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Talking at Work

Corpus-based Explorations of Workplace Discourse

Edited by Lucy Pickering, Eric Friginal and Shelley Staples

Communicating in Professions and Organizations

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Corpus-based Explorations of Workplace Discourse

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Endorsement

'The book's subtitle doesn't begin to express the diversity of the studies that are included. While the general workplace types will be familiar to readers, many of the specific contexts are likely to be new – such as office interactions that depend on augmentative and alternative communication devices and healthcare interactions that consist of teenagers and medical providers on an advice website. The language foci and analytical methodologies, too, are diverse. More typical quantitative techniques from corpus linguistics and more qualitative approaches such as conversation analysis co-exist comfortably in the book, and language is investigated at all levels - words, grammar, pragmatic markers, speech acts, and more. Readers interested in workplaces will find new perspectives on workplace discourse. Corpus linguists—even those not focused on workplaces—will be interested to learn about the expansion of corpora and corpus techniques in recent years.'

— **Susan Conrad**, Professor, Portland State University, USA

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Introduction

The number of corpus-based studies of language use in the contemporary workplace has grown significantly during the past 25 years. An important goal of this volume is to demonstrate the breadth of these analyses, which encompass a range of qualitative and quantitative approaches within applied linguistics. The creation of corpora has similarly expanded, and a second goal is to introduce readers to a number of specialized corpora in the professional fields that we focus on and showcase their value in improving our understanding of professional communication. The book is organized into three parts comprising corpus-based studies in the following areas: (1) office-based workplace discourse; (2) call center workplace discourse; and (3) health-care workplace discourse.

Huge national corpora such as the British National Corpus (BNC) and the American National Corpus (ANC) containing millions of electronically stored spoken and written texts are now routinely used as resources for a range of applications from dictionaries to natural language processing. Text annotation tools such as *Wordsmith Tools* (Scott 1999) have now been supplemented by additional programs that allow complex annotations of audio and video data such as the ELAN platform from the Max Planck Institute (https://tla.mpi.nl/tools/tla-tools/elan/citing_elan/). There has also been increased interest in the development of more specialized corpora designed to address specific contexts such as academic spoken English (the Michigan Corpus of Academic Spoken

English (MICASE)) or English as a lingua franca (the Vienna–Oxford International Corpus of English (VOICE)). This volume focuses on corpora that have been designed to investigate workplace talk. In its broadest form, workplace discourse research is interested in "identifying how language is used to achieve both task and people-oriented goals" (Marra 2013, p. 175), and the studies presented here are united in that aim.

A number of specialized workplace corpora are introduced in this volume that allow the authors to explore domains of workplace communication not previously examined from this perspective. These include the Augmentative and Alternative Communication (AAC) User and Non-AAC User Workplace Corpus (ANAWC) (Pickering and Bruce 2009), the Corpus of Outsourced Call Center Interactions (Friginal 2009a) and the Nurse-Standardized Patient Corpus (NSP Corpus) (Staples 2015). Additional workplace-based corpora analyzed by invited contributors are also included, e.g., Trainline materials from the SPAADIA Corpus (Leech and Weisser 2013), the Teenage Health Freak Corpus (Harvey 2013), and the Wellington Language in the Workplace Project (LWP) (Holmes et al. 1998).

In concert with the continued growth of corpora, methods of analysis applied to corpus data have also expanded. Typical quantitative designs focus on the lexico-grammatical features of different registers via frequency counts of lexical and syntactic items, and the examination of keyword lists and concordance lines (see, for example, the multidimensional analysis presented in Chapter 2). This has now been supplemented by corpus-based discourse studies, which apply methods of qualitative discourse analysis to examine pragmatic and sociolinguistic questions using data derived from corpora. For example, contributors to this volume have used conversation analysis (Chapter 3), linguistic profiling (Chapter 5), and register analysis (Chapter 8). Mixed method approaches are also used in which frequency-based data are presented and matched with extensive qualitative analyses to further interpret the various discourse features of speakers in these workplace settings.

It is our intention in this volume to contribute both to the investigation of workplace interaction and the development of corpus-informed discourse analysis. Thus, we anticipate that this volume will be informative for a broad academic readership that includes graduate students,

researchers, and scholars investigating both professional discourse and corpus linguistics. In addition, we encourage readers in areas directly related to the components of the volume, i.e., research in health-care communication, call center communication and office-based communication including workers with physical disabilities and cross-cultural communication in international professional settings.

There are numerous people to thank in the production of this volume. We owe a debt of gratitude to all the authors who have contributed so generously to this project and trusted us with their work. We owe considerable thanks to the anonymous reviewers of each of the chapters who gave thoughtful feedback that has contributed importantly to the final quality of the chapters, and the editors at Palgrave Macmillan without whom this volume would not have been conceived. Finally, we acknowledge and thank the many people in workplaces around the world whose willingness to be studied and recorded lies at the heart of the work presented here.

Part I

Corpus Studies of Office-Based Interaction

A number of workplace corpora have focused on business or office-based settings. Perhaps the most familiar to discourse analysts in the UK is the Cambridge and Nottingham Business English Corpus (CANBEC), which is a 1-million word subcorpus of the Cambridge English Corpus (CEC). It covers a range of business settings from large companies to small firms and both transactional (e.g., formal meetings and presentations) and interactional (e.g., lunchtime or coffee room conversations) language events. Both qualitative and quantitative studies have been derived from this corpus, including the extraction of cluster lists or word bundles (McCarthy and Handford 2004; O'Keeffe, McCarthy, and Carter 2007) and the investigation of typical discursive practices used in business meetings from a genre analysis perspective (Handford 2010).

A much smaller but similar corpus is the American and British Office Talk Corpus (ABOT), which comprises mainly "informal, unplanned

workplace interactions between co-workers in office settings" (Koester 2010, p. 13). Collected by Almut Koester, she has taken a primarily discourse approach toward data analysis; for example, investigating the performance of communicative functions in the workplace using speech acts (Koester 2002) and relational sequences ("transactional-plus-relational talk") using conversation analysis (Koester 2004).

There are also two large workplace corpora based outside the UK and USA: the Hong Kong Corpus of Spoken English (prosodic) (HKCSE) and the Language in the Workplace Project collected in New Zealand. The HKCSE (prosodic) was collected between 1997 and 2002 and includes a subcorpus of business English of approximately 250,000 words (Cheng et al. 2008; Warren 2004). It includes all types of formal and informal office talk, presentations, conference calls, and service encounters in the hotel industry. It is also an intercultural corpus as the two main groups communicating in many of the workplaces are Hong Kong Chinese speakers and native English speakers. The HKCSE (prosodic) is unique in that it is transcribed for prosodic features using Brazil's (1985/1997) model of discourse intonation. A concordancing program—iConc—was specifically developed for the corpus and allows quantitative analyses of intonational features (Cheng et al. 2006). Research studies are ongoing and have focused on both linguistic and pragmatic features of the interactions in the corpus. For example, the intonation of "yes/no" questions, wh-questions, and declarative questions in service encounters (Cheng 2004); the intonation of disagreement sequences in business discourse (Cheng and Warren 2005); and the investigation of how participants give opinions in intercultural business discourse (Cheng and Warren 2006).

