adopting research methods.

Yet, CAM’s use is increasing fast throughout the world. Frequently, therefore, sociological studies have examined different CAM modalities in their professionalization across societies, for example, the US (Falci et al., 2016), Australia (Wiese & Oster, 2010), Canada (Kelner et al., 2006), and European countries (Busato et al., 2006), including attitudes of Arab and Jewish patients referred to primary care clinics (Ben-Arye et al., 2009), or reporting Type 2 diabetes (Ben-Arye et al., 2011). While this formal list of sociological studies is by no means exhaustive, the increasing popularity of CAM is enough to provide the building blocks for wider societal trends while also embracing a consumer-driven approach to medical care (Emmertson et al., 2012; Sibbritt et al., 2016).

Because of this groundswell of appeal in wider society, it is no surprise to see a substantial amount of CAM research articles gaining a foothold in some academic publishing venues. In selecting the most suitable venue for their work, many CAM scholars are not just simply anxious to bring insights into therapies, protocols, and strategies and their responsible integration with mainstream medicine, they are also contending with the often-cited, highly competitive regime of ‘publish or perish’ (Hyland, 2015) that is imposed on all scholars all over the world (Salager-Meyer, 2014) and expects them to rapidly publish their research results in *h*-index, international (English-medium) journals in order to gain tenure, secure funding, and advance careers, among other objectives (Guraya et al., 2016; Hyland, 2015, 2023; van Dalen & Henkens, 2012). But at the same time as facing the pressures by institutions, funders, or other stakeholders, CAM scholars must also face the highly competitive landscape of mainstream biomedical research dominating the digitally transformed system of scholarly medical publishing through the formal and less formal modes of communication (Tessuto, 2025).

In such a highly-competitive academic environment, then, scholarly publishing emerges as “the system which both creates knowledge and distributes rewards to those who are most successful at it” (Hyland, 2023, p. 2), and points to how the modern “attention economy,” a concept borrowed from the world of marketing and business (Hyland, 2023, p. 1), increasingly works for scholars “to gain the attention, and approval, of reviewers, editors, readers, funders and

promotion boards" (Hyland, 2023, p. 2). By extension, this concept translates into a specific competitive mechanism of allocation constructed via the "scarcity" of a desired good within the academia, as with scholars competing for limited material goods, such as grants, royalties, or jobs, or immaterial goods, such as attention, visibility, or recognition (Arora-Jonsson et al., 2023; Krücken, 2019), thereby encapsulating the intense pressure on academics to succeed, to meet expectations and to compete with others.

By the same token, this competitive format tells us much about a wider, long-established societal trend toward "marketization" of the academy, which Bauwens et al. (2023, pp. 1-2) define along "two related dimensions: the commodification of academic output and the 'managerialization' of academic governance," suggesting the increased tendency to treat scholarly output as these mechanisms are made all the easier by the digitized system of scholarly outputs where, as noted, CAM also takes the field; they also hinge upon digitally published research articles that are created and exchanged for audience attention and compete for new knowledge and the attendant recognition, making the case that digital "research articles are products competing for readers' limited attention in a context of massively greater competition" (Hyland, 2023, p. 1).

As a result of all this, the originality of CAM research is of high value in a context where CAM scholars not only must cut the mustard and share their knowledge in the cutthroat culture of academic writing, but they must also work twice as hard to survive on a very uneven playing field to secure their own professional 'boundaries' and protect their knowledge and expertise against their mainstream, biomedical competitors. Their writing, therefore, is in large part a matter of designing research content that is effective in carving out a knowledge space, establishing their own credibility, and competing for visibility of, and attention for, the topic of their expertise among members of the scientific community. In other words, there is the need for writers to make the most persuasive argument they can for themselves and their work using the patterns of language which connect their texts with the rhetorical promotion of their research output and express the criteria for academic success.

When it comes to the lexis of promotional rhetoric for academic persuasion, mostly in the field of medicine, instances of evaluative/subjective language to promote, glamorize, or publicize aspects of research have been noticed in academic discourse under various labels. Millar et al. (2019) refer to these instances as 'hype' in the genre of Randomized Controlled Trials (RCTs), while others suggest 'drama' words (Wheatley, 2014), 'value-laden vocabulary' (Fraser & Martin, 2009), 'positive words' (Vinkers et al., 2015) and 'superlatives' (McCarthy, 2015). So, for instance, Fraser and Martin (2009)

found a significant increase in 21 ‘biased adjectives’ such as *important*, *critical* and *original* in their clinical research journals published in PubMed between 1985 and 2005; Vinkers et al. (2015) found almost the same—25 positive-sounding words like *amazing*, *innovative* running in titles and abstracts of papers published in PubMed between 1974 and 2014; and more recently Hyland and Jiang (2021) picked up on several different hyping terms in their Covid19 papers, equally pointing to an increase in hyping in the period under consideration.

Against this background, the current study probes into the persuasive arsenal of scholars to raise their visibility as experts in the discipline and keep readers’ attention to their research work. To this end, the study conducts a quantitative and qualitative discourse analysis of CAM research articles to see how and to what extent scholars use an interpersonal and evaluative system of linguistic expressions to signal their understandings of the materials, and how they exploit persuasive practices of the genre to build their own authority and credibility—and, ultimately, their visibility that compete for this attention.

3. Method

3.1. Corpus

The data source for this study came from a synchronic, randomized corpus of 30 English-medium, multiple-authored academic research articles (RAs) written by internationally dispersed scholars from the field and available from *three Open Access reputable peer-reviewed journals*—namely, *BMC Complementary Medicine and Therapies* (CMT), *JAMA Network Complementary and Alternative Medicine* (CAM), and *Evidence-Based Integrative Medicine* (EBIM), published previously as the *Journal of Evidence-Based Complementary and Alternative Medicine* (JEBICAM). Three equal-size corpora were built from this field over a five-year period (from January 2019 to January 2024), with each corpora containing 10 RAs in the category of ‘Original Articles’ / ‘Original Investigation’ to form a corpus of 30 samples in all. In reporting on alternative, complementary, and integrative medicine topics alongside their interventions, practices, and products, all the articles tied academic writers to the standard Introduction-Method-Results-Discussion (IMRD) macrostructure of research article writing, as necessary to lay down a hypothesis-driven and evidence-based position on the topics under scrutiny, providing a principled way to see how CAM writers situate their work to mark their participation in their discipline-specific practices. Articles were randomly downloaded from these community-recognized repositories, converted into electronic format, removed of reference sections and visuals, and finally computed by *AntConc* (Anthony, 2018) for a 142,872 running token corpus (Table 1).

Table 1
Characteristics of the Corpus

Journal title	Years	Papers	Tokens	Words	Sentences
BMC CMT	2019-2023	10	47,343	36,928	1,576
JAMA Network CAM	2019-2023	10	42,376	32,887	1,340
EBIM	2019-2023	10	53,153	44,303	1,746
Total	5	30	142,872	114,118	4,662

In terms of size and time span, this sample provides a broadly representative picture of language use across a reasonable spectrum of academic endeavour and in key areas of CAM research.

3.2. Analytical procedure

To explore these corpora in quantitative and qualitative terms, reference was made to Hyland's (2005a) interactional *stance* framework for evaluation in academic writing. In this framework, *stance* "involves 'positioning', or adopting a point of view in relation to both the issues discussed in a text and to others who hold points of view on those issues" (Hyland, 2005a, p. 176), and is one of "the most significant concepts in applied linguistics" (Hyland & Sancho Guinda, 2013, p. 1). This evaluative framework comprises three rhetorical components realized by target items—namely, *evidentiality* (hedges and boosters), *affect* (attitude markers), and *presence* (self-mentions), each with their own interpersonal resources writers can use to present propositional material and conduct interpersonal negotiations (Hyland, 2005a, p. 178-181), all while revealing "an act of identity" in academic discourse (Ivanič, 1998, p. 32) or "styles" for "evaluation and the values to which people commit themselves" in identity-marking schemes (Fairclough, 2003, p. 17). Of these target items, hedges were removed from the count as their function is not strictly related to promotional language, and hence do not fall into line with the current analysis. This framework was supplemented by reference to the literature on the use of hyperbolic subjective language for promotional rhetoric, most typically "hyperbolic terms" realized by adjectives stressing value such as *important*, *critical*, *original* (Millar et al., 2019), alongside 'drama words' (Weathley, 2014,) and 'positive words' (Vinkers et al., 2015) such as *amazing*, *novel*, *innovative*, all while recognizing a cline between moderate and exaggerated promotion.

Target items in the current corpora were searched using *AntConc* (Anthony, 2018), manually examined and counted for each concordance to establish that the candidate feature was performing a proper stance and or hyping function across the argumentative structure of research papers. Individual items were

compiled in a list of frequency counts and used as a springboard to a qualitative and quantitative analysis of the samples.

4. Results and discussion

Based on this data analytical procedure, it is now possible to look at how evaluative linguistic resources operate in both frequency and function across the corpus samples.

4.1. Stance markers by frequency: overall corpus findings

Upon close inspection of the sampled texts, a total of 1,228 instances of potential stance markers were identified across all sections of CAM research articles (Table 2 below), where they average 10.76 cases per 1000 words or 40.93 per article. Already at first sight, such instances demonstrate the importance writers attached to evaluating material and conveying an explicit stance or position towards the sources of the evaluation and the readers in the interactional and persuasive nature of the genre.

Table 2
Frequency of Interactional Boosters, Affect and Presence Markers Across Corpus Sections of CAM RAs

RA Sections		Markers			Total
		Boosters	Affect	Presence	
Introduction	<i>f</i>	229	264	21	514
	%	44.55	51.36	4.09	100
Method	<i>f</i>	10	13	9	32
	%	31.25	40.63	28.12	100
Results	<i>f</i>	19	15	27	61
	%	31.15	24.59	44.26	100
Discussion	<i>f</i>	265	281	39	585
	%	45.3	48.03	6.67	100
Conclusion	<i>f</i>	12	24	0	36
	%	33.33	66.67	0	100
Total	<i>f</i>	535	597	96	1.228
	%	43.56	48.62	7.82	100

Overall, the frequency counts in Table 2 show that writers make far more use of all evaluative resources in the 'Introduction' and 'Discussion' sections, with almost nine out of ten markers occurring in these sections alone. A closer examination of these counts also reveals that *affect* markers are the most popular choice overall, accounting for almost one half of markers employed (48.62%), followed by *boosters* (43.56%), with *presence* markers trailing

behind (7.82%). Interestingly, this rhetorical pattern is generally evident in the Introduction, Discussion and Conclusion sections to varying degrees, as in Conclusion, where *affect* counts for more than two thirds, while *presence* is completely absent. But, this is not necessarily apparent in other sections like Results, where writers turn to *presence* markers as a first choice (44.26%), or the Method section, where *presence* markers account for almost one third of all stance markers, albeit taking second place to *affect* markers.

The reason for this uneven distribution of stance markers not only appears to be consistent with writers' personal choices but also with the amount of rhetorical work that is done across article sections where, as mentioned, the IMRD research report macrostructure stands out as a basic form to perform different discourse functions. For instance, Introductions aimed to motivate and justify the authors' work and usually involved establishing the significance of the broader field by stating an opportunity (or gap in the research), a problem the research responds to constructively, or a question the research answers or deepens, in what typifies the elements in Swales' (2004) CARS model. Discussions served to situate the findings and the generality of the conclusion within the field by interpreting the results in light of previous research and making a case for the results as significant, limited, or altogether failed (Basturkmen, 2012). This made the use of stance features far greater in these sections.

4.2. Stance markers by function

We now look at how different interactional stance features perform their discourse functions in the texts, and how they help writers accomplish their rhetorical and persuasive purposes in the genre.

4.2.1. Boosters

Boosters, the second most frequent items in the corpus (43.56%), were more heavily packed in Discussions (45.30 %) and Introductions (44.55 %) and far less prevalent in Conclusions (33.33 %). Table 3 (below) provides a breakdown of the overall frequency counts of these devices employed throughout the corpus, where stance was most usually determined by the frequency of lexical verbs appearing in an 'evaluative *that*-clause' construction (Hyland & Tse, 2005) to give greater prominence to writers commenting on and evaluating the accuracy of what they present in their prior or current research.

The crucial importance of boosters in this form of academic writing lies in the fact that they help writers persuade peers of the correctness of their claims by investing statements with the confidence of reliability of knowledge and representing strong claims about states of affairs, all while stressing shared information and effecting solidarity in ways that they play a part in the social

negotiation of knowledge (Hyland, 2005a). This is true in the current data where boosters support the writer's argument in one of two ways: (1) emphasize the strength of the writer's commitment to a proposition, and (2) enable the writer to comment impersonally on the validity of propositions.