The Language in the Workplace Project (LWP) based at Victoria University in Wellington, New Zealand, includes a wide range of mainly white-collar workplaces from government organizations to small business settings as well as hospitals, IT organizations, and publishing companies, among others. An extensive amount of research work has been undertaken using the LWP since the 1990s ranging from book-length manuscripts to occasional papers. It is fair to say that the analyses have primarily been qualitative and discourse based (although see Pickering et al. 2013). They include analyses of cross-cultural pragmatics, gender

and ethnicity, humor and small talk and speech acts such as directives from multiple discourse perspectives (Holmes 2006; Marra 2012; Stubbe et al. 2003; Vine 2009).

The workplace corpus introduced in Part I of this volume, the Augmentative and Alternative Communication (AAC) User and Non-AAC User Workplace Corpus (ANAWC) (Pickering and Bruce 2009) most closely resembles the LWP corpus with regard to collection and recording techniques. Participants in the workplace were given voice-activated recorders and used them at their discretion; thus a wide range of workplace events were captured. The ANAWC also broadly interprets the definition of office-based settings, and recordings range from IT offices to warehouse floors. Unlike the LWP corpus however, the ANAWC was designed as a specialized corpus focused on the workplace experiences of augmentative and alternative communication (AAC) device users. Using comparison data from similar workplace contexts with non-AAC users, ANAWC has made it possible to investigate salient linguistic patterns of AAC-users' discourse and compare their distribution to that of other populations in the corpus (Friginal et al. 2013).

Chapter Introductions The four chapters in this section derive their data from the LWP and ANAWC workplace corpora, and comprise both quantitative and qualitative analyses. In Chapter 1, Bernadette Vine explores the use of the pragmatic markers *you know, eh*, and *I think* in office-based interactions taken from the LWP. Using a theory of cultural dimensions (Hofstede 2001) to locate New Zealand workplaces on a continuum of power and formality, this primarily qualitative, discourse analysis study correlates the use of particular linguistic markers and perceived formality of the discourse (e.g. informal conversations to formal unscripted monologues). Normalized frequency counts of the markers as they appear in the LWP in comparison to nonworkplace-based corpora support the perception that NZ workplaces are more informal in nature. Vine also shows that the vernacular marker *eh* is more prevalent in the corpus than might be expected for "middle-class workplace data." She suggests that this marker may be used increasingly by managers as a way to index solidarity with their subordinates and downplay perceptions of power.

The remaining three chapters in this part of the volume are based on the ANAWC, which referenced the LWP corpus in its collection and recording design. Chapter 2, by Friginal. Pickering and Bruce, presents a linguistic analysis of the lexico-grammatical features characterizing the discourse of AAC users compared to those of their non-AAC counterparts in office-based interactions. This is a quantitative study which draws its design from the corpus-based multidimensional analysis proposed by Biber (1988, 1995) and dimensions derived from Friginal's (2015) analyses of telephone-based interactions in business settings comprising (1) informational vs. involved discourse features; (2) planned vs. narrative production features; and (3) managed vs. nonmarked information flow. The analysis shows that co-occurrence patterns in AAC texts mirror the features of formal, informational language rather than the more interactional, oral language features that characterize non-AAC user interaction. Despite these differences, workplace communication between the two groups is successful, and text excerpts included in the chapter show that AAC and non-AAC interlocutors in the workplace use a range of additional strategies such as vocalization and paralinguistic markers to supplement their messages.

Following directly from this observation, Chapter 3 by Julie Bouchard focuses specifically on an AAC user's recourse to spelling aloud as a strategy to communicate with his interlocutors. As Bouchard points out, the production of spontaneous real-time voice output using AAC devices is frustratingly slow in comparison to natural speech, and AAC users often prefer to vocalize part or all of their message if they feel they can make it intelligible. In this qualitative study of one AAC user from the ANAWC, Bouchard uses a prominent model of discourse analysis, applied conversation analysis (CA), to show how spelling is used in repair sequences to negotiate understanding between AAC and non-AAC users. The contrast in the methodological approaches used here and in the previous chapter is noteworthy. Both studies are concerned with increasing our understanding of how language is used in the workplace in the context of AAC use; however, their very different quantitative and qualitative approaches to the corpus data demonstrate the broad application of corpus-based research to a range of research questions. The final chapter in this section by Laura Di Ferrante examines small talk interactions in workplace

contexts. The analysis is based on the Small Talk in the Workplace subcorpus (STW) (Di Ferrante 2013), culled from the AAC and Non-AAC Workplace Corpus. Using a discourse analysis approach within a social psychology framework (Tajfel and Turner 1979), Di Ferrante focuses on two linguistic strategies used by speakers as ways to build their social identities and affirm their positive image within their workplace community.

Part II

The Study of Call Center Workplace Discourse

Transactional call center services in the USA and many "English-speaking" counties (e.g., Australia, the UK, and Canada) have been outsourced to overseas locations, primarily in order to lower operational costs incurred in maintaining these call centers locally. "Outsourcing" is defined by the World Bank as "the contracting of a service provider to completely manage, deliver and operate one or more of a client's functions (e.g., data centers, networks, desktop computing and software applications)" (World Bank E-Commerce Development Report 2003). From the mid-1990s, various call center operations of several multinational corporations have transformed the nature of telephone-based customer services globally, and the expectations about the types of communication exchanges involved in these transactions (Beeler 2010; Friedman 2005; Friginal 2009a, 2011). Satellite telecommunication and fiber-optic technologies allowed corporations to move a part of their operations to countries such as India and the Philippines which offer viable alternatives to the high cost of the maintenance of these call centers. In the USA, third-party call centers specializing in training and hiring Indian and Filipino customer service representatives (or "agents") have increasingly staffed many companies for very low salaries by current standards (Friginal 2013; Vashistha and Vashistha 2006). In addition, routing a call or transferring an issue to another group of call center agents outside of the USA has been cheaper than routine service calls from Atlanta, Georgia, to Seattle, Washington, for instance. This phenomenon has been made possible because India, the Philippines, and other foreign nations offer tax breaks to outsourcers,

allowing these companies to significantly reduce technical and operational expenses (Tuchman 2006).

Unlike in other intercultural business and workplace settings such as teleconferencing in multinational company meetings or negotiations in international commerce and trade, business communications in outsourced call centers have clearly defined roles, power structures, and standards against which the satisfaction levels of customers during and after the transactions are often evaluated (Cowie 2007; Cowie and Murty 2010; Lockwood et al. 2009). Callers typically demand to be given the quality of service they expect or can ask to be transferred to an agent who will provide them the service they prefer. Offshore agents' "performance" in language and explicit manifestations of pragmatic skills naturally are scrutinized closely when defining "quality" during these outsourced call center interactions. In contrast, for a foreign businessman in many intercultural business meetings, there may be limited pressure to perform following a specific (i.e., native-speaker or L1) standard in language, as many business partners are often willing to accommodate linguistic variations and cultural differences of their counterparts in negotiations and performance of tasks (Friginal 2009b; Hayman 2010). These transactions in outsourced call centers, therefore, have produced a relatively new register of workplace discourse involving a range of variables not present in other globalized business or international and interpersonal communication settings.

It is clear that workplace discourse in customer service has become an everyday phenomenon, especially in the USA, as callers come into direct contact with agents who do not share some of their basic assumptions and perspectives. Before the advent of outsourcing, American customers/callers had a different view of customer service facilitated on the telephone. Calling helpdesks or the customer service departments of many businesses mostly involved call-takers who were able to provide a more localized service (Friedman 2005). Interactants shared typically the same "space and time" and awareness of current issues inside and outside of the interactions. In most of these service interactions, there were not very many language-based communication factors speakers had to deal with in accomplishing their specific goals. Of course callers had common concerns about overall quality of service, comprehension of technical and

specialized information, wait times, and the agents' content knowledge of procedures and service persona; however, there were minimal cultural divides and speakers were able to clarify or negotiate, often successfully, in their exchanges. In contrast, for Indian and Filipino agents, this register of communication requires, (1) language proficiency in English, (2) cultural awareness related to customer contexts, (3) knowledge and skills in transferring and understanding technical and specialized information, and (4) pragmatic skills in localizing support and accommodating requests or complaints and potential performance limitations of speakers (e.g., in troubleshooting equipment) (Friginal 2009a). Both agent and caller in this service encounter are constantly dealing with a combination of these factors that generally affect the conduct and outcomes of the transactions.

Call Center Research and the Study of Spoken Intercultural Workplace Discourse

The study of outsourced call center discourse has direct connections to the fields of intercultural rhetoric and interactional sociolinguistics. Studies investigating intercultural spoken discourse between speakers participating in various kinds of communicative tasks have examined factors such as intercultural miscommunication or cross-talk (e.g., Bailey 2000; Hultgren and Cameron 2010; Scollon and Wong Scollon 2001), the role of relative content knowledge in interactional negotiation between native and nonnative speakers of English (e.g., Biber et al. 2007; Hood 2010; Rühlemann 2007), as well as task-based interactions between native speakers and nonnative speakers and how these native speakers perceive nonnative accent and intonation (e.g., Lindemann 2002; Lippi-Green 2004; Sharma 2005). The wide variety of topics considered in these studies often involves the interface between linguistic features of speech, explicit purpose of talk, and social factors that influence the nature and conduct of the interactions (e.g., Cameron 2001; Economidou-Kogetsidis 2005). Common social factors frequently associated with the analysis of spoken intercultural interaction include variables such as the speakers' first language background, language proficiency level, as well as

power relationships. Studies of such demographic categories as gender in professional settings (e.g., Cameron 2000; Kendall and Tannen 2001; Koller 2004), power and speaker roles (e.g., Connor and Upton 2004; Locher 2004; Scollon and Wong Scollon 2001), or age and educational background of speakers (e.g., Drescher 2004) have helped in describing the formulation of speech patterns necessary in carrying out purposeful, intercultural interactions successfully.

Using Corpora in the Analysis Call Center Workplace Discourse

Qualitative observations of spoken interactions, based on recorded data, especially in the context of professional discourse (e.g., moves, turn-taking, or repair and action formulation), have been used over the years to explore various implications of a given utterance relative to the grammar of spoken discourse and the influence of speakers' cultural background and awareness during the interaction. In addition to interactional studies that focus on the demographics of speakers, the analysis of outsourced call center interactions has also included explicit emphasis on discourse strategies such as stance and politeness markers (Friginal 2009b; Pandey 2011), and issues of national and social identity (Cowie 2007; Taylor and Bain 2005).

Because of currently prevailing expectations related to the language of agents and callers in outsourced call centers, additional specialized approaches that make use of corpora and corpus tools in the description of linguistic characteristics of this register are needed to supplement the predominantly qualitative focus of existing research. Arguably, the corpus approach represents the domain of outsourced call centers more extensively than studies based on only a few interactions (Friginal 2009b). For example, correlational data between agents' patterns of speech, language ability, and success or failure of transactions contribute valuable insights that could be used to improve the quality of training, and, consequently, of service. Generalizable information derived from a representative corpus of call center transactions will better inform and direct language training programs and possibly support (or not) the viability of call centers outside of the USA.

Chapter Introductions The three chapters that comprise this section explore speech acts and speaker profiling, communicative strategies, and miscommunication from three different specialized corpora of call center interactions collected in the Philippines.

In Chapter 5, Weisser argues that it is possible to employ semi-automated corpus-annotation techniques and ensuing analyses on a number of pragmatics-relevant call center interactions. He explores different ways of profiling particular speaker or speaker groups through an analysis and comparison of the speech acts and other linguistic features used by Filipino agents and callers from American and British language backgrounds. This chapter investigates the following three research questions: (1) is it possible to establish some (more or less) objective criteria for measuring the pragmatic performance of call center agents? (2) if so, can this be accomplished through the largely automated analysis of call center data with regard to speech-act behavior and the use of appropriate formulaic expressions? and (3) are there any potential differences between strategies or wordings used in the two major varieties of British and American English, as well as the behavior of callers, that require the agents to adapt their strategies for the different caller populations? Weisser reports that an approach towards the analysis of speaker performance and ensuing profiling in call center discourse is in fact already to some extent possible using the pragmatic annotation format developed for the Dialogue Annotation and Research Tool (DART).

Skalicky, Friginal, and Subtirelu (Chapter 6) explore interactions between Filipino call center agents and American callers engaged in a range of communicative tasks during a typical workday. Their primary goal is to contribute to the knowledge base surrounding the phenomenon of *miscommunication* in intercultural Filipino–American call center interactions. This chapter describes how instances of nonunderstanding are initiated and repaired in these interactions supported by Filipino agents. Qualitative coding of the interactions after extensive analyses of frequency-based data is employed to identify how instances of miscommunication occur. The ensuing quantitative analysis of these instances helps to visualize communicative patterns and to provide suggestions as to what may be causing or resolving miscommunication between interlocutors. The authors report that different repair strategies demonstrate

that interlocutors relied on repetition and confirmation the most. One unique finding in this data is related to the check trigger and confirmation repairs, which are probably present due to the transactional nature of the telephone calls. Both agents and callers, when providing important information, use checks in order to prevent nonunderstanding. This demonstrates that interlocutors in these supposedly fragile conversations are actively working to avoid nonunderstanding.