Table 3
*Breakdown of the Overall
Frequency Counts of Boosters*

RA Sections	Boosters	
Introduction	<i>f</i>	229
	%	44.55
Method	<i>f</i>	10
	%	31.25
Results	<i>f</i>	19
	%	31.15
Discussion	<i>f</i>	265
	%	45.3
Conclusion	<i>f</i>	12
	%	33.33
Total	<i>f</i>	535
	%	43.56

Table 3 continued
*Lexical and Grammatical Realizations of
Boosters*

Lexical & grammatical realizations	<i>f</i>	%
Modal auxiliary verbs	64	25.79
Lexical verbs	167	26.92
Adjectives	98	15.89
Adverbs	84	11.40
Nouns	73	13.64
Miscellaneous	49	6.36
Total	535	100

First, boosters emphasize the strength of the writer's commitment to a proposition and thereby seek to convince readers by their assurance in the fact-like certainty. This rhetorical work can be seen in these typical cases where writers employ a variety of boosting expressions to emphasize the epistemic conviction they wish to attach to their arguments, as in examples (1) and (4) with the writers being confident about 'yoga producing a desired effect in post-traumatic stress disorder', or about 'steroid drugs having serious side effects on osteoporosis, myopathy, and so on':

- (1) **It is evident** that effectiveness of yoga to treat post-traumatic stress disorder (PTSD) is growing. (CAM: Introduction)
- (2) As we have seen, the threshold for reporting serious adverse events, **quite simply**, is high. (CAM: Discussion)
- (3) It is **indeed the case** that rhinoviruses, influenza viruses, and coronaviruses are diagnosed in acute respiratory infections. (CMT: Introduction)
- (4) But **what is certain** is that steroid drugs have serious side effects such as osteoporosis and fractures, immunosuppression, myopathy, cardiovascular disease, glaucoma and . . . (CMT: Discussion)

- (5) **Undoubtedly**, establishing the identity and purity of a botanical drug relies on chemical characterization of molecules in the mixture . . . (EBIM: Introduction)
- (6) Further studies in clinical trials **should definitely** explore preclinical and clinical data regarding the herbal medicines described here. (EBIM: Discussion)

By projecting a good dose of optimism about the issues at stake, these writers are therefore able to present information as consensually given by relying more on shared background.

The second way that writers employ boosters is to comment impersonally on the validity of propositions. This kind of commitment comes through particularly in Discussion sections where authors position their study results in ways that are adequately controlled (compared to a placebo or conventional medicine), randomized, or statistically based to describe and interpret the effect reported in research as confidently and accurately as possible. This, then, allows writers to follow the same standards and evidence threshold as those of mainstream ('hard' science) medicine, meaning that the writers are principally concerned with conferring validity to their investigation, generating sound and objective evidence regarding an alternative/complementary treatment, and getting the reader understand and accept the veracity of their empirical data in terms of 'factive' statements. Their committal stance, in other words, is consistent with the epistemological assumption of positivism in research and scientific inquiry whereby only observable facts obtained from experience, experiments, or scientific methods can be genuine knowledge claims (Cohen et al., 2013).

By so doing, writers in the examples below relied heavily on a combination of 'abstract rhetors' (underlined) and boosters to present a view where a research entity, for instance, 'randomized clinical trials' in (8), takes responsibility for the asserted proposition and supports the reliability of their empirical claims with certainty of knowledge. So, it is easy to see how these writers use boosters to spotlight the strength of warrants with evidentiality verbs like *show* and *establish*, suggesting the efficacy of the connection between data and claims and spilling proof over into their arguments. Such is example (7), where writers invest their statements of findings with a guarantee of reliable knowledge, in this case that 'oxidative stress is one of the contributing factors for the development of oral infections', or express the certainty about expected outcomes with a modal *will* in example (12), in this case foretelling with shrewd inference from observable facts what is predictable about the 'human body adapting to TEAS intervention and bearing insensibility to pain condition':

- (7) These data **clearly show** that oxidative stress is one of the key etiological factors in etiopathogenesis of oral infections. (CAM: Discussion)
- (8) 73 IBS randomized clinical trials **proved** that the magnitude of the pooled placebo response rate in pharmacological trials in IBS was 27.3% for the global improvement responder end point. (CAM: Discussion)
- (9) This meta-analysis of 26 studies of music interventions provides **plain evidence** that music interventions are associated with clinically significant changes in mental HRQOL. (CMT: Discussion)
- (10) This research has **established** that the prostaglandin E2 (PGE2) is the final fever mediator in the brain, especially in the preoptic area of the anterior hypothalamus. (CMT: Discussion)
- (11) The results (Fig. 3A and B) **demonstrate** that the tested extracts displayed inhibition of COX-1 and COX-2 enzymes in a concentration dependent manner being more selective towards COX-2 enzyme. (EBIM: Discussion)
- (12) Repeated transcutaneous electrical acupoint stimulation (TEAS) intervention over a long period of time or at short intervals **will** cause the body to adapt to TEAS and thus become highly tolerant of analgesia. (EBIM: Discussion)

While all these cases show that the writers' new claims are unequivocally and immediately apparent for readers to accept, they also conjure up a self-restrained excitement or 'drama' (Weathley, 2014), as writers are now setting great store by their new findings and presenting themselves at the cutting edge of CAM research.

4.2.2. Boosters and self-mentions

As well as foregrounding data, procedures, or results by abstract rhetors and securing evidential reliability of their claims, writers do not shy away from a more personal style to adopt a particular stance to material by self-mentions, articulating a "discoursal self" (Ivanič, 1998, p. 25) and "authorial identity" (Hyland, 2005a, p. 181; Hyland, 2005b, p. 53) together when they seek to position themselves in relation to their current work and discipline:

- (13) In **our** research, **we have demonstrated** that cognitive damage by ketamine is clearly associated with its effects on major neurochemicals such as acetylcholine. (EBIM: Discussion)
- (14) **We strongly believe** that inflammation is a major culprit in arthritis, lupus, high blood pressure, migraines, rheumatoid arthritis, Chron's disease, Alzheimer's disease, irritable bowel syndrome, colitis, tendonitis. (CMT: Discussion)

- (15) In **our** randomized clinical trial of 74 patients with depression (authors' quote) **we found** noticeable differences in adverse event rates between the intervention (specific auricular acupuncture) and control (nonspecific auricular acupuncture) groups . . . (CAM: Discussion)

More precisely in these cases, we find authors claiming propriety and competence of what they report in the current study, as in example (13), with the writers staking out an individual position and data-supported claim about 'cognitive damage by ketamine having tangible effects on neurochemicals', or in example (14) moving from data-supported claims to construe a high personal commitment to the proposition that 'inflammation is the major cause of arthritis, lupus' or other medically diagnosed conditions, or even in (15) where writers give prominence to self-citation by sketching background to previously published work, in this case doing research in patients randomly assigned to an experimental group and move things forward in the current study.

4.2.3. Putting it all together

It therefore becomes clear that when writers strengthen their arguments with forms like *find*, *show*, *clearly* in the examples mentioned (7-15), they are not only describing the rationality and objectivity of their epistemological inquiries that are, for many, the epitomes of scientific research, but also making the most persuasive case for the originality or value of their research findings to the wider scientific community, including an audience of mainstream biomedical colleagues likely to be skeptical about such a value. Writers do so by legitimizing the validity and credibility of 'new' knowledge claims that emerge from the problems they investigate, the methodologies they employ, the data they analyze and, in our case, the significant outcomes they write up, thus establishing their authority and expertise to conduct significant research and contribute 'new' knowledge to such a community. Of course, claims here become robust and credible by the very fact of publishing articles in journals that operate a peer review quality threshold, and *a fortiori* ensure that unwarranted claims are not published and that 'truth claims are relevant, or unique', or are removed from unethical and questionable research practices, such as 'plagiarism' (Tessuto, 2024b). Equally importantly, however, legitimizing credibility is a measure of how well the writers can provide the best evidence to be implemented into practice by key stakeholders, including patients, medical doctors, therapists (e.g., mind-body health specialists), research boards, and so on, who are involved all along the whole research process, from defining the research question, deciding on the proceeding, member checking the analyses to co-authoring the publication of the results.

Yet, gaining credit by getting peer-reviewed articles published is by no means the end of the matter. As noted, the challenges for “academic productivity” in the publish or perish culture (van Dalen & Henkens, 2012, p. 1283) and for competition in the “attention economy” (Hyland, 2023, p. 1) also result in extraordinary efforts by CAM writers to make their research output stand out in the noise of publishing modes and formats that are made increasingly available by medical science/data/knowledge digital platforms. Whether these scholars may use different media channels to increase their research visibility and impact long after publication is not known. However, framing arguments in the most convincing way (e.g., *This paper clearly demonstrates that*) sends clear signals of CAM scholars being at pains to raise their visibility and impact by showcasing the value of their findings to their peers and other like-minded audiences, ultimately ensuring that their work gets seen, read, and cited, amidst that noise. So while CAM scholars spare no effort to gain audiences’ attention drop by drop through the persuasive force of their arguments and live their academic life within their comfort zone, they also seem to do so with the recognition that greater research visibility, impact and citations of their published article will work towards different outcomes in terms of career growth, such as when applying for grants, or promotions; in other words, competing for material (e.g., grants) or immaterial goods (e.g., attention).

This is where the ‘attention’ mechanism works for CAM writers to pre-emptively outperform others through maximizing and hence promoting their ‘own’ output to impact success. It operates so that the axiom ‘publish or perish’ of their academic professional life will stray towards the realms of ‘be visible or vanish’, ‘be cited or die’, or ‘promote or perish’ in this kind of hustle and bustle of digital knowledge market. And we can see this in more competitive, market-like or “managerial styles” (Fairclough, 2003, p. 9) of treating the (CAM) academy through the discourse that ensues and is gradually instilled into the social identity of CAM scholars writing in the genre to promote themselves and their research ‘output’ in a way that is analogous to promoting goods. So, there is now a form of “interdiscursivity” (Fairclough, 2003, p. 35; Bhatia, 2017, p. 34) weaving through the published genre when CAM scholars present their article findings ideationally to highlight their accuracy and reliability and conduct social relations with colleagues.

In sum, what CAM writers do when they seek to persuade the wider audiences to assent to the significance and certainty of their knowledge claims by boosters while competing for visibility, impact and attention of their output is to follow in the footsteps of fellow colleagues from across disciplines where hyperbolic and promotional strategies come up. Such is, for instance, Hyland and Jiang’s (2021) larger study of Covid19 papers, where research is found to be more strenuously ‘hyped’ both qualitatively and quantitatively, or Millar et al.’s (2019) qualitative and quantitative study of hyperbolic language in

reports of randomized controlled trials, or even Wang and Yand's (2015) study on promotional elements of research in introductions to applied linguistics research articles. Yet what it amounts to in this study is that CAM writers are found to employ promotional and hyperbolic language in moderation rather than embellishing as compared to their mainstream counterparts because, as mentioned, they are forced to steer a steady course along the lines of objectivity and credibility.

4.2.4. Affect

Hyperbolic and promotional practices become more visible when CAM scholars are much more oriented towards evaluating claims by *affect* markers, which account for the most frequent evaluative stance items throughout the corpus (48.62%), and again particularly represented in Discussions (48.03%) and Introductions (51.36%), though it might be worth mentioning that in Conclusion sections there are proportionally twice as many *affect* markers (66.67%) as *boosters* (33.33%).

Table 4

Breakdown of the Overall Frequency Counts of Affect

RA Sections	Affect Markers
Introduction	<i>f</i> 264 % 51.36
Method	<i>f</i> 13 % 40.63
Results	<i>f</i> 15 % 24.59
Discussion	<i>f</i> 281 % 48.03
Conclusion	<i>f</i> 24 % 66.67
Total	<i>f</i> 597 % 48.62

Table 4 continued

Lexical & grammatical realizations: Positive attitude markers in hyping function

Lexical and grammatical realizations	<i>f</i>	%
Adjectives	196	32.83
Adverbs	171	28.64
Nouns	110	18.43
Verbs	63	10.55
Phrases	57	9.55
Total	597	100

More precisely, Table 4 (below) shows the range and frequency of positively marked attitude items realized as adjectives, adverbs, nouns, verbs, and longer phrases for expressing the writer's affective perspectives and personal evaluations towards content and for moderately hyping up and promoting different facets of the authors' research, corroborating other studies where hyping practices are found in different types of academic discourse writings (Fraser & Martin, 2009; Hyland & Jiang, 2021; Millar et al., 2019; Vinkers et al.,

2015). This range of items means that when writers mark positive *affect* through a statement of personal judgement and appeal to shared values, hyping words and phrases make it harder for writers not to tap into their own knowledge of what is valued by the wider scientific community, and this contributes both to the interpersonal dimension of the ongoing discourse and the use of promotional language intended to persuade. With that, though, discrete hyping forms in Table 4 (below) inevitably conceal the fact that they often perform more than one function because writers can address the ‘importance’, ‘quality’, ‘novelty’, and variations thereof, when they are rhetorically promoting their paper through a positive attitude of some kind.