Chapter 7, by Lockwood, Finch, Ryder, Gregorio, Dela Cruz, Cook, and Ramos provides an in-depth analysis of authentic texts from a specialized corpus that features angry and frustrated exchanges between callers from the USA and the UK, interacting with Filipino agents. The authors argue that despite the high English proficiency levels of Filipino agents, dealing with angry and sarcastic native speaker callers is extraordinarily difficult, not only from a language point of view but also from a cultural standpoint. The chapter explores how culture is crystallized in these workplace exchanges. The research questions specifically addressed by the authors relate to the following: (1) how do native speakers express anger and frustration in call center exchanges? (2) how do nonnative speaker agents respond to angry and frustrated native speaker calls? and (3) how might the responses be accounted for in terms of intercultural and linguistic listening and speaking competence? The authors conclude that training programs are needed where listening for key customer concerns and strategies for dealing with these, even though it may mean confronting anger early on in the call, may improve agents' quality performance. They strongly suggest that onshore management has much to gain from applied linguistics studies, which reveal not just the symptom of the communication problems in these workplaces, but perhaps also the cause.

Part III

The Study of Health-Care Discourse

Since the 1980s, applied linguists and sociolinguists have provided extensive research on the ways in which language is used in health-care communication. Studies have typically examined physician–patient

interactions and patient narratives using qualitative methods, particularly conversation analysis, ethnographic methods, and interactional sociolinguistics (Frankel 1984; Mischler 1984). These studies have provided valuable insight into the functional phases of health-care interactions as well as the unfolding of discourse between patients and providers. However, without quantitative analysis, there is an inability to generalize across discourse contexts.

On the other hand, quantitative methods to analyze health-care communication have focused primarily on process analysis, dividing interactions into functional units (e.g., positive talk). The most well-known and widely used of these methods is the Roter Interaction Analysis System (RIAS, Roter 1977; Roter et al. 1988). Such approaches have identified important behaviors adopted by physicians and patients and how these behaviors relate to outcome measures such as patient satisfaction. However, they do not allow researchers to investigate the actual language used within interactions (RIAS, for example, forgoes transcription).

As Hamilton and Chou (2014) outline in their recent *Handbook of Language and Health Communication*, three areas have current resonance for the study of health-care communication in the field of applied linguistics. First, communication in health-care contexts between physicians and patients remains an important context for studies. Narrative studies are also a continuing focus, with investigations of patients' understanding of their health conditions as well as providers' understanding of their role in the overall process of patient care. A third theme that has emerged is a focus on the impact of technology-mediated communication in health care, reflecting the growing number of ways in which technology is used in medical care, including online communication between patients and providers as well as the use of computers in face-to-face health-care interactions.

Corpus Linguistics and Health-Care Communication

Corpus linguistics adds to the previous analyses of discourse described above to provide a novel way to combine both quantitative and qualitative approaches to investigate health-care communication. It allows

researchers to establish patterns of language used in health-care contexts as well as qualitative investigation of the quantitative findings in the discourse context. While corpus linguistic research is still relatively rare in the study of health-care communication, there are a number of studies that have focused on the three areas highlighted above by Hamilton and Chou (2014). In a number of cases, corpus linguistic researchers have also extended the contexts of study within these three domains to those not traditionally examined in health-care communication, including nurse–patient interactions and interactions between health-care providers and patients whose first language is not English.

First, corpus linguistics has added to the literature focusing on understanding patient–provider interactions, primarily doctor–patient interactions, by extending it to quantitative analysis. The early work of Thomas and Wilson (1992) illustrated the ability to examine multiple lexicogrammatical features within interactions and connect these linguistic features to more patient-centered communication styles. Drawing on previous work by Biber (1988), Thomas and Wilson show how a doctor who was identified by patient reports as more patient-centered used more linguistic features associated with interactional involvement (e.g., pronouns, discourse markers, present tense). The work of Skelton and colleagues in the late 1990s also introduced methods of concordancing and collocational analysis to examine key phrases used to mitigate asymmetry within provider–patient interactions. Skelton and Hobbs (1999) show how doctors use downtoners (e.g., *just, little*) when providing directives during physical exams. Modals and likelihood adverbs have been identified as a method of providing suggestions to patients and to discuss possible future states of affairs. A number of studies have also emphasized the importance of conditionals in medical encounters to perform some of these same functions (Adolphs, Brown, Carter et al. 2004; Ferguson 2001; Holmes and Major 2002; Skelton and Hobbs 1999; Skelton et al. 1999).

A few scholars have extended the use of corpus linguistic tools beyond the doctor–patient context. For example, Staples (2015) investigates the language used by nurses in interactions with patients, finding that nurses use many of the same devices as described above (e.g., possibility modals, conditionals, first and second person pronouns) to create a more patient-

centered environment in the interaction. Additional findings include the use of past tense, yes/no questions, and backchannels to discuss patients' psychosocial issues, and the use of prediction modals to provide indications within the physical exam. Differences were found in the nurses' communicative styles based on their background in terms of first language, country of origin, and country in which they received training.

Hesson (2014) uses corpus linguistic methods to investigate features of physician discourse in doctor–patient interactions across medical specialties (e.g., oncology vs. diabetes), physician characteristics (e.g., sex, years in practice). Hesson identified adjective complement clause types (finite vs. nonfinite) as representative of stronger and weaker statements of importance: compare *it is important that* vs. *it is important to consider that*, with the latter version more associated with patient-centered care. She found that physicians with more years in practice used the stronger statements, perhaps due to earlier socialization within a medical discourse community less focused on patient-centered care.

Corpus linguistics has also been used to investigate technology-mediated health-care environments. In an important study, Adolphs et al. (2004) use keyword analysis to investigate interactions between patients and health-care professionals through a phone-in hotline with providers. Their analysis reveals the increased importance of features such as backchannels to show involvement in settings where the patient cannot physically see the provider. Harvey (2013) examines emails from an adolescent health email corpus from the Teenage Health Freak website. Using word lists, keyword analysis, concordancing and collocational techniques, Harvey explores the ways in which adolescents experience health and illness.

Finally, patient narratives have also been studied from a corpus-based perspective. Cortes (2015) explores the linguistic features in patients' stories about their management of diabetes. The study provides insight into the ways in which patients understand and experience their disease and how that relates to patient adherence.

Taken together, corpus linguistic analyses of health-care communication have begun to provide new avenues, particularly a mixture of quantitative and qualitative methods, for understanding key issues in health-care communication. These include how patients and providers interact and

how this interaction may lead to more or less patient-centered/empathetic care, how patients understand their diseases, and what factors may lead to greater or lesser adherence. This volume showcases these new directions in the analysis of health-care communication and also offers examples of health-care communication in previously unexplored domains, such as internet-based interactions and multilingual health-care environments.

Chapter Introductions As can be seen from the review of previous studies, many of the authors in this volume have already contributed to the growth of corpus linguistic analysis of health-care communication. The chapters in this volume, by using corpus linguistic approaches, provide unique insights into health-care communication across contexts, medical providers, patients, and languages. They use various methods within corpus linguistics, including lexico-grammatical analysis (using tagged corpora), keyword analysis, and collocational analysis. The authors use quantitative methods to identify patterns across corpora, but also investigate the use of particular features in texts qualitatively.

Chapter 8 uses register analysis to examine the differences in the use of particular lexico-grammatical features across conversation and two health-care contexts: doctor–patient interactions in primary care settings and simulated nurse–patient interactions in a hospital setting. Staples investigates the frequency and function of interactive features (e.g., pronouns and conditionals), narrative features (e.g., past tense), and stance features (e.g., modals and stance adverbs). Similarities in the two medical contexts when compared with conversation are reflected in the use of many of the linguistic features and their functions. For example, both doctors and nurses use more prediction modals than are found in conversation. The two main functions of these linguistic features are (1) to provide indications to patients while giving a physical exam (e.g., *I'**m** just **going to** lift your arm*) and (2) to provide information on the plan of care (e.g., *We'**ll** be running some additional tests*). However, the differences in roles (doctor vs. patient) and settings (primary care clinic vs. hospital) are also reflected in the frequency and function of linguistic features used. For example, doctors use more wh-questions to open the encounter (e.g., *so, what can we do for you today?*), while nurses use a balance of wh- and yes/no questions (e.g., *are you still having chest pain?*). This reflects the fact that patients have already been initially assessed in the hospital and the

nurse is following up from information reported on the patient's chart. These and other findings provide a greater understanding of the type of communication found in medical interactions as well as functional differences depending on setting and speaker role.

In Chapter 9, Brookes and Harvey report on online communication between teenagers and medical providers in the Teenage Health Freak corpus. Using keyword and collocational analysis, the authors identify major concerns of teenagers, such as depression and self-harm, as well as the ways in which teenagers negotiate their illness-related identities and ascribe meanings to their illness experiences (Conrad and Barker 2010). They find that teenagers use the two phrases *I am depressed* and *I have depression* to convey two different ways in which the patients situated themselves in relation to their illnesses. In using the first construction, *I am depressed*, adolescents are interested in getting practical advice on everyday concerns rather than specific medical advice; they also express their lack of agency in relation to their mental distress. When teenagers use the *I have depression* framework for understanding their illness, they are viewing their condition through a medical lens, perceiving the disease as an object intruding on the writer, and also something that is a fixed, lived experience. In investigating teenagers' discussions of self-harm, Brookes and Harvey reveal the contributors' formulations as a way to express self-harm as an addiction, even at the same time as it is thought to be a means for adolescents to gain/maintain control of their lives and feelings (Plante 2007). These and other findings emphasize the importance of analyzing adolescents' language to understand their conceptualization of mental health needs.

Chapter 10, by Cortes and Connor, provides an analysis of English and Spanish discourse produced by patients with Type II diabetes in a US health-care context. The authors examine a number of lexicogrammatical features used by patients in narratives in which they describe their experiences and conceptions of the disease. In addition to comparing the features used across the two languages, the authors also investigate the relationship between a patient's level of adherence to medications and the language they use in their narratives. The results show that for English-speaking patients, there was a difference in the amount of first and second person pronouns used, and not in typically expected patterns. The nonadherent group used more first person pronouns, and

the adherent group more second person pronouns. The second person pronouns allowed the adherent group to show a nonpersonalized group membership (*I went on medication and found out that you can control it*). Spanish-speaking patients also showed the same pattern, with nonadherent patients using fewer second person pronouns than the adherent group, for the same function. Nonadherent patients in both the Spanish- and English-speaking groups used more demonstrative pronouns, indicating a degree of imprecision about treatment and distance from the disease itself (… *esto es para la presión* (NASP) (… this is for blood pressure)). The other findings emphasize that while Spanish- and English-speaking patients may use similar linguistic features to convey similar functions, the distinctive ways in which adherent and nonadherent patients convey their experiences vary across languages.

Finally, in Chapter 11, French and Lapointe explore the use of empathetic/sympathetic responses by English- and French-speaking nurses in Quebec, Canada, communicating in role plays with English- and French-speaking patients. They first identify the most common types of responses for the two groups, showing that although both groups of nurses used the same four types of responses most frequently, francophone nurses used significantly more validating responses than anglophone nurses (*je comprends—I understand*). They also preferred different forms (*je comprends*) from the anglophone nurses (*I know*). Both groups of nurses responded to patients by naming feelings at about the same rate, but again chose different forms (*you're* vs. *vous avez—you have*). Other findings illustrate the fact that direct translations were often not used across languages, even though similar functional response types were found.

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1

Pragmatic Markers at Work in New Zealand

Bernadette Vine

Introduction

According to Hofstede's cultural dimensions theory, which is based on a worldwide survey of employee values, New Zealand workplaces score low for power distance (Hofstede 2001, p. 87). This reflects a desirability to have an equal distribution of power, and this is evident in the informal way that people communicate in white-collar professional workplaces (retrieved from http://geert-hofstede.com/new-zealand.html). From a linguistic point of view, this informality can be signalled in a range of ways, from the use of first names by all staff to the use and acceptance of marked vernacular forms, and qualitative research in New Zealand

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workplaces has noted linguistic evidence of this informality; see for example Holmes, Marra and Vine (2011).

In this chapter, I explore the use of *eh, you know* and *I think* in a corpus of naturally occurring white-collar work-focused interactions recorded in New Zealand workplaces, providing corpus-based evidence for previous findings about workplace formality. The patterns observed are compared to data from formal, semi-formal and informal genres collected for the New Zealand component of the International Corpus of English (ICE-NZ) (Vine 1999) and the Wellington Corpus of Spoken New Zealand English (WSC) (Holmes, Vine and Johnson 1998). The aim in providing these comparisons is to gauge how informal the New Zealand workplace data is and whether these pragmatic markers provide a useful indication of the formality level of the discourse.

Leech and Svartvik (2002, p. 30) define formal language 'as the type of language we use publicly for some serious purpose, for example in official reports, business letters, regulations and academic writing'. In many corpora, such as the components of the International Corpus of English (ICE), both public and private categories of data are included with the aim of sampling both formal and informal speech and writing styles (Greenbaum 1996). The formal speech styles included in both ICE-NZ and WSC include public unscripted monologues (Holmes et al. 1998, p. 14; Vine 1999, p. 11); semi-formal genres include broadcast interviews; while the informal sections include private conversations (Holmes et al. 1998, p. 14). For the purposes of this study, these three genres provide three reference points along what could be perceived as a continuum of formality.