Consistent with this, evaluatively positive items like *crucial*, *significant*, or variations thereof, whether or not pre-modified by other intensifying resources like *very*, are those which are more commonly relied on by the writers to convey the ‘importance’ or ‘weight’ of their current research and make the message convincing in a *prominence*- or *salience-level* marking function. We can see this in the examples below across mainly Introduction and Discussion sections, where writers are heavily invested in spelling out what is relevant about their empirical study and staking out their scientific claims and arguments to tangible topics, as in (16) and (19), where issues of ‘metabolic and anti-inflammatory potential of leucoclada’ or ‘a test compound in paw edema’ are presented as ‘sufficiently great or important’ to nudge positive attention spillover effects on the authors’ work:

- (16) We believe that the metabolic content and the anti-inflammatory potential of *A. leucoclada* is of **crucial importance**. (CAM: Introduction)
- (17) Herein, we introduce a **very important** placebo intervention for comparison with flotation-REST. (CMT Introduction)
- (18) Overall, this study underlines the **importance** of maintaining healthy ROM, especially in subjects who already show signs of impairment. (CAM: Discussion)
- (19) The test compound A showed a **highly significant** ($P < 0.001$) decrease in paw edema ranging from 46 to 68% during the 1st hour of the experiment as compared to standard drug ibuprofen (57%). (CMT: Discussion)
- (20) This marks a **substantial breakthrough** because the benefit of other anti-inflammatory therapies among patients with COVID-19 (e.g., dexamethasone, tocilizumab) is **highly** dependent on severity of illness ... (EBIM: Introduction)
- (21) The use of TEAS **greatly** reduces the occurrence of OS and central nervous system damage during surgery and, **significantly**, has a brain protective effect. (EBIM: Discussion)

While the combination of boosting verbal items here (e.g., *show*, *underline*) reinforces epistemic conviction in claims and a clear assurance of importance in different parts of an argument, it is easy to see how positive personal evaluations carry promotional values, enabling writers to express their affective position to the topics they hype and to bring readers round to their evaluative perspective. The *saliency-level* driver of the rhetorical attention mechanism explains why writers mostly care about hyping in Introduction and Discussion sections, where they claim centrality for their research topics as in example (16), or situate the findings and the generality of the conclusion within their study as in (22), and in this way, they encourage readers to accept that the domains they have identified are worthwhile to read about.

In addition, other opportunities arise from across article sections. Here, writers are more likely concerned with emphasizing the ‘tangible benefit’ or ‘utility’ of their research that is worthy of recognition by readers landing on the article page, with lemmas like *necessary* and *effective* being used to that rhetorical effect, as in:

- (22) This work will be **necessary** to investigate the function of individual active components of AVE and to identify their **effective** mechanism of action. (CAM: Introduction)
- (23) Taken together, the present study suggests a **potent** effect of CLE to prevent neuroinflammatory diseases. (CAM: Discussion)
- (24) Sleep disturbance is a complicated mechanism, and the TST is a **useful** method to evaluate sleep deprivation. (CAM: Conclusion)
- (25) Thus, *Hericium erinaceus* mycelium is a **valid** dual-function supplement for sleep disruption **improvement** while **sustaining** anxiolytic effects. (CMT: Introduction)
- (26) The results obtained in the present in vitro study **contribute to the beneficial** effects of these plant extracts on symptoms of acute respiratory infections. (CMT: Conclusion)
- (27) The **efficacy** of tuina combined with yijinjing on soft tissue hardness and AROM can be clearly observed by the electronic spine measuring device and digital algometer. (CMT: Introduction)
- (28) As seen, propofol and remifentanil pumps can **effectively** avoid cerebral vascular dilation caused by inhalation anesthesia. (EBIM: Discussion)

Just as these writers relied on hypes to address the issue of their research contribution to knowledge head on, while foregrounding their ideas, claims or findings in positivist paradigm, so too they take a stand and align their readers with what is being presented around those attitudinal meanings.

Of course, the Method and Result sections are also targeted to spill over into the positive effects of the authors' research, though hyping to a much lesser degree, as in:

- (29) Subjects' heart rate, blood pressure, height, weight, waist and hip circumferences were measured by our **experienced** practitioners. (EBIM: Method)
- (30) The **strength** of this study is the random process of patients. (CMT: Method)
- (31) **To facilitate** the mechanism of action of pelargonium extract against influenza virus, we performed **systematic** time-of-addition assays as well as . . . (CAM: Method)
- (32) **Strikingly**, equivalence analyses of change scores were **significantly** different between the TCTSY and CPT groups, . . . (CMT: Results)
- (33) The TCTSY treatment completion rate was 42.6% and is the **most valuable** finding, given the limited engagement in and completion of EBTs. (CAM: Results)

As we see, these hypes most often seek to establish the value or importance of a well-planned 'research design' in terms of its components employed in the investigation alongside a factual presentation of findings, meaning that the main function shared by Method and Results is to provide the most informative description of the researchable problem in support of accurate data analysis and to contribute something 'new'.

But, given the very role of accounting research for advancing 'new' knowledge, writers do not shy away from emphasizing the intrinsic 'quality' of their published research based on the most reliable indicator of research 'distinction' or 'novelty', that is, how the interpretations and conclusions of the study 'make a difference' to the existing body of literature, as in (34-37), or highlighting their contributory 'potential' for future research based on a set of self-evident claims, as in (38-40), thus showing how they care about hyping and bring the empirical reality of their study to the wider effects of attention seeking:

- (34) This is **the first well-designed** study from a general population and including healthy individuals published to date, making the findings **more interesting**. (CAM: Introduction)
- (35) **Unique** manufacturing issues will be addressed throughout this research. (CAM: Introduction)
- (36) Interestingly, this study is **the first** to report GC-MS investigation of *A. leucoclada*. (CMT: Results)

- (37) The present study came up with **novel** and **robust** findings. Both the compounds were found effective therapeutic agents (EBIM: Discussion)
- (38) In conclusion, cassava represents a **highly promising** crop with **considerable** commercial potential owing to its **exceptional** nutritional profile . . . (CAM: Conclusion)
- (39) **Remarkably**, these findings present *A. dubius* as a **promising** candidate that provide several leads to develop potential **novel** agents for management of AD. (EBIM: Conclusion)
- (40) **This is a critical next step to shed further light on** this perplexing clinical issue and research question. (CMT: Discussion)

Once again, we see the tendency to hype around something as a signal of the highly competitive nature of medical journal publishing, where CAM scholars continue to face challenges, and the potentially huge risks and rewards of various kinds associated with the imperatives of maximizing visibility and impact and competing for academic success in the attention-based mechanism. By creating their papers to contain hyping items and to rhetorically respond to these imperatives, CAM scholars not only offer other effective ways to stand out from the crowd and showcase the value of research to their peers and others, but also display their professional knowledge and status that promotes their scientific expertise and credibility in the field—their work ‘stands on its own merit’. This is, in other words, the authority and visibility that keep growing among CAM scholars who have demonstrated their credibility to act effectively in their own niche and to make significant, original contributions as ‘new’ knowledge in the fast-moving digital publishing market. But, genres, even the apparent conservative scientific paper, are sites of constancy as well as movement, so credibility that is now being promoted through hyping practices and persuasively represented to audiences is no less material to account for the level (constraints and allowances) of social practices and interdiscursive relations between genres, discourses and styles (Bhatia, 2017; Fairclough, 2003), and therefore point yet to the same tendency towards a competitive, self-motivating mindset now cropping up in the interactional, *affect* features of the published genre.

And it is little wonder that harnessing research to promotional goals and the marketing funnel is now making CAM products a multi-billion dollar business, according to some market analysis reports (*Complementary And Alternative Medicine Market Analysis Report 2024-2030*), suggesting that lack of profitability should not be a reason companies do not take up these products for research and development activities, in the same way as market players are constantly seeking for establishing their dominance in the market and gaining competitive edge over others. Clearly, profitability overall is much larger for

conventional medication than for CAM products, but the increasing consumer demand for 'natural' or 'holistic' methods across pluralistic Western societies and government initiatives to promote and offer CAM services and therapies send a clear signal of the ways writers cannot help but respond to economic and social forces of the market economy of healthcare and hype what they have to hand in the discourses they produce.

5. Conclusion

In this study I have sought to explore how CAM genre writers deploy evaluative and interpersonal resources of stance to represent themselves, their research, and their readers at a time when alternative/complementary medical research and practices are struggling to gain ground in diverse meaning-making ontologies of institutionalized bio-medicine. The analysis of *boosters* and positive attitude markers for evidentiality and *affect* meaning-making, however relatively conventional in the genre, has been shaped by an awareness of writers to supply as many cues as are needed to secure readers' understanding and acceptance of their arguments and claims, while conveying their professional credibility and expertise in terms of the propositions they frame for the wider scientific community to see as most persuasive. This array of discourse conventions is inevitably selective of how disciplinary and cultural values of non-mainstream medicine are reflected and carried through the persuasive goals of the academic reporting genre.

Beyond this line-up of discourse conventions, the analysis has shown that the imperatives for academic success in today's business-like and competitive scholarly publishing increasingly involve CAM scholars relying on their persuasive arsenal to stake knowledge claims for their significance, originality, or utility and to heavily invest in research promotion to maximize their visibility and impact, ultimately cutting through the noisy space of digital publishing and getting noticed. This writers' tendency to rhetorically emphasize the strength of their claims and promote the value of their work does not mean detracting from impartiality of science despite an insatiable thirst for research marketability. Rather, their promotional strategies serve as a proxy for the safety and efficacy of new alternative diagnosis and treatments they propose and practice for a broad range of audiences using sound and rigorous research methods that are useful, relevant, safe, and cost-effective. This way of 'seeing' promotion in texts through congruent discourse analytical realizations goes some way towards helping us understand how writers as researchers exploit the generic and rhetorical resources available to them, in an effort to raise attention for their work. And, this turns on how academic writing in this highly competitive genre is not static or fixed but is constantly evolving to suit new purposes and social conditions.

So, where the scientific rhetoric of alternative/complementary research promises to bring safety and efficacy to non-mainstream practice of medicine and healthcare, what we see basically is CAM scholars' discourse employing epistemologies of legitimation and professional identity to secure their positions. At the same time, they are negotiating their relational positionality *vis à vis* biomedicine, relaxing or breaking down rhetorical boundaries to reconcile CAM and biomedical practices without undermining the integrity of either domain.

As a follow up to this study, the current data could be exploited for a more detailed (quantitative) comparison with linguistic and discursive strategies employed by writers in mainstream medical research articles. What emerges from these findings is that the time is ripe to make room for a new academic culture where CAM researchers can have their voice heard without prejudice and join the ranks of the 'trusted messengers' of medical research.

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Coping with cancer: A discourse and thematic analysis of adolescents' metaphor preferences

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The literature on the topic of cancer metaphors in health communication is substantial. However, there is surprisingly little research on how metaphors are used by and influence young patients. This study examines how adolescent cancer patients use metaphors to describe cancer, and discusses this usage as it relates to coping strategies compared to healthy adolescents. Data was based on eight recorded semi-structured interviews about cancer metaphors from the Metaphor Menu for People with Cancer, which were analyzed using thematic and discourse analysis. Findings show that adolescent patients and nonpatients most frequently chose the New Value metaphor and used problem-focused coping strategies. The results improve our understanding of how adolescents perceive and experience cancer, and provide a revealing perspective on their emotional wellbeing and social interactions.

Keywords: Adolescents; Cancer Metaphor; Coping Strategies; Discourse Analysis; Thematic Analysis

1. Introduction

Cancer is a complex and emotionally fraught disease that is often described using metaphors. Cancer description using metaphors has often been studied from the perspectives of adults and healthcare providers with little attention given to adolescents' viewpoints on the matter (Harrington, 2012; Lanceley & Clark, 2013; Woodgate & Busolo, 2017). Family members, educators, healthcare providers and public discourse shape the way young people think and talk about, and experience cancer. These cancer messages to adolescents can expand or limit their perceptions of the world and their agency in dealing with cancer.

The study we conducted was one of the first of its kind in Italy to examine the use of cancer metaphors among adolescents, contributing foundational

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knowledge to understanding adolescents' attitude toward cancer. Understanding how young people perceive, emotionally engage with, and discursively construct cancer via metaphors will shed light on their perceptions and preventive behaviors related to cancer as well as on how they will eventually support friends and relatives dealing with cancer.

The paper begins with a review of the literature on the use of metaphors in health communication about cancer. It then introduces our ongoing multidisciplinary project called 'A Metaphor for Change' before presenting the pilot study that was conducted using the interview technique and a collection of different metaphors inserted into an online menu by Semino and other colleagues at Lancaster University (i.e., Metaphor Menu for People with Cancer, launched online in November 2019).¹ It then discusses the findings that emerged from the thematic and discourse analysis of the respondents' answers in relation to the metaphors selected from the menu, new and more personal metaphors, as well as their coping strategies. The study ends with some concluding remarks and suggestions for further studies and future health communication practices.

2. Background

Metaphors allow individuals to personalize their experiences and perceptions of cancer. The literature consulted shows that health professionals use metaphors to promote understanding and empathy (Casarett et al., 2010; Harrington, 2012), but their careless use by clinicians can risk misinterpretation and confusion among patients and caregivers. The promotion of a 'fighting' attitude by clinicians, for example, may be interpreted by patients as the need to suppress emotional expression (Byrne et al., 2002). Thus, the deployment of metaphors in healthcare necessitates more research, training, and expertise to ensure they are used skillfully and effectively. Moreover, it has been found that the use of interdisciplinary teams in the evaluation of metaphorical language in healthcare can provide perspectives and insights into discourse strategies that ensure that metaphors truly "personalize challenging discussions, improve patient comprehension, and help patients and their families to plan ahead" (Hui et al., 2018, p. 730).

For cancer patients, the use of metaphors both reflects and affects thinking. Metaphors provide them with a way to give voice to their experiences in a more relatable way, to approach their feelings indirectly, to manage uncertainty, and to find meaning in their illness (Gibbs & Franks, 2002). The metaphors they use influence their emotional coping, the transformative impact of cancer on their identity, and their communication with healthcare providers. The study by Jerome and Liaw (2020) confirms that patients use different types of metaphors to discuss their experiences with the disease, providing insights

into their risk perceptions and efficacy beliefs. Analyzing the variety of source domains in patient stories can help healthcare professionals, caregivers, and researchers better comprehend the psychological and emotional response of patients to the disease and eventually enhance communication and support in cancer care. For instance, War metaphors² may not resonate with everyone (Guité-Verret & Vachon, 2021). They can have both positive (i.e., they help patients frame cancer positively, fostering hope and resilience) and negative (i.e., they cause patients to blame themselves when treatment does not work) effects on emotional wellbeing, thus requiring consideration within each patient's unique context (Hurley, 2014).

In the literature consulted, healthy people were also studied, but their use of metaphors was not analyzed. Rather, Fernandez et al. (2022) focus on the effects of metaphors on healthy people's behavior related to cancer risk reduction. Metaphors not only help them make sense of cancer but also shape their emotional response and relationships with cancer patients, as well as their coping styles, health beliefs, and engagement in preventive behaviors. For instance, bellicose metaphors for cancer can influence the health beliefs of nonpatients in ways that may make them less willing to enact healthy behavior (e.g., perceiving treatment as more difficult may lead to demotivation and potential resistance to health beliefs) (Hauser & Schwarz, 2015, 2020). Public health messaging should aim to avoid demotivating individuals, promoting reactance against messages, and reducing the likelihood of engagement in preventive behaviors.

Little is known—as mentioned earlier—about how adolescent cancer patients perceive or understand cancer, and it is not yet clear how metaphors influence their feelings. The few studies found are aimed at understanding how cancer was talked about, represented, and perceived by adolescent nonpatients, confirming the impact of metaphors on their emotions (Mooney-Somers et al., 2016; Woodgate & Busolo, 2017). Military metaphors, the most frequently used by adolescents, may have detrimental effects on cancer prevention efforts and on the experiences of individuals with cancer. Further research is needed to explore alternative constructions of young people who have had cancer as they may help peers imagine ways to express themselves beyond the victim narrative.

Cancer experiences are not perceived by people in the same way. Rather, personal, diverse, and often contradictory metaphors are used to transform the disease into a meaningful experience for healthcare professionals, patients, and healthy young people. Patients are the most productive, because for them no single metaphor alone can capture the complexity of their thinking about cancer. Semino et al. (2017, 2018) provide a comprehensive examination of the metaphors used by patients, family caregivers, and healthcare professionals

when talking about cancer and end-of-life experiences. They conclude that while violent metaphors, such as *dying after a **battle** with cancer*, are generally rejected due to their potentially disempowering connotations, the appropriateness of a metaphor depends on its context, function and individual perception, and varies according to the three actors in the healthcare system (i.e., healthcare professionals, family caregivers, and patients). For example, patients use violent metaphors to convey determination (e.g., express desire and attempt to get better/recover, express a fighting spirit and positive attitude) but also fear (e.g., express worry and negative perception of lack of recovery if treatment fails). Caregivers use violence metaphors to express difficulties and the emotional toll related to their relationships with patients (i.e., a sense of oppression) and to the grief of loss (i.e., feelings of devastation). Doctors use Fight and Battle metaphors, for instance, to express the feeling associated with the perceived sense of responsibility for the patient (i.e., they are described as being in a leadership position in a war) and to describe the symptoms and side effects of cancer treatment (Potts & Semino, 2017).

3. Method

The findings presented in this paper were obtained from the pilot study of the project 'A Metaphor for Change' that uses a systematic protocol to examine a sample of healthy adolescents (control group) and adolescent patients from the Pediatric Onomatology Unit of the Bari University Hospital (experimental group), in collaboration with the Psychology Department of the Children's Hospital 'Giovanni XXIII' of Bari. This project has three objectives: to develop a visual language capable of articulating the subjective illness experiences of adolescent patients, to promote individual and social adaptation to cancer, and to strengthen the relationship between patients and healthcare professionals.

A qualitative approach was used, including (1) discourse analysis³ and (2) thematic analysis of semi-structured interviews with the adolescents to identify overarching themes. The combination of these two types of analysis has been used before (e.g., Botelle & Willott, 2020; Braun & Clarke, 2006; Taylor & Ussher, 2001) and is ideally suited to the study of personal experience and meaning. It involves a rigorous exploration of linguistic patterns, metaphorical constructions and emotional expressions, enabling researchers to systematically identify thematic patterns in participants' spoken narratives. Data analysis of the results relied on the transcriptions of semi-structured interviews using the Italian translation (by the first author of this study) of the Metaphor Menu. The audio recordings were carefully transcribed and repeatedly read to ensure accuracy and understanding of the key emotional and cognitive aspects expressed by the participants. The data were coded by the authors based on the basic content and then categorized accordingly. Themes were developed to capture the most important aspects of participants'

responses. The overarching themes emerged from a combination of linguistic metaphor analysis of the metaphor types [M1-17] selected by the participants from the Metaphor Menu, together with the reasons they gave for their metaphor choices and the new and more personal metaphors they were asked to provide, as well as the authors' consensus on the thematic relevance to the study objectives. This thematic framework, enriched by participants' personal coping strategies and health beliefs, provided clinical insights into their cancer experiences. Applying discourse analysis, the themes were then analyzed at a deeper level to determine what, if anything, they reveal about broader societal discourses related to cancer.

3.1. Participants

The project participants, aged between 14 and 18, were assessed as having average cognitive functioning using the Kaufman Brief Intelligence Test (KBIT-2). The control group consists of nonpatients and the experimental group of patients with cancer recruited in different treatment phases such as therapy, maintenance therapy, and stop therapy.

3.2. Materials

Participants completed emotional and cognitive questionnaires. The Kaufman Brief Intelligence Test (KBIT-2), a brief measure of verbal and nonverbal intelligence for individuals aged 4 to 90 years (Kaufman, 1990), was selected to assess participants' cognitive functioning, with internal consistency reliability above 0.90 for the age range included in the current study. The Interview Attachment Latency (IAL), a revised version of the Adult Attachment Interview (AAI) tailored for late childhood and early adolescence (Ammaniti et al., 1990), was used to assess participants' attachment styles. The coding system, developed by Main and Goldwyn (1985-1994) and adapted for use in Italy by Ammaniti et al. (1990), classifies adolescents into four categories regarding their overall state of mind with respect to attachment: (a) secure, (b) dismissing of attachment relationships, (c) preoccupied with attachment relationships, and (d) unresolved with respect to past loss or trauma. The Patient Health Questionnaire-9 (PHQ-9) and The General Anxiety Disorder-7 (GAD-7) were selected to explore the emotional states reported by the adolescents. The PHQ-9 (Kroenke et al., 2001; Spitzer et al., 1999) is a self-administered diagnostic tool for assessing depression severity, exhibiting 88% sensitivity and specificity for major depression. The GAD-7 is a self-administered questionnaire designed to screen for and measure the severity of generalized anxiety disorder (GAD) based on DSM-IV diagnostic criteria (Spitzer et al., 2006); a threshold score of 10 demonstrates 89% sensitivity and 82% specificity for GAD. The Illness Perceptions Questionnaire-Revised (IPQ-R), administered only to the experimental group, is an 84-item self-completed

instrument developed to quantitatively measure components of illness representations (Giardini et al., 2007; Weinman et al., 1996), as described by Leventhal's Common-Sense Model (CSM) of self-regulation (Leventhal, 1982; Leventhal & Colman, 1997). The semi-structured interviews were based on the Italian translation of the Metaphor Menu for People with Cancer (Demjén & Semino, 2020), which was selected to investigate the impact of metaphors on patients' emotional wellbeing and the formulation of new, more personal cancer conceptualizations. The Menu comprises seventeen metaphors (M) which belong to the following categories: Fairground ride [M1],⁴ Journey [M2-M5], Stone in a shoe [M6], Fight [M7-M8], Not a Fight [M9-M11], Music [M12], Invasion [M13-M14], New Value [M15], and Nature [M16-M17]. A pre-determined set of open questions (e.g., Do you know the word 'cancer'? Could you choose four metaphors from the Metaphor Menu? Which metaphor would you choose to describe this disease?) explored the disease representations and imagery preferred by the adolescents. Participants were also asked to give reasons for their metaphor choice. The questions used with the experimental group also explored perceptions of the relationship between healthcare professionals and patients, as well as relationships between patients and their parents and friends. For this article all responses were translated from Italian into English [by the first author of this study], then the individual linguistic expressions and verbatim extracts from our data reported here were written in italics and the salient words highlighted in bold type.

3.3. Procedure

Data collection took place in different settings and locations (e.g., at home or in the hospital). The procedure included two clinical interviews conducted with the participants by a trained psychologist (the second author of this paper). The first interview aimed to collect personal data and obtain information about individual and social functioning. For the experimental group, the first interview also focused on illness behavior and emotional stress reactions. During this phase, the adolescents completed the PHQ-9, the GAD-7, and the KBIT-2 to assess cognitive performance. In the second part of the interview, which was audio-recorded, the psychologist used the Metaphor Menu to ask semi-structured questions created ad hoc to explore participants' cancer representations and metaphors/images. During the second clinical interview, participants completed the AICA to assess attachment security. In addition, the experimental group completed the IPQR to examine perceptions/representations of the disease condition.

3.4. Ethics

The project was approved by the Ethics Committee of the IRCCS Istituto Tumori 'Giovanni Paolo II' on May 9, 2024, and received permission from the

Pediatric Onomatology Unit of the Bari University Hospital. Prior to data collection, parents/guardians received an information letter, and participants received a separate letter. Participation required signed consent from both adolescents and their parents/guardians.

4. Results

A total of eight participants completed the interviews based on the Italian translation of the Lancaster Metaphor Menu. The experimental group consisted of four participants, who were predominantly male (3/1; 75%) and had an average age of 17.2 years ($SD = 1.2$; range 15-19). The control group also comprised four participants who were predominantly female (3/1; 75%) and had an average age of 16.6 years ($SD = 1.4$; range 14-18). The socio-demographic data and family backgrounds revealed that two adolescents in the control group (Nonpatients #2 and #4) had a relative diagnosed with cancer. The thematic analysis of the eight interview transcripts revealed three overarching themes: coping strategies, metaphors, and new metaphors.

4.1. Coping strategies

The coping strategies 'used' by the participants in the experimental and control groups were identified using the model designed by Carver et al. (1989) and Carver (1997), which describes 14 primary coping strategies: four problem-focused strategies, six emotion-focused strategies, and four avoidance strategies. The analysis provided a detailed comparison of the 83 references to coping strategies identified in the transcripts. It was found that these references were distributed in different proportions between the experimental group (62.6%) and the control group (37.3%). In terms of the problem-focused strategies, the experimental group showed a higher tendency for active coping (6% vs. 4.8%), use of informational support (7.2% vs. 3.6%), and positive reframing (10.8% vs. 4.8%). Planning was also slightly more common in the experimental group (2.4% compared to 1.2%). Conversely, the control group used these strategies less frequently overall. As regards the emotion-focused coping, the experimental group reported more frequent use of emotional support (13.2% vs. 3.6%) and venting (4.8% vs. 1.2%), while humor was more common in the control group (3.6% vs. 1.2%). Acceptance was significantly higher in the control group (9.6% vs. 1.2%) and both groups had similarly low scores for religious coping (1.2%). In terms of avoidance strategies, the experimental group had a higher frequency of denial (7.2% vs. 2.4%) and behavioral disengagement (3.6% vs. 0%). Self-distraction was more common in the experimental group (2.4% vs. 1.2%), while substance use, and self-blame were not reported in either group. Overall, the experimental group appeared to use more varied coping strategies compared to the control group.

4.2. Metaphors from the metaphor menu

Selecting metaphors from the Metaphor Menu that best represented the adolescents' conception of cancer provided them with a way of dealing with the emotional, physical, and existential challenges associated with living with cancer. In the experimental group, Journey [M5] and Fight [M8] were chosen three times, followed by Not a Fight [M11], and New Value [M15] twice. Fairground ride [M1], Journey [M3], Stone in a Shoe [M6], Fight [M7], Not a Fight [M10], and Nature [M16] were the least frequently chosen metaphors. In the control group, New Value [M15] was the most chosen metaphor, as it was chosen three times, followed by Fairground Ride [M1], Not a Fight [M9], and Invasion [M13, M14]. Journey [M3], Fight [M7], Stone in a Shoe [M6], Not a Fight [M11], and Nature [M16] were only chosen once. When we added up all the metaphors chosen by the two groups, we got that New Value [M15] (15.6%) is the most chosen metaphor, followed by Fairground Ride [M1] (9.3%), Journey [M5] (9.3%), Fight [M8] (9.3%), and Not a Fight [M11] (9.3%). Journey [M3], Stone in a Shoe [M6], Fight [M7], Not a Fight [M9], Invasion [M13, M14], and Nature [M16] came after with the same percentage of 6.25%. Not a Fight [M10] was the least chosen metaphor (3.1%). When we wanted to know who chose what, we realized that the metaphor choice can either be reserved for only one group or that no clear distinction can be made between the two groups. An example of the first case is Journey [M5], which was chosen only by the experimental group, as well as Invasion [M13, M14] and Not a Fight [M9], which were chosen only by the control group. The following examples, which are the most numerous, illustrate the second case in which the choice of metaphor was not group-dependent, as both patients and nonpatients showed to generally choose the same metaphors. For example, Patients #1, #2, and #4 had the Fight [M5] and Patients #1, #2, and #3 the Journey [M5] metaphors in common, confirming that these two metaphors are the most salient types used by cancer patients (cf. Demmen et al. 2015; Semino et al. 2017). However, the same metaphor categories, but different types (i.e., Fight [M7] and Journey [M3]), were also chosen by Nonpatients #2 and #3, respectively. Patient #1 chose the same Fairground Ride metaphor as Nonpatients #2 and #3. Patients #3 and #4 chose the metaphors Not a Fight [M10 and M11], which were also preferred by Nonpatients #1 for the type [M11], and #2 and #3 for the same category but other types [M7 and M9]. Patient #2 chose the metaphor Nature, which was also favored by Nonpatient #4.