The workplace comparison comes from a specialised corpus; that is, a corpus 'delimited by a specific register, discourse domain, or subject matter' (de Beaugrande 2001, p. 11; see also Hunston 2002, p. 14). In particular, it is drawn from workplace data collected by the Language in the Workplace Project (LWP) (retrieved from http://www.victoria.ac.nz/lwp). Since 1996, the LWP has been collecting data from a range of different New Zealand workplaces. Data from white-collar workplaces is examined in this study and involves both smaller informal meetings as well as larger more formal ones. Communication between colleagues in the workplace on work-related topics is a context where more formal language could be expected compared to conversations between friends,

but how does it actually compare to conversational data, broadcast interviews and public monologues? And is there a difference between smaller informal and larger formal meetings?

Spoken Language and Pragmatic Markers

McEnery, Xiao and Tono (2006, p. 105) observe that spoken conversation is more 'vague' than written language, and Knight, Adolphs and Carter (2013, p. 135) note that 'a pervasive feature that relates to levels of formality in discourse is the use of hedging'. They include *you know* and *I think* in the list of hedging devices they investigate in digital discourse. Nikula (1997, p. 197) notes that hedging is characteristic of informal speech, with an absence of hedging making non-native speakers sound formal, while Brinton (1996, p. 33) notes that pragmatic markers are associated with oral rather than written discourse and with informality.

Knight et al. (2013, p. 148) suggest, however, that the situation is not quite this straightforward, commenting that 'more formal spoken and written contexts use more hedges than the informal ones'. Farr and O'Keeffe (2002) found the hedge they examined (the modal *would*) was most frequent in institutional settings, with lower frequencies occurring in conversations between family and friends. The exact hedges being examined are of relevance, as well as the specific contexts under examination. Knight et al. (2013) list 30 common hedges and a quick look at the 15 most common of these in Biber, Johansson, Leech, Conrad and Finegan (1999) shows that seven were more common in conversation than in academic writing, four had similar frequencies, while four others were more common in academic writing than in conversation. Before I look at the specific pragmatic markers that are examined in this chapter, I will briefly discuss issues related to terminology and definitions.

Pragmatic Markers

As is evident already from the discussion above, there are a number of labels which are used for the items which are the focus of this study, for example, pragmatic markers, discourse markers, hedges (see Brinton

1996, p. 29; Fraser 1998, p. 301; Jucker and Ziv 1998). There are also many variations in how the terms are defined. Some definitions focus on structural aspects; for example, Schiffrin (1987, p. 31) defines *discourse markers* as 'sequentially dependent elements which bracket units of talk', while others include expressive factors; for example, how discourse markers 'express attitudes and emotions' (Bazzanella 2006, p. 449). Interactive factors, that is, 'the relationship between the speaker and the hearer' may also be highlighted (Mosegaard Hansen 1998, p. 42), together with cognitive considerations, showing how the speaker signals their 'understanding of what the situation is all about with respect to the argumentative relations built up in the current situation' (Fischer 2007, p. 47).

The aspects of the particular items focused on and the perspective taken also influence the label they are given. Schiffrin (1987) uses *discourse marker* as a label because she is focusing on the discourse-organising functions of the items she examines. Others use the term *hedge* because they examine tentativeness, politeness and affective aspects. Aijmer and Simon-Vandenbergen (2006) use the label *pragmatic marker* as a broad term which can then be subclassified further according to more functional and formal characteristics; for example, *discourse markers, adverbial connectors* and *routines* are all seen as subcategories of pragmatic markers (Aijmer and Simon-Vandenbergen 2006, p. 3).

For the purposes of this chapter, I use the term *pragmatic marker*. In studies on New Zealand English (NZE), the term *pragmatic device* has generally been used (see Stubbe 1999; Stubbe and Holmes 1995) so *pragmatic marker* is compatible with this. The term *pragmatic* rather than *discourse* also highlights the use of language in context, which underlies the approach taken in this chapter.

In defining *pragmatic marker*, I follow Aijmer (2015, p. 201) in acknowledging the complex nature of pragmatic markers and their multifunctionality in that they can 'for instance be understood in relation to both coherence (e.g. signalling a boundary in discourse) and to involvement (the expression of feelings and attitudes)'. Politeness considerations are also of relevance to pragmatic markers as they have 'interactive functions such as hedging, signalling face-threat or solidarity' (Aijmer 2015, p. 201).

In 2006, Aijmer and Simon-Vandenbergen noted that research on pragmatic markers had 'exploded in the last 20 years' (2006, p. 1), and

this area has continued to be a focus of research since then from a number of different perspectives, including structural, interactional and cognitive (see Aijmer 2015; Degand, Cornillie and Pietrandrea 2013). I will now briefly look at research that has specifically focused on *eh, you know* and *I think*. Like pragmatic markers generally, *you know* and *I think* have been studied from different angles and using a range of approaches. In the brief review below, the focus is on research that highlights genre variation and which is relevant for an investigation of formality in relation to the use of these pragmatic markers.

Eh

In studies of NZE that have compared data from different genres, *eh* is used most frequently in conversational rather than interview data (Stubbe 1999; Stubbe and Holmes 1995). In fact, Stubbe (1999) had only one occurrence of *eh* in her broadcast interview data from the WSC. As well as being a vernacular form, Stubbe and Holmes (1995, p. 84) concluded that *eh* is 'a marker of male working-class identity'. This pragmatic marker is also associated with Maori[1] (Bell 2000; Meyerhoff 1992, 1994; Stubbe 1999), and more recent research by Starks, Thompson and Christie (2008) has noted the adoption of *eh* by young Niuean men in New Zealand.

According to Meyerhoff (1994), establishing and maintaining common ground between interlocutors is the primary function of *eh,* and Bell (2001) also notes the significance of *eh* as a facilitative, solidarity-building device. Bell (2001) illustrates that intraspeaker variation in the use of *eh* is influenced by the dynamics of the speech context. Speakers may converge or diverge in their *eh* use in response to relative degrees of social distance between themselves and their interlocutor.

You Know

Stubbe and Holmes (1995) and Stubbe (1999) also both found a higher use of *you know* in their small NZE corpora of conversations compared

[1] Maori are the indigenous people of New Zealand.

to broadcast interview data, suggesting that *you know* aligns with *eh* in indexing informality. Stubbe (1999) observed that Maori speakers showed a greater use of this pragmatic marker than Pakeha[2] speakers (see also Bell 2000). Although *you know* was used by all groups in Stubbe and Holmes (1995), young working-class speakers, in particular young working-class males, had higher frequencies of *you know* in their speech.

Jucker and Smith (1998) examine the use of a number of discourse markers including *you know* in conversations between friends and strangers collected at an American university. Their investigation showed that friends used markers such as *you know* more when conversing than strangers did, again suggesting that formality was a relevant factor accounting for the use of this pragmatic marker in the data they examined. Jucker and Smith's (1998) approach is both cognitive and interactional. They view discourse markers as 'giving processing instructions to the addressee', as well as being used to negotiate common ground between participants (Jucker and Ziv 1998, p. 8).