4.3. New metaphors

The variety of source domains used in the new metaphors, which patients and nonpatients were asked to formulate, shows how differently the experience of cancer can be perceived and articulated. Patient #2 compares cancer to a level in a video game. Patients #3 and #4 draw from the same source domain to

frame their metaphors, i.e., the world of Nature (atmospheric phenomena and insects). The former talks of a storm in summer, the latter refers to the process of metamorphosis: the caterpillar that changes into a butterfly. Nonpatient #1 depicts cancer as two individuals, one stronger than the other, holding a thread representing luck; in the end, the weaker surrenders to the stronger. Nonpatient #2 discursively structures the disease as a make-up product, i.e., the waterproof mascara. Nonpatients #3 and #4 share the same source domain and conceptualize cancer as a Journey.

5. Discussion

5.1 Coping strategies

The results of this pilot study are consistent with the existing literature on coping strategies in adolescents diagnosed with cancer (Belpame et al., 2021), as they emphasize the complexity and variability of young patients' psychological responses to the disease and provide a meaningful comparison with healthy adolescents. Studies have shown that adolescents with cancer often resort to a combination of problem-focused and emotion-focused coping strategies to deal with both the physical and emotional challenges of their diagnosis (Compas et al., 2012; Phipps et al., 2017). For example, the experimental group in this study used positive reframing and informational support more frequently than the control group, reflecting a proactive approach to coping by seeking understanding and finding positive perspectives. As Patient #4 expressed, *"In the end I am very **grateful** for the illness because it made me discover parts of myself that I didn't know before . . . it made me appreciate every situation, every moment of life more,"* describing how cancer changed his outlook on life. Similarly, Patient #1 highlighted the role of healthcare providers in reducing his anxiety: *"I have managed to become more aware of what the illness was . . . **thanks to** the doctors who calmed me down."* These strategies are consistent with previous research showing that adolescents with chronic illnesses such as cancer often use active coping strategies and seek information to gain a sense of control over their course of treatment (Clarke-Steffen, 1997; Zebrack et al., 2014). However, healthy adolescents may not face the same intensity of stress, which may explain why they are less likely to use such strategies.

In terms of emotion-focused coping, the experimental group reported more frequent use of emotional support and venting, which is consistent with the literature, and which emphasizes the essential role of social support systems in coping with the emotional burden of illness (Hildenbrand et al., 2011; Rosenberg et al., 2013). Patient #2 explained the sense of connection he felt in the hospital *"Nevertheless I felt a great **closeness** both to my parents and here in the hospital . . . in hospital you really don't have the feeling of being outside the*

world . . . *you feel like everyone else.*" Conversely, humor was more common in the control group, a strategy often associated with coping with everyday stress. Research suggests that humor is a more common response in situations with less intense stressors, suggesting that healthy adolescents resort to lighter emotional responses to cope with daily challenges (Folkman & Moskowitz, 2000).

An important finding that further refines the understanding of coping in the control group is the fact that adolescents who had witnessed the illness of a close family member, such as a sibling or parent, tended to use coping strategies that were similar to those of the experimental group. The literature supports the idea that adolescents affected by a serious illness of a family member, especially life-threatening illnesses, develop problem- and emotion-focused strategies similar to those of the patients themselves (Melhem et al., 2007; Thastum et al., 2008). In addition, these adolescents find themselves in a more advanced stage of the acceptance process compared to cancer patients, likely because time had passed since their family member's illness, allowing for better emotional processing and adjustment (Kazak et al., 2001). As Nonpatient #2 shared, *"I think the first step to stop feeling so bad is to first accept that it exists . . . And then . . . just live as if it's the only time you have to live."* Nonpatient #4 also reflected on his father's illness and described his positive attitude during the illness: *"During the illness we understood how it ended, but he always had a smile in his eyes . . . everyone who remembers him remembers him as the person who always had a smile."*

The study also highlights the increased use of avoidance strategies in the experimental group, particularly denial (7.2% vs. 2.4%) and behavioral disengagement (3.6% vs. 0%). When confronted with an overwhelming stressor such as cancer, adolescents often used these strategies as psychological protection. They provide short-term relief by helping individuals distance themselves from difficult realities (Aldridge & Roesch, 2007; Carver et al., 1989). Patient #3 remarked how she struggled with shock and disbelief: *"I couldn't believe it . . . I wondered why this was happening to me . . . it seemed more like a joke than anything else."* However, these strategies can lead to maladaptation if used extensively, as they prevent individuals from effectively processing their emotional experiences in the long term. In contrast, the healthy adolescents in the control group resorted to avoidance strategies less frequently, probably because they were not confronted with significant stressors and therefore did not require such intensive psychological protective measures.

The differences observed between the two groups illustrate the psychological challenges faced by adolescents with a cancer diagnosis. The experimental group used a wider range of coping strategies, from denial of the diagnosis to more functional approaches, depending on the stage of their illness. In

contrast, the control group, especially those who had already experienced illness in their family, benefited from greater temporal and emotional distance from the acute phase, enabling them to use more adaptive strategies such as acceptance (Kazak et al., 2001; Zebrack & Chesler, 2001).

5.2. Metaphors from the menu and new metaphors

The preliminary results of this pilot study contribute to our understanding of how cancer metaphors function in health communication and social psychological research, shedding light on the specific individual and situational factors associated with metaphor preferences. The selection of four favorite metaphors from the menu offered a way for both patients and nonpatients to navigate the emotional, physical, and existential challenges of living with cancer. For brevity, only the reasons for the most salient and frequent metaphor types are reported here, i.e., The New value and Fight. The New Value is from the Lancaster Metaphor Menu and was the most frequently chosen by both patients (#2 and #4) and nonpatients (#1, #3, and #4). Through it Patient #2 refers to cancer and to previous “*things*” that were thought “*to be normal*” and that they turned out to be impossible after the therapy, since “*those who are in this situation could not experience ordinary things because they had to go through the therapy.*” Patient #4 expresses a change of perspective and a renewed outlook on life amidst the struggles, such as “*school*” and “*the contact with classmates.*” Looking at the literature on the cancer metaphor, the New Value can be equated with two other source domains, i.e., the Unveiling or the Lesson, used to convey the experience of this disease (Feralda et al., 2022; Guité-Verret & Vachon, 2021). All adolescents seem here to attempt to lift the veil on the complicated nature of living with cancer in order to give new value to life. When explaining their motivation for choosing the New Value metaphor, they emphasized the challenges that the disease brings and the potential for learning and growth that can result from the experience of dealing with the illness, as well as acceptance and a renewed perspective on life. Nonpatient #1 stated that people with cancer “*value everything more*” than healthy people and Nonpatient #3 referred specifically to healthy young people who “*tend not to appreciate what life gives them every day.*” For Nonpatient #4 the metaphor makes him recall the last days of his dad and “*his love for the things you do every day.*”

The Fight metaphor also comes from the menu and was the second most frequently chosen, together with other metaphor categories (i.e., Fairground Ride, Journey, and Not a Fight). The decision to discuss only the Fight metaphor here is confirmed by the literature on violent metaphors in relation to cancer, which underlines how much they persist in public discourse, in slogans of cancer research organizations and in scientific reporting on cancer, thus influencing the mindset of adolescents (Fernandez et al., 2022). However,

violent metaphors are not unambiguous, i.e., they can either positively or negatively affect how patients and nonpatients approach the disease (Demmen et al. 2015; Semino et al., 2017). Patient #1 chooses the Fight metaphor to express his desire and aspiration to get well/recover soon (*"it [= the difficult and unpleasant situation] would be **temporary** . . . will come to an end sooner or later"*), and to present himself as active and determined (*"I had the **grit** to face this challenge"*). Both patients #1 and #2 use it with a positive attitude (*"If you are **positive**, you can't get down emotionally"*—Patient #1; *"You have to face it with a **smile**"*—Patient #2). But, although patient #2, like Nonpatient #2, mentions the complexity of the cancer experience (*"cancer demands a lot from you . . . is something that should not be underestimated"*—Patient #2); he does not do so with the same negative connotation as Nonpatient #2, confirming that the use of metaphors should be evaluated not only on the basis of their nature ('Fight' or 'Not a Fight'), but also on the basis of their function and individual perception. For Nonpatient #2 cancer *"is like a fight because they [patients] don't know what is in front of them, there is someone **bigger**."* While the Fight metaphor evokes vigilance and action in patients, it does not motivate action, as in Nonpatient #2, when imagining an individual fighting cancer. Within the latter unique context, the Fight metaphor has a disempowering effect on her emotional wellbeing, which may negatively impact her future health beliefs (Hauser & Schwarz, 2015, 2020).

The new metaphors that the participants were asked to formulate show how differently their way of thinking shapes their experience of cancer. However, they can be equated with those most used by people, mainly adolescents, when formulating their understanding and emotional responses to it (Woodgate & Busolo, 2017; Mooney-Somers et al., 2016). Patient #1 does not provide a new metaphor for cancer but sends a message of resilience and hope by using the figurative phrase *"grit your teeth"* to convey his determination to keep going. Patient #2 compares cancer to a level in a video game *"that you can't get through . . . You try and try again, eventually with the right equipment you manage to complete it and get on with the story."* The video game metaphor can be assimilated to the Fight category, as it reflects the challenging and combative nature of the disease (Demmen et al., 2015). It sheds light on the resilience and personal growth that can result from the cancer experience (Bodd et al., 2022). The metaphor helps him deal with the complex and uncertain aspects of cancer and therapy, and to make the difficult treatment decisions to get on with the story. Patients #3 and #4 refer to natural phenomena. The former talks of *"a storm in summer that prevents you from going outside, but when it stops you can go on doing whatever you want."* The latter refers to the process of metamorphosis: *"the caterpillar that changes into a butterfly."* The Living thing metaphor (i.e., the caterpillar turning into a butterfly—Patient #3) emphasizes the dynamic aspects of the disease. This

approach communicates an intuitive sense of cancer as a living entity with characteristics akin to animals (Harrington, 2012). The summer rain that eventually stops can be assimilated to the Season metaphor which helps patients to cope with the unpredictability of cancer (i.e., the storm), while reflecting the changing phases of the disease (i.e., the season) (Jerome & Liaw, 2020).

Nonpatient #1 depicts cancer as a tense relationship in which one part of a person's soul is stronger than another part, and these two parts are pulling against each other (again the theme of a Fight) by a thread, which represents luck. The patient and the illness are seen as enemies, suggesting that failure to recover is a personal defeat. Moreover, the concept of fighting cancer can overshadow the passive aspect of treatment, and the uncertainties involved, potentially creating unrealistic expectations (Hurley, 2014). However, equating the self with survival through the Fight metaphor does not have the effect described in the literature of patients being seen as those who blame themselves, but on the contrary, they are perceived by Nonpatient #1 as *"those who nevertheless decide to **fight** . . . hoping to **win** either way to the last, with the knowledge that they have at least tried to **fight** the illness."* We also observed a lexical priming effect in Nonpatient #1. She tended to use language that matched the metaphor she was confronted with (*fight, win*). Research argues that in this case, fight metaphors for cancer may negatively influence non-patients' health beliefs such that they are less willing to engage in health-promoting behaviors (Hauser & Schwarz, 2015, 2020). Nonpatient #2 uses the original metaphor of *"**waterproof** mascara that never comes off."* It could refer both to the pain that is felt but not visible to the naked eye (again the Fight metaphor, but this time private and secret, not expressed or shown to other people) as the waterproof mascara does not allow water (tears) to pass through and destroy the make-up, and to the permanence of cancer. Nonpatients #3 and #4 share the same mindset in metaphor choice as both emphasize the dynamic and destructive aspects of the disease (Feralda et al., 2022; Hendricks et al., 2018). Nonpatient #3 talks of *"a tortuous path to cross, a line splitting into other lines . . . an ugly line, a bit all curled up, . . . not straight."* Nonpatient #4 presents cancer *"a vortex dragging everyone down."* Their metaphors can be thematized as Journey metaphors (Demmen et al., 2015; Semino et al. 2017), but only when used with their negative implications, as these metaphors only describe the significant difficulties faced by patients and their family members. Nonpatient #4 presents cancer, for instance, as a path to inevitable decline. Both the Journey and the Waterproof mascara represent the struggle of living with cancer and the eventual realization of the limitation of treatments and mortality associated with the disease. These nonpatients view the experience as a complex and violent journey through various medical procedures, and the disease as incurable (Guité-Verret & Vachon, 2021). The

potentially negative impact of their metaphors could affect the understanding of cancer prevention as something beyond one's control and the intention to engage in preventive behavior, such as neglecting cancer screenings, for example (Hauser & Schwarz, 2020).

All in all, the use of metaphors helped the adolescents who participated in this pilot study to make sense of cancer, enabled patients to reframe their lives to resist disruption and hope for a better future. But, the metaphors also underscore the fear, sadness and confusion associated with the disease, particularly among participants in the control group, highlighting the need for more cancer information campaigns, education and psychosocial support.