From a functional point of view, Müller (2005, p. 147) notes that *you know* is the 'most versatile and notoriously difficult' of the pragmatic markers she examines. In reviewing previous work on *you know*, she identifies almost 30 functions (Müller 2005, pp. 147–157). In her own study, there are 12 distinct functional patterns summarised into 10 categories. Five of these functions are at the textual level; for example, marking a lexical or content search, and five are at the interactional level; for example, signalling a reference to shared knowledge (Müller 2005, p. 157).

I Think

Several researchers demonstrate variability in the use of *I think* across genres in corpus data. Stubbe and Holmes (1995) and Stubbe (1999) both found a higher use of *I think* in broadcast interviews compared to conversational data, and Stubbe (1999) observed that this pattern was true for both Maori and Pakeha speakers. Simon-Vandenbergen (2000) compared *I think* in British English conversations and political interviews,

[2] Pakeha is the Maori term for the majority group of European, mainly British, people who colonised New Zealand in the nineteenth century.

also finding a higher frequency of *I think* in the more formal context (61 occurrences per 10,000 words compared to 24).

Simon-Vandenbergen's research also highlighted the importance of context in another way, finding that *I think* was utilised in varying ways in the two genres. Aijmer (2015) has explored this issue further in data from the British component of ICE (ICE-GB), demonstrating that *I think* is used for different functions in different contexts. In conversations, she found that *I think* expressed 'opinions which are unplanned and spontaneous', as well as being used in 'extended ways as a polite hedge with a mitigating function'. It may also be used as the speaker hesitates and tries to find the right word or as they initiate a self-repair (Aijmer 2015, p. 215). This contrasts with broadcast discussions where *I think* is associated with discussants trying to convince an audience of their point of view, and with 'authority and objectivity' (Aijmer 2015, p. 215).

Summary

Formality has been identified in previous research as affecting the use of all three of these pragmatic markers, although in different ways. *Eh* is a marked vernacular form so had very low frequencies in more formal contexts and was used more by young working-class males than by other social groups. It is also seen as a marker of Maori ethnicity. These patterns of use were also evident for *you know* in earlier research, although overall higher frequencies are reported for this pragmatic marker in comparison to *eh*. In contrast, *I think* has been associated with formal rather than informal contexts. More frequent use of this pragmatic marker may therefore index a higher level of formality.

Methodology

Choosing a Corpus for Analysis

The LWP has been collecting and analysing data from New Zealand workplaces since 1996. In that time, a large corpus of interactions has been

compiled, including data from a range of different types of workplaces. Initially, white-collar organisations were the focus of the data collection, although as the project has progressed other types of workplaces have also been included, such as factories and, more recently, building sites. The resulting corpus contains a diverse range of workplace interactions from a wide range of individuals in a number of different workplaces.

Unlike many other corpora, the aim with the LWP corpus was not to fill certain types of categories of data. Instead, the goal was for volunteers within each workplace to record approximately four hours each of their normal workplace interactions using small portable recording devices. The actual type of data gathered varied between participants, even within the same workplace. In white-collar workplaces for instance, some volunteers collected only one-to-one face-to-face meetings, while others had a combination of one-to-one meetings, informal morning tea gatherings, telephone calls or meetings with three or more people. One or more larger meetings were also video-recorded at each white-collar workplace.

Another feature of the LWP corpus that differentiates it from other corpora, such as the WSC, is that there is often a substantial amount of speech from single speakers. Because volunteers in each workplace aimed to collect around four hours of interaction, they would typically contribute several interactions each. Often, the people they interacted with were recorded by other volunteers as well, especially in smaller workplaces. People recorded by individual volunteers would also often be present in the video meetings recorded at each workplace. This means there is speech from the same people collected in different settings, enabling the effect of speech setting to be examined more closely.

Meyer (2002, p. 44) notes that the size of a corpus used for research often relies on the researcher's judgement and convenience, while Flowerdew (2004) comments that there is no ideal size for a corpus, size being dependent on the needs and purposes of an investigation. She notes that the corpus 'should be of adequate size such that there is a sufficient number of occurrences of a language structure or pattern to validate a hypothesis' (Flowerdew 2004, p. 18). McCarthy and Handford (2004, p. 176) note that *you know, I mean* and *I think* are the three most frequent two-word clusters in their study of a corpus of business English. *Eh*, on the other hand, is a fairly low-frequency item, so having a larger database

makes it possible to examine this pragmatic marker more adequately than is possible with a small sample. Having said this, *eh* has a reasonably high occurrence in the LWP data. It is actually more frequent than 22 of the 30 common hedges from English that Knight et al. (2013) examine, and has a similar frequency to two others.

The data which is the focus of the analysis in this chapter is drawn from the LWP database of interactions collected in professional white-collar workplaces, hence they comprise a sample of middle-class business talk. In particular, they include white-collar face-to-face interactions between two people that are at least five minutes in length. The resulting data set contains 182 dialogues involving over 100 hours of recordings with 143 people across 12 different professional workplaces, with both government and private organisations represented. The main purpose of each interaction is to achieve work-related goals; for example, problem-solving or feedback, although the exact nature of those goals changes from one interaction to another, and of course may also change within an interaction as well (see Vine 2004, pp. 221–222; Koester 2006, p. 22).

The data set for this study also includes 77 larger meetings from 14 workplaces. The inclusion of this data allows investigation of possible differences between dialogues and larger meetings, the larger meetings providing data from a more formal context. These 77 meetings all involve at least 3 people and include around 65 hours of data involving 212 people (including 77 who are also recorded in the dialogue sample). Sections from the larger meetings which precede the meeting proper, that is, sections of small talk before the meetings start, have not been included in the analysis.

The majority of the people recorded by the LWP in this data set are speakers of NZE, i.e. they have lived in New Zealand since before the age of 10 (Holmes et al. 1998, p. 24). As is typical of New Zealand workplaces generally, however, native and non-native speakers of other varieties of English are included as well. Non-NZE speakers, however, account for less than 10% of the participants in these workplace interactions.

For comparison purposes, data from the WSC and the New Zealand component of the ICE (ICE-NZ) is also examined. The WSC was designed to include at least 500,000 words of private conversations, so analysis of this data provides an indication of the use of these forms in

Table 1.1 Corpora genres, word counts and extract and speaker numbers

Corpus	Formality	Category	Words	# Extracts	# Speakers
WSC	Informal	Conversations	500,363	226	462
WSC	Semi-formal	Broadcast interviews	96,775	40	55
ICE-NZ		Broadcast interviews	21,810	10	22
Total	Semi-formal		118,585	50	77
WSC	Formal	Monologue unscripted lectures	30,406	14	14
ICE-NZ		Monologue unscripted speeches	69,509	30	33
Total	Formal		99,915	44	47
LWP		Dialogues	683,125	182	143
LWP		Meetings	773,930	77	212

New Zealand conversational data. Semi-formal data in the form of broadcast interviews from ICE-NZ and WSC is also analysed, along with more formal data comprised of unscripted monologues and lectures (see Table 1.1). Data from both WSC and ICE-NZ was included so that the interview and monologue sections would have around 100,000 words each.

The informal and semi-formal data sets both involve dialogic settings, with two or more people talking to each other. In contrast, the formal data involves one person holding the floor. These samples will be referred to as the NZE informal conversations, semi-formal broadcast interviews, and formal unscripted monologues.

Approaching the Analysis

Over the years, the LWP has undertaken analysis on a variety of different features of workplace communication, with the main approach involving qualitative analysis. When quantitative analysis has been undertaken this has tended to involve small subsets drawn from the larger corpus (see e.g. Vine 2004).

The LWP team has generally taken a social constructionist approach to analysis within an interactional sociolinguistic framework (see Holmes and Vine 2016). In this approach, interaction and identity construction are viewed as dynamic processes, typified by negotiation between participants in an interaction as they enact and reinforce their workplace identities. Norms at a number of levels are considered to be important,

including societal as well as minority group norms (Holmes et al. 2011, p. 19). Research on pragmatic markers and formality is compatible with this approach as speakers' use of these markers can be seen to reflect their perceptions of the interaction context and the way they construct themselves as professionals in their workplace interactions.

Stubbe and Holmes (1995) and Stubbe (1999) both used small corpora so were able to closely examine each occurrence of the pragmatic markers they investigated and include only those that satisfied two criteria: they all had to have an epistemic and/or affective function, as well as being able to be removed 'without substantially affecting the semantic or syntactic structure of the utterance' (Stubbe 1999, p. 43). Müller (2005) was also careful to exclude *you know* which was not functioning as a discourse marker from her analysis, with syntactic optionality being crucial to her definition (see also Brinton 1996). The large amount of data in the current study and the lack of syntactic markup make this approach impractical, although *eh* as a simple clarifier has been omitted. Cases where *you know* is part of a phrase that is easy to search for, such as 'do you know …' or 'did you know …', have also been removed.

The situation is slightly more complicated for *I think*. Kaltenböck (2015, p. 126) notes that *I think* as a pragmatic marker tends to lose the 'that complementizer' and becomes movable to non-initial position (2015, p. 126). The first person pronoun subject may also be omitted at times (Kaltenböck 2015, p. 126). In the current study, all cases of *I think* are included in the overall analysis since a screen-by-screen check with a large number of tokens is not practical. Cases where the pronoun is omitted are not captured by the search method, and neither are variant forms. Variant forms such as 'I just think' also function as pragmatic markers (Kaltenböck 2013, p. 287; see also Van Bogaert 2010), but in this preliminary investigation of pragmatic markers in the LWP data they are not included.

Results

The NZE corpus samples were examined first to find the frequency of the three pragmatic markers present in this data (see Table 1.2). All figures are normalised to one million words so that they can easily be compared and both raw figures and normalised scores (in brackets) are shown.

Table 1.2 Number of tokens and normalised figures for the three pragmatic markers in the NZE corpus samples

Pragmatic marker	Informal conversations	Semi-formal broadcast interviews	Formal unscripted monologues
Eh	1,031 (2,061)	8 (67)	2 (20)
You know	2,612 (5,220)	541 (4,562)	97 (970)
I think	1,312 (2,622)	370 (3,120)	195 (1,952)

Table 1.3 LWP data set results

Pragmatic marker	LWP overall white-collar professional corpus	
Eh	1,769	(1,214)
You know	7,197	(4,939)
I think	4,538	(3,115)

As expected, as the formality increased from conversation to broadcast interviews to unscripted monologues, the use of these pragmatic markers varied. *Eh* was used least in the most formal context and most in the conversations. *You know* showed a similar pattern, although normalised frequencies for the conversations and interviews were much closer. The pattern for *I think* showed that it was used least in the most formal context and that between the two types of dialogic data, the normalised figures show that the semi-formal context had higher rates of use than the informal data (in keeping with Stubbe (1999) who used a small subset of this data).

Based on the comparisons of the different genres of the NZE corpus samples, low frequencies of *eh* would be expected for this vernacular form in the workplace data. We would also expect higher frequencies for *you know* and *I think* in the workplace data compared to the monologues, with *you know* more frequent than *I think*. Table 1.3 provides the results for the pragmatic markers in the overall LWP data set. The results for the three NZE samples and the overall LWP workplace interaction data set are shown in Fig. 1.1.

The patterns for *you know* and *eh* show that these pragmatic markers, which have been considered to have a strong link to informality, support the view of New Zealand workplace data as being a reasonably informal

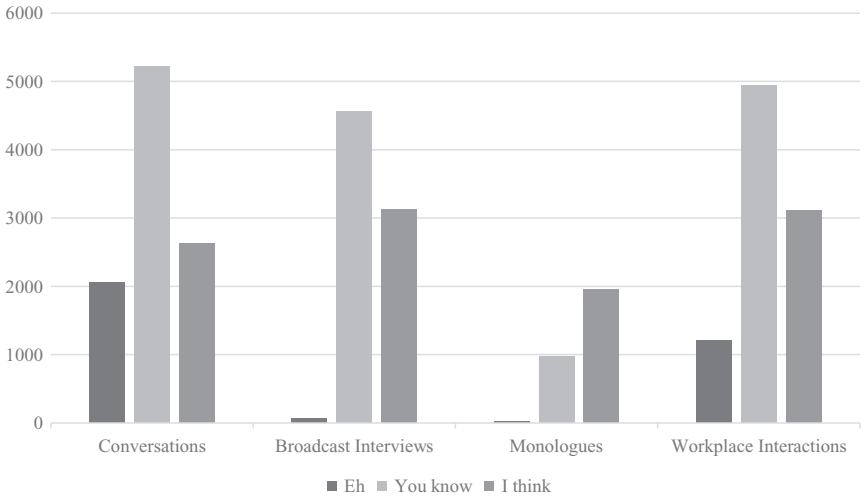

Fig. 1.1 Comparisons for *you know*, *eh* and *I think* in the NZE and LWP corpus samples

context. The LWP figures for *you know* and *eh* position this workplace data set about halfway between the interview and conversational styles. The comparative frequencies of *eh* are particularly interesting, since *eh* is a salient vernacular feature, and its use in middle-class workplace data demonstrates the move of this pragmatic marker into a wider range of domains than might be expected given the results from the NZE corpus data.

I think is associated with formal rather than informal contexts in studies comparing conversations and interview data (e.g. Stubbe 1999) and this was also true of the dialogic styles for the NZE corpus data, with *I think*[3] more frequent in the interviews. The use of this pragmatic marker in the LWP data corresponds to its use in the semi-formal interviews and it is clearly differentiated here from the more formal monologue context (see below). These results suggest that these four contexts can be placed on a continuum of formality as shown in Fig. 1.2.

[3] The frequency of *I think* in the NZE sample