6. Conclusion

The preliminary findings of our pilot study make it extremely difficult to draw a comprehensive conclusion. However, the results make concrete contributions to the current literature. For example, the Fight metaphor helps patients to express their self-motivation and agency in terms of fighting spirit, whereas nonpatients found it less empowering. This finding confirms the literature in the field (Byrne et al., 2002). Another contribution lies in the health beliefs between patients and nonpatients. The former believe that the disease is temporary and therefore trust in the effectiveness of treatment, while the latter are convinced that cancer is life-threatening and permanent and therefore feel a sense of helplessness. These misconceptions and negative emotional reactions are described in the literature among healthy young people (Mooney-Somers et al., 2016; Woodgate & Busolo, 2017) and should be more actively discussed by educators, healthcare providers, and the public. In developing awareness communication strategies aimed at offering accurate and complete information, those metaphors that may undermine adolescents' coping mechanisms and prevention efforts should be identified and possibly avoided. While the significance of our results might be limited in range, as far as we know, ours is one of few studies that considers metaphors from the perspective of adolescent patients and nonpatients, and that highlights overlaps between linguistic metaphor analysis and psychological theories of emotion disclosure and coping. In the area of psychology, the active engagement with the adolescents' metaphors enabled the psychologist conducting the interviews not only to explore the participants' emotions and fears in depth, but also to understand and reflect on their coping processes. The experimental group showed a proactive and resilient approach to dealing with cancer, while the control group tended to use different coping strategies, which were probably influenced by the nature and intensity of the challenges they faced. In the field of linguistics, the results have helped to identify the metaphorical expressions that will be further investigated when the corpus is enlarged according to the procedure proposed by the Pragglejaz Group (2007)

and then checked for their definite metaphoricity in the corpus and in the concordance lines, using the corpus analysis software Wmatrix (Rayson, 2008). Future work based on the methods outlined here will expand our knowledge of cancer messages to adolescents that truly support young patients after cancer treatment and promote their reintegration into their social environment, support healthy coping mechanisms and prevention efforts in adolescent nonpatients, and provide alternative perspectives on people with cancer so that adolescents can envision how to relate to them beyond the loser narrative. Ultimately, we hope that this study will have an impact on doctor-patient interactions because, as the literature shows (Black, 2020; Hui et al., 2018), the use or careful selection of common and effective metaphors promotes empathy, understanding and personalized care for people with cancer, as well as patients' corrective emotional experiences and rapid changes in their perceptions of their own suffering, sense of agency, and mastery of their feelings.

Notes

1. <http://wp.lancs.ac.uk/melc/the-metaphor-menu>
2. In this paper, the groups of metaphorical expressions from a particular semantic area or category are indicated by a capital letter at the beginning, e.g., War metaphor.
3. Discourse analysis was intended here as a method that examines how individuals construct their internal understanding of phenomena through discourse (Burman, 1993).
4. In this paper, a particular metaphor type is abbreviated as M, followed by the corresponding number in the Metaphor Menu, and both type and number are placed in a square, e.g., [M 1]. If there is more than one type of metaphor category in the Metaphor Menu, the letter M and the corresponding number of metaphor types follow, with the first number indicating the first metaphor type and the last number the last type of the same metaphor category, e.g., [M2-M5].

Authors' Statement

Although this research was conceived and conducted jointly by all three authors, Rosita Maglie contributed to sections 1, 2, 4.2, 4.3, 5.2 and 6 and Francesca Filograsso worked on sections 2, 3, 3.1-3.4, 4, 4.1 and 5.1 of the article.

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An appraisal of the effectiveness of corpus linguistic research feedback: Healthcare professionals' perceptions

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This study investigates the impact of corpus linguistic feedback on healthcare professionals, particularly within cosmetic surgery consultations. Employing a mixed-methods approach, the research integrates quantitative corpus analysis with qualitative insights to examine linguistic patterns, such as stigmatising discourse, medical vs. lay terminology, and interactional asymmetry. The study involves data from three UK healthcare sites. Key findings reveal a significant use of lay terms by surgeons, an unexpected prevalence of patient interruptions, and the perpetuation of stigma through language. Feedback was provided to surgeons via an executive report, followed by their evaluations through questionnaires and debriefings. Results indicate that linguistic feedback heightened awareness among surgeons, prompting reflections on communicative practices and intent to implement changes. This study underscores the utility of corpus linguistics in enhancing healthcare communication and makes a contribution to the field of applied linguistics through the appraisal and recommendations offered for improving patient-centred care and communication.

Keywords: Applied Linguistics; Corpus Linguistics; Cosmetic Surgery; Healthcare Communication; Medical Discourse

1. Introduction

Effective communication in healthcare settings is paramount for successful patient outcomes and overall satisfaction. The complexity of medical discourse, particularly in specialised medical areas poses unique challenges. Indeed, as the landscape of healthcare continues to evolve, the need for nuanced understanding and effective communication between healthcare providers and patients has become increasingly evident. Communication serves as the backbone of the doctor-patient relationship, enabling the exchange of information, the building of trust, and the clarification of patient concerns. As Brookes and Hunt (2021) emphasise, the significance of situated communication in healthcare contexts cannot be understated; it is through dialogue that therapeutic goals are established, and health outcomes are influenced.

In this vein, this paper explores how corpus linguistics can illuminate communication dynamics within the medical context. By examining the intricacies of these interactions, the study aims to offer insights into the epistemological factors that influence discourse within this field. Furthermore, the nature of communication in cosmetic surgery consultations through a mixed-method approach is evaluated, contributing to the discourse on effective linguistic practices in healthcare. The findings will not only shed light on the intricacies of communication in cosmetic surgery but also aim to inform broader applications in healthcare communication practices.

2. Background

2.1. Theoretical framework of communication in healthcare

The discourse surrounding healthcare has evolved, recognising the role of communication as a fundamental component of patient care. Roter and Hall (2006) assert that ‘talk’ is essential for crafting the doctor-patient relationship, while Hunt (2021) emphasises the prevalence of spoken interactional routines in healthcare. The literature suggests that all communicative acts within healthcare, be they verbal or non-verbal, constitute healthcare discourse that is influenced by various epistemological factors (Gotti et al., 2015).

Understanding these dynamics is crucial in a healthcare context where miscommunication can lead to adverse outcomes. Theoretical frameworks such as conversation analysis and discourse analysis offer valuable lenses through which to explore these interactions. Conversation analysis, in particular, delves into the nuances of turn-taking, interruptions, and the sequential organisation of talk, highlighting how these features shape the flow of communication in medical consultations (Maynard, 1991). Discourse-based analysis of healthcare instead examines the interactions which take place from a more contextualised and global perspective (Brookes & Hunt, 2021; Padley, 2022a).

2.2. Communication and interaction in healthcare settings

Healthcare communication is multifaceted, encompassing a range of interactions that are not only medical but also social. According to Roberts and Sarangi (2003), applied linguistics in healthcare settings can serve as a problem-solving tool, addressing real-life communication challenges. The complexity of doctor-patient interactions is well-documented, with studies utilising discourse analysis (West, 1984) and conversation analysis (Maynard, 1991) to unpack these dynamics. Recent studies in corpus linguistics have also provided additional layers of understanding, focusing on quantifiable language use within healthcare contexts (Brookes & Baker, 2022; Mullany, 2007).

The role of effective communication in healthcare cannot be overstated. It not only facilitates the transmission of medical knowledge but also fosters patient engagement and empowerment. A strong doctor-patient relationship, built on trust and clear communication, is essential for ensuring adherence to medical advice and enhancing patient satisfaction. Therefore, investigating the intricacies of healthcare discourse is crucial for identifying areas of improvement in communication practices.

2.3. Cosmetic surgery discourse

Despite the advancements in understanding healthcare communication, the realm of cosmetic surgery has remained relatively underexplored, particularly in terms of interactive discourses. The literature has primarily focused on multimodal discourse in advertising (Lirola & Chovenec, 2012; Moran & Lee, 2013), neglecting the interactive aspects of consultations. This study addresses this gap by analysing communication within cosmetic surgery settings, highlighting how language shapes patient experiences and perceptions.

In the context of cosmetic surgery, communication takes on a unique significance. Patients seeking cosmetic procedures often grapple with societal expectations and personal desires, making the consultation process highly sensitive (Padley, 2024). Indeed, the language used by both healthcare professionals and patients can significantly influence the outcomes of these consultations. By understanding the discursive strategies employed in these interactions, it is possible to identify how communication impacts patient perceptions, motivations, and satisfaction with surgical outcomes.

2.4. Applied linguistics and healthcare discourse

Applied linguistics and corpus linguistics methodologies have significantly influenced the understanding of healthcare communication, offering deep insights into how language shapes interactions between healthcare providers and patients (Brookes & Collins, 2023; Roberts, 2003). One key area of impact is the analysis of patient-practitioner discourse, which is central to diagnosing issues, understanding patient concerns, and guiding treatment plans (Sarangi, 2010). Brookes and Hunt (2021) explore how discourse analysis in healthcare settings can identify linguistic patterns that either facilitate or obstruct communication, such as the use of directives, mitigations, and explanations. These linguistic features are crucial in creating a sense of patient involvement and trust, with corpus analyses revealing recurring patterns of misunderstanding that can lead to reduced patient adherence to medical advice. Similarly, Baker's (2006; 2023) work on using corpora to analyse health-related texts has highlighted the importance of understanding how institutional language can

sometimes alienate patients, particularly when medical jargon is used excessively.

Beyond these works, other researchers have expanded the scope of applied linguistics to examine the impact of linguistic choices on health outcomes. For instance, Candlin and Sarangi (2004) have investigated how language mediates professional healthcare relationships, showing that interactions often revolve around asymmetrical knowledge structures, where healthcare professionals hold expert authority over patients. Their work underscores the need for a more patient-centred communication approach, particularly in sensitive contexts such as end-of-life care or chronic illness management. Candlin and Sarangi's research suggests that an applied linguistic lens can help reframe these conversations by promoting more collaborative dialogues, wherein patients feel empowered to voice their concerns and preferences. This shift from a paternalistic model to one of shared decision-making (Di Pace & Padley, 2024) has been a focal point in improving patient outcomes and satisfaction.

In addition, Atkins (2019) conducted a study that specifically analysed healthcare professionals' communication skills through role-play, comparing simulated consultations to real-life interactions in general practice. Using interactional analysis, Atkins identified key differences between these environments, particularly in how clinicians managed patient expectations and emotional cues. The study showed that in simulated settings, healthcare professionals were more likely to adhere to scripted, idealised responses, whereas real-life consultations required more adaptive communication strategies. This highlights the importance of training medical professionals in realistic communication scenarios. Combined with studies by Roberts and Sarangi (2003) on gatekeeping encounters, as well as Egbert and Baker's (2020) work on corpus linguistic triangulation, Atkins' findings contribute to a growing body of applied linguistic research that seeks to enhance the quality and effectiveness of healthcare communication, ultimately contributing to better patient care and equitable health outcomes.

In light of the above literature, this study seeks to further the investigation into corpus linguistic methodologies used to analyse healthcare discourses (Brookes & Collins, 2023) within the context of cosmetic surgery. Furthermore, there is a particular focus placed on the extent to which the results can be rendered tangible to the non-linguist healthcare professionals.

2.5. Study aims

This research project formed part of a larger doctorate investigation which considered the following four macro areas:

1. Expert/Non-expert Identities: an exploration of the language used in consultations, examining the motivations, psychological factors, and stigma associated with cosmetic surgery.
2. Lexical Impact: assessment of the impact of lexicon on interactional features, utilising quantitative corpus data to define linguistic characteristics.
3. Interactional Asymmetry: investigation of the extent to which interactional asymmetry may exist in the corpus by analysing the power dynamics within consultations.
4. Applicability of Results: Evaluate the applicability of findings to the fields of Language for Specific Purposes (LSP) and healthcare communication practices.

This particular paper offers an overview of how a selection of the results from the abovementioned areas were adapted and provided to the healthcare professionals and what their perception of the linguistic feedback was. Furthermore, it provides insights into how the feedback has influenced their communicative practice and/or drawn attention to features of their communication that they were unaware of. This paper also reflects on the methodologies used for applied linguistics and whether these can be replicable and tangible to future linguistic/communicative healthcare investigations.

3. Method

3.1. Study design

The study adopted a mixed-methods approach, integrating quantitative and qualitative analyses to provide a comprehensive view of communication in cosmetic surgery consultations. Drawing on corpus linguistic analysis, corpus-based discourse analysis, and ethnographic methods (McEnery & Hardie, 2012; Sarangi, 2006; Stubbe et al., 2021), the research aimed to yield tangible insights into the communicative practices of healthcare professionals.

A mixed-methods design allows for a richer understanding of communication dynamics by combining numerical data with contextual insights. This approach not only facilitates the identification of patterns within the corpus but also enables a deeper exploration of the meanings and implications behind those patterns. Indeed, it also allows for the triangulation of data (Egbert & Baker, 2020).

In line with applied linguistics, the concept of 'effective linguistics' (Sarangi, 2006) was applied to this project with an eye to provide tangible linguistic observations to the clinical participants through an executive report and debriefing (McMahon & Winch, 2018). Furthermore, the feedback provided to the healthcare professionals was also envisioned within the framework of

ethnography (Gumperz, 1999; Sarangi, 2006; Stubbe et al., 2021) whereby the role of the analyst is forefront (Roberts, 2003). In particular, the analyst is able to emerge themselves within the professional context (Duranti & Goodwin, 1992) and be accepted as a part of the (discourse) community (Swales, 1990) in order to gain a greater understanding and insight into the linguistic context under examination. This was achieved in this study through the researcher being accepted as a 'semi-expert' in the field by both patients and healthcare providers due to their professional and academic background working within the field of healthcare. Hence, the feedback provided is considered not only to be of a linguistic nature but also multidisciplinary, as it addresses communication based on the premise of linguistics while also considering other factors such as professional communication (Sarangi, 2006), context (Duranti & Goodwin, 1992) as well as the transferability of linguistic results to the healthcare field (Brookes & Collins, 2023; Candlin & Sarangi, 2004).

3.2. Participants and data collection

Data were collected from three healthcare sites across the UK—Nottinghamshire, Cambridge, and Royal Tunbridge Wells—between September 2021 and March 2022. A total of 36 patient consultations were recorded, transcribed, and analysed, resulting in 257,274 tokens and 23,388 sentences.

The consultations were selected based on their relevance to cosmetic surgery, ensuring a diverse range of cases and patient demographics. Ethical considerations were paramount in this study, with all participants providing informed consent (health practitioners and patients alike) and assurances of confidentiality. Anonymity of the patients was guaranteed by the researcher. Indeed, the recordings were anonymised, and sensitive information was carefully managed and stored in order to maintain participant privacy.

3.3. Analysis

The analysis for the doctoral project employed both qualitative and quantitative methods. Lexical analysis was conducted using software tools such as Sketch Engine and #LancsBox, while statistical analyses, including the *Chi-Squared* Test, were applied to assess the significance of findings. The study focused on key themes such as stigmatising discourses, medical terminology use, as well as interruptions within consultations.

Quantitative Analysis: The quantitative analysis provided a statistical overview of linguistic features, enabling the identification of significant trends and patterns in the data. This dual approach allowed for triangulation, ensuring that the findings were robust and well-supported by evidence.

Qualitative Analysis: The qualitative analysis involved a close examination of transcriptions to identify patterns in language use, communication strategies, and the construction of meaning. Discourse analysis techniques were employed to uncover the subtleties of interaction and the social dynamics at play during consultations.

In order to disseminate the results to the clinical participants, an executive report was written which provided:

1. An initial overview of the salient findings in the first pages in order to orientate the participants as regards the study aims and initial linguistic observations.
2. A glossary of important linguistic terms which included clarification regarding corpus linguistics as a methodology and also terms such as concordances and keyness.
3. An outline of detailed quantitative findings including statistical analysis and graphs.
4. Excerpts of their transcribed dialogues in order to provide concrete examples.

In order to gather the clinicians' perception of the utility of the feedback, an online questionnaire was distributed to the participants which used both multiple choice questions and open questions. Following the distribution of the questionnaire, online debriefing sessions were organised with the participants in order to provide clarification regarding the feedback and to ascertain whether the healthcare professionals had made any modifications to their communicative practice.

4. Results

4.1. Overview of findings

The analysis carried out for the doctorate project yielded several key linguistic findings that illuminate the nature of communication in cosmetic surgery consultations and that were shared with the healthcare professionals.

The first set of results regarded stigmatising discourses whereby patients often expressed a desire to hide their surgical procedures, revealing a pervasive stigma associated with cosmetic surgery. The language used reflected a reluctance to disclose surgical history, with many patients opting for euphemisms or alternative justifications for their procedures. Furthermore, the healthcare professionals themselves also alimented the same stigma by encouraging patients to hide their procedures and striving to obtain unnoticeable results (Padley, 2024).

Furthermore, in many consultations, there were instances where patients would articulate their desires for surgery in terms of enhancing personal appearance or addressing specific physical issues rather than directly stating their intentions. This pattern highlights the complex interplay between personal motivations and societal perceptions of cosmetic surgery, as patients navigate their own desires within the context of potential stigma (Padley, 2024).

The second area of salient results regards the lexical patterns identified within the corpus. The study found a significant prevalence of lay terminology used by surgeons, despite their expertise, as well as by patients (89% vs 11% of lay terms used respectively). This choice was statistically significant ($p < 0.00001$), suggesting that surgeons may prioritise patient comprehension over technical accuracy. A case in point includes terms such as 'tummy tuck' and 'facelift' which were frequently used instead of their clinical counterparts (abdominoplasty and rhytidectomy), indicating an awareness of the need for clear communication (Padley, 2025).

However, despite lay terminology dominating, there was still a high prevalence of medical terminology ($n = 628$ terms) identified and used by the surgeons. Furthermore, the analysis also revealed that surgeons often provided explanations for medical terms, adapting their language to suit the patients' level of understanding. They also used illustrations to support their clarifications where necessary. This adaptability was deemed to be crucial in establishing rapport and ensuring that patients felt informed about their procedures (Padley, 2025).

A third important area identified for communication involved the extent to which the interactions were symmetrised or otherwise. Aside from the use of medical lexis vs laity, interruptions between both parties as a measure of asymmetry were also investigated. Surprisingly, contrary to initial expectations, patients interrupted surgeons more frequently (55% vs 45%). Indeed, these findings challenge traditional notions of power dynamics within healthcare consultations. The unexpected prevalence of patient-initiated neutral or relational interruptions (Goldberg, 1990) suggests a more collaborative dialogue than might typically be assumed in medical settings (Fairclough, 1989).

Indeed, an example of this can be seen in instances where patients would interrupt surgeons to clarify details about their procedures or to express their concerns, demonstrating active engagement in the conversation. This challenges the notion of a unidirectional flow of information, emphasising the importance of patient agency in consultations (Fage-Butler & Anesa, 2016).

The final aim of the doctoral project was that of applying the findings to the field of Language for Specific Purposes as well as the field of healthcare communication. The first step has already been trialed in the English for Medical Purposes classroom where authentic materials (extracted from the corpus) were used for teaching purposes. The findings highlight the pedagogical utility of authentic materials in training future healthcare professionals (i.e., medical students) in order to improve their knowledge of scientific English, enhance their awareness of communicative practices and, hence, encourage more patient-centred approaches (Padley, 2022b). Based on these findings, it was deemed that the data collected can be utilised in educational contexts, informing curricula for medical professionals and contributing to improved communication strategies.

Therefore, the final applicability of the results to the field of linguistics regards the way in which the previously mentioned results were deemed to be of use to the healthcare practitioners involved in the project. Their impressions were collected through an online questionnaire as well as online debriefing sessions and can be consulted in the following section.

4.2. Relevance of findings transferred into tangible feedback

The participating surgeons were provided with an executive summary which outlined the key findings in a user-friendly fashion (i.e., avoiding linguistic terminology deemed of little relevance to physicians). This involved providing an overview of salient findings and then more detailed results in the subsequent sections and appendices.

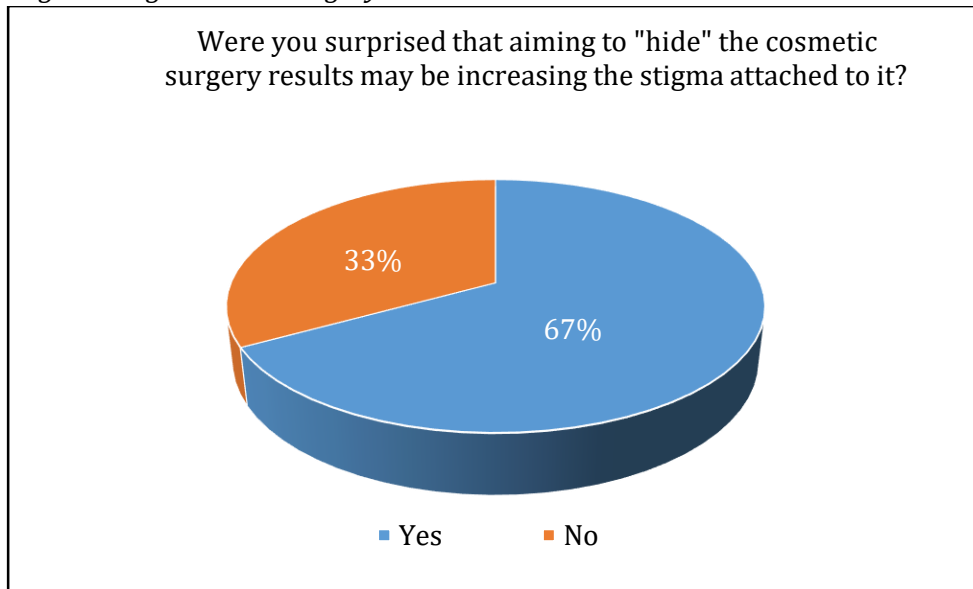
The main areas which were drawn to the participants' attention are in line with the abovementioned findings from the doctoral project:

1. Language used within the consultations making reference to the stigmatisation of cosmetic surgery.
2. The way in which medical lexis is employed within the corpus (including statistical analysis of its use) and whether this may impact on interactional asymmetry.
3. The way in which interruptions are classified and quantified within the consultations, also considered as a measure of potential interactional asymmetry (including statistical analysis of its use).

The feedback regarding these points was gathered primarily via an online questionnaire and, at a later date, during online debriefing meetings. In terms of the first research finding, physicians stated that they were in fact surprised (67%) to discover that striving for natural results, which would not be noticeable, increases the stigma attached to cosmetic surgery (Figure 1).

Figure 1.

Pie Chart Illustrating the Surgeons' Impressions of Language Contributing to Stigmatising Cosmetic Surgery



While there are studies which hypothesise the extent to which cosmetic surgery has been stigmatised by the media (Patel, 2010) and indeed there is a culture of publicly shaming celebrities who have it (Motakef et al., 2014), no literature was actually able to provide insight into the way this stigma perpetuates in live cosmetic surgery consultations until recently (Padley 2024). Furthermore, little to no evidence has been gathered to date regarding the communicative implications of identifying the use of stigmatising and shaming language in such consultations and how healthcare practitioners may perceive this. Therefore, these results demonstrate that two thirds of the surgeons involved in the study were surprised by such results and perhaps had not considered how “hiding” the procedure may actually increase stigmatisation of the field and of the patient.

The surgeons also offered the following comments during the debriefing sessions on this topic.

- (1) *This was perhaps quite a revelation. We always think that this is a good thing [obtaining natural and unnoticeable results] and something to aim for but alas it is just exacerbating the very thing we want to avoid—stigma.*
- (2) *I always advise and pursue a natural look.*

The first comment (1) highlights the importance of this finding to the surgeon as he claims that he had not considered the implications of encouraging the natural effect to the extent that it may be stigmatising the patient due to the element of 'hiding'. Furthermore, the use of the term 'revelation' even further stresses how surprising this linguistic observation is. On the other hand, the second comment (2)—made by a different surgeon—seems to indicate an indifference to such a finding as he states that this is what he always advises (as is usual practice in plastic surgery—i.e., obtaining the most pleasing natural aesthetic results). Therefore, this surgeon seems to place greater importance on the final result rather than the means by which this result is communicated (and the potential consequences of such).

The second key area of results provided to the clinicians is that which regards the use of medical lexis and layman terminology during their consultations. Indeed, participants were asked if they were surprised to discover the actual amount of medical lexis used during their consultations (Figure 2).

Figure 2.

Pie Chart Illustrating the Surgeons' Surprise Regarding Their use of Medical Terminology

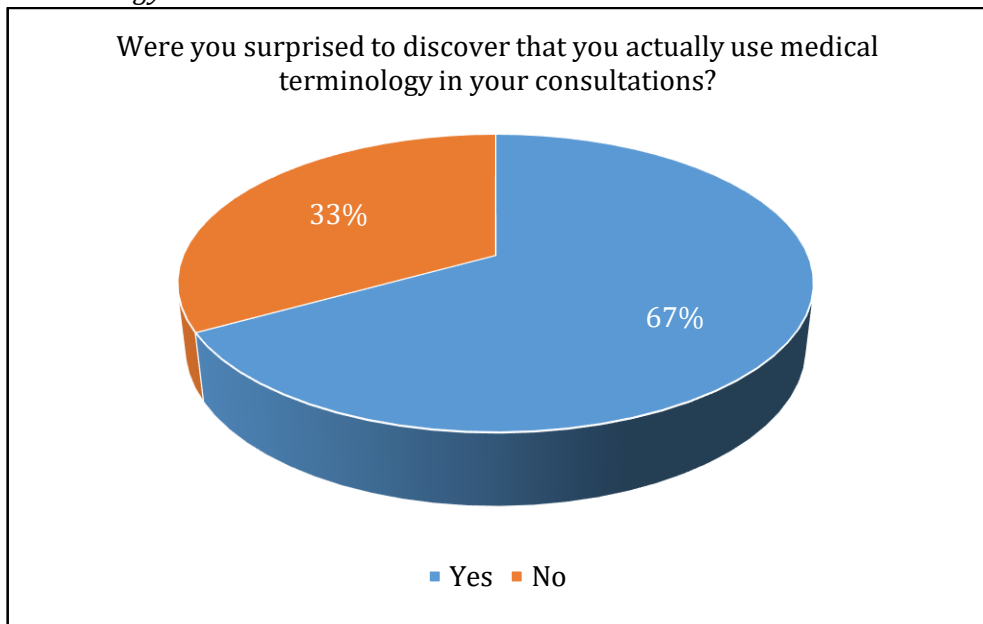
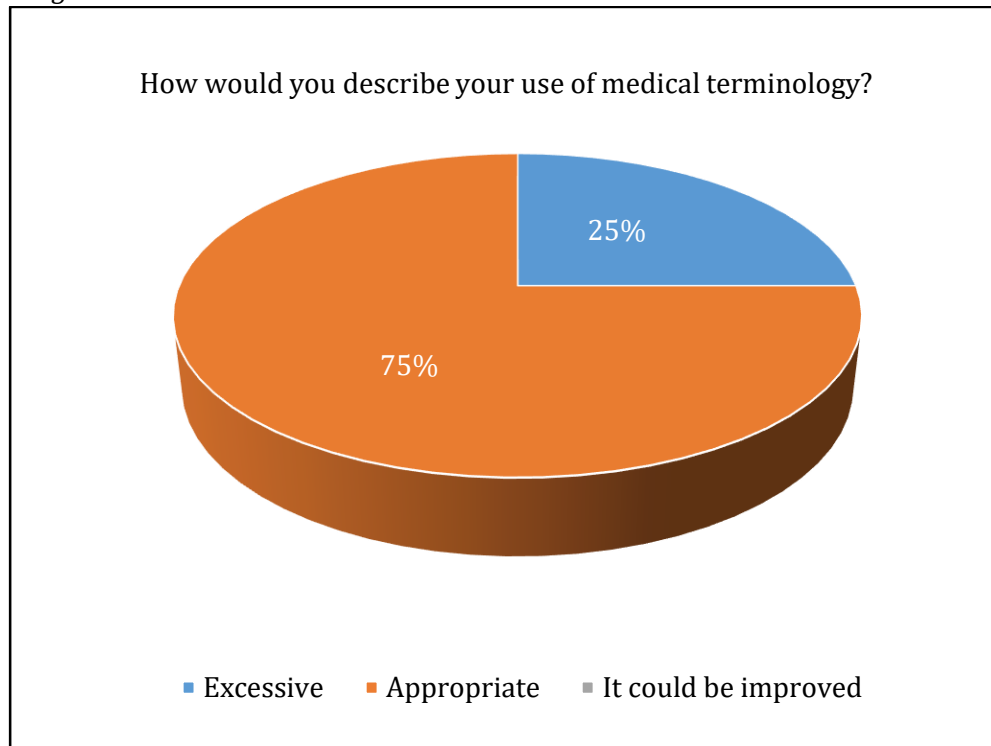


Figure 2 shows that the same number of surgeons were surprised to discover that they did actually use medical terminology during their consultations (67%). This surprise is likely related to the fact that the recommendations regarding communication in medical consultations is to avoid any kind of

technical terminology in order to favour clarity and comprehension (Fage-Butler & Anesa, 2016; Fage-Butler & Nisbeth Jensen, 2016). Hence, their use of medical terminology could be indicative of an increased position of interactional power (Fairclough, 1989). Therefore, the surgeons were asked to comment on the appropriateness of their usage (Figure 3).

Figure 3.

Pie Chart Illustrating the Surgeons' Self-Assessment of Their Medical Terminology Usage



The pie chart (Figure 3) suggests that surgeons believe that their use of medical terminology is either appropriate (75%) or excessive (25%). Therefore, it would seem that despite their surprise regarding using medical lexis, on reading the extracts of their consultations (provided to them in the executive report), they believe that, on the whole, the terminology used is clear enough for patients to comprehend and, hence, has been clarified adequately when used.¹ It could also be stated that in some cases, they believe that their use of scientific lexis is excessive and hence should be modified in some way.

The additional comments made by the surgeons on the topic are the following:

- (3) *I think sometimes there are no lay terms to use to describe certain features or ideas or operation details. Medical terminology should be followed up with detailed explanations in different lay terms and preferably with diagrams to enhance the understanding of the patient. This is particularly important with descriptions of operations. I was just surprised by how frequently we use medical terminology in consultations.*
- (4) *Clients increasingly are exposed to and are more aware of medical terminology so it can be useful to introduce it.*

Comment (3) reveals that the clinician believes using medical terminology to be inevitable but that when it is used, it should be accompanied by further elaboration and/or explanation. Furthermore, it would seem that the surgeon found these results to be noteworthy also due to the fact that the terms used have been quantified. Hence, they are able to relate the observations to concrete statistics (which were also accompanied by a statistically significant p value). Comment (4) instead highlights that healthcare communication is indeed evolving and patients are becoming more literate (Fage-Butler & Anesa, 2016), hence, medical terminology now does have a place in consultation settings (Padley, 2025).

The final area of quantitative investigation presented to the surgeons was that of interruptions and their classification according to Goldberg's (1990) scale of neutral to dominant (power interruptions). Surgeons were all actually surprised that patients interrupted more than they did and they also stated that in 100% of the cases, the physician can be considered as the dominant figure. Therefore, it is possible to identify that from a societal positioning of dominance, the physicians perceive this traditional standing (Fairclough, 1989)—i.e., the doctor is the dominant figure within a medical consultation. Indeed, this also emerges due to the recognition of the fact that they are surprised by the more frequent interruption by patients as this does not meet their perception nor expectation of the consultation.

The final overall point investigated by this project regards the tangibility and applicability of the results (Sarangi, 2006) and whether the use of corpus linguistic methodologies for healthcare communication (Brookes & Collins, 2023) is deemed to produce relevant results for healthcare professionals. Therefore, the questionnaire measured the physicians' impressions of the executive report in terms of utility. Indeed, 100% of the participants stated that they found the results 'Very Useful' and to the question 'Are these findings useful enough to consider changing your communicative practice?' 100% of the respondents answered 'Yes'. Therefore, for this small sample of respondents, the corpus linguistic results were deemed to be relevant and applicable to their own communicative practice.

The surgeons offered some of the following comments in terms of their intended change to their communication:

- (5) *I would like to de-emphasise the importance I attach to obtaining the so called "natural looking" results so that other people don't know that the patient has had cosmetic surgery. I will put it in different terms / words rather than blanketly agreeing with the patient that that is the desirable objective or the ultimate objective. It can be one of the objectives but I will now explain to them that even if the surgery is noticeable to others it doesn't matter. What matters is whether they like it or not, and whether I have achieved what they are looking for. That they should not do it to please others or so that they don't attract attention or comment from others.*
- (6) *I will also encourage them to be less bothered about stigma and ignore people who make unhelpful or discouraging comments/ remarks; as often it is just people who cannot afford the surgery.*
- (7) *I will try and give the patients more time to talk in clinic and interrupt them less. I was also surprised by how often, as surgeons, we interrupt patients during the consultation.*
- (8) *I will now routinely ask if they understand what I mean when I use a medical term after I have finished explaining the term(s).*
- (9) *I will continue to use diagrams to pictorially assist the understanding of patients' understanding of their planned or requested surgery or the options available to them. This is something that patients repeatedly provide unsolicited feedback as being very useful to them in their understanding of the operations. This visual aid is therefore also an excellent method of communication.*

These comments are communication plans that one of the surgeons made in terms of how they intend to slightly alter their communicative strategies during consultations. Comment (5) demonstrates that the surgeon is aware of the importance that stigma and shame plays in society, and they will move the emphasis from achieving a 'natural look' to be one of the goals but not the main goal. Comment (6) also supports this and proves that the research presented to the healthcare professionals did in fact raise awareness regarding the stigma attached to cosmetic surgery.

In terms of the quantitative results presented to the surgeons (medical lexis used and the number of interruptions), comments (7-9) also would seem to show that the surgeon has become more aware of their communicative practice and intends to make some slight future adjustments based on the results presented.

Finally, during one of the online debriefing sessions, the following comments were made:

- (10) *I think carefully about how much I interrupt and try to give patients as much talking time as possible.*
- (11) *I'm more aware of my use of scientific words and I try to check comprehension more. Thank you for drawing my attention to it.*

Comments (10) and (11) both illustrate that the results from the linguistic project have led to current change in the clinicians' communicative practice and that they are now more reflective on these particular areas.

Therefore, overall the results are positively received by the clinicians and would appear to be of relevance in terms of their current and future communicative practice in their consultations. Hence, corpus linguistic methodology seems to offer applicable feedback to healthcare professionals and may also mean that educators can better prepare future practitioners to navigate complex patient interactions through similar methodologies.

5. Discussion

5.1. Implications for healthcare communication

The findings of this study have potential significant implications for healthcare communication practices and linguistic research. In particular, this paper investigated the extent to which a mixed methods qualitative-quantitative approach incorporating corpus linguistic methodologies could render viable and tangible communicative results for healthcare professionals.

Indeed, from an applied linguistics standpoint, the doctoral project hoped to implement Sarangi's (2006) 'effective linguistics'—i.e., offer findings to the non-linguist participants that are accessible, comprehensible and applicable to their field. While the doctoral project did not go beyond writing the executive report and scheduling the debriefing sessions with the clinicians, this study served to demonstrate what the perceptions of these latter two cases were as a post-doctoral line of pursuit.

The results would seem to show that the participants were made aware of their communicative practices, in line with the same lines of investigation that were explored in the doctoral thesis, (i.e., stigmatising discourses during the consultations, the use of medical lexis versus laity, the frequency and type of interruption and the use of the latter two in terms of interactional power balances). It is also likely that the surgeons found the quantitative results of a robust nature as they made use of statistical analysis in order to investigate the quantifiable linguistic features identified. Therefore, the results were

perceived as being relevant and informative in terms of communicative practices.

The relevancy to the healthcare practitioners themselves has been identified in the results through:

1. The expression of surprise regarding the three research areas—i.e., proof that these results did raise awareness for the surgeons and drew attention to these communicative features of their discourse (also from a quantifiable perspective).
2. The participants explicitly stated that the results had impacted on their intended communicative practice and communicative goals were set.
3. The debriefing sessions confirmed that some interactive changes had already been implemented, particularly on a level of awareness regarding the results identified in this project.

This study served to show that, from a methodological perspective, this kind of multi-methods and multidisciplinary research can be of use to the field of healthcare communication. Therefore, it serves to prove that the field of linguistics, which was previously often conceived as being overly ‘granular’ and of little relevance to clinicians (Sarangi, 2006) can be considered as accessible and of interest to healthcare professionals, particularly when incorporating quantitative results. Hence, the very use of corpus linguistics and statistical analyses would seem to be a point of strength for this study, as has been suggested in more recent times by other corpus linguists in the field (Brookes & Collins, 2023).

5.2. Study limitations

This project was carried out by a single researcher who recruited the surgeons during the SARS-COV-2 pandemic (period between 2020-2021). This led to a limited number of participants (i.e., three cosmetic surgery clinics and three respective surgeons). Furthermore, the use of corpus linguistic methodologies allows for generalisations to be made in terms of linguistic patterns but is more effective when applied to large datasets (more easily obtainable with written corpora). This project is made up of a spoken corpus and, hence, is a more specialised and smaller corpus. However, regardless of such limitations, accessing and recording live doctor-patient consultations is always a challenging task (Brookes & Collins, 2023), and the corpus can be considered large enough (for a spoken corpus) to be able to carry out viable corpus linguistic analysis. Furthermore, the project provides a peek into the ‘blackbox’ of clinical communication (Brookes & Hunt, 2021).

5.3. Study strengths and recommendations for practice

As mentioned in the previous section this study contributes to the field of corpus linguistics studies and healthcare communication through the collection of a spoken corpus of doctor-patient interaction (not easily obtainable). Furthermore, it also makes a relevant contribution to the field of applied linguistics (Candlin & Candlin, 2003; Sarangi, 2006; 2010) while also offering an appraisal of the methods used in order to achieve such results. In that sense, it considers the extent to which the results are judged as relevant to the clinicians and addressed the ‘so what?’ factor in terms of transferability and applicability of the results. Therefore, in the vein of applied linguistics as a field which should offer ‘effective linguistics’ (Sarangi, 2006), and based on the findings of this study, the following recommendations are made for improving communication in cosmetic surgery consultations:

- (1) Addressing Stigma in Consultations: Healthcare providers should be equipped to recognise and address stigma associated with cosmetic procedures. This includes creating an atmosphere where patients feel comfortable discussing their motivations and concerns without fear of judgement.
- (2) Training in Patient-Centred Communication: Medical professionals should receive training that emphasises the importance of patient-centred communication. This training should focus on active listening, empathy, and the use of lay terminology to ensure that patients feel heard and understood.
- (3) Continuous Feedback Mechanisms: Establishing continuous feedback mechanisms can help healthcare professionals reflect on their communication practices. Regularly reviewing consultations with colleagues or through peer feedback can foster an environment of improvement and learning.
- (4) Multidisciplinary Collaboration: Engaging with professionals from various disciplines—such as psychology, sociology, and linguistics—can enrich healthcare communication practices. Interdisciplinary collaboration can provide a broader perspective on the factors that influence patient interactions and decision-making.

6. Conclusion

This study provides valuable insights into the complexities of communication within cosmetic surgery consultations. The application of corpus linguistics as a methodological framework has yielded tangible, statistically robust results that can inform both clinical practice and pedagogical approaches in healthcare

communication. The findings indicate a need for ongoing research in this area to further understand the implications of language use in healthcare settings.

The research underscores the importance of communication in shaping patient experiences and perceptions. By enhancing the skills of healthcare professionals in this area, it is possible to improve the quality of care provided to patients seeking cosmetic procedures. As healthcare continues to evolve, the integration of linguistic insights into practice could be deemed as essential for fostering effective doctor-patient relationships and ensuring positive health outcomes.

Notes

1. Please note that the ways in which medical lexis has been used by the surgeons (and clarified or otherwise) is beyond the linguistic scope of this study but can be consulted in another publication (see Padley, 2025).

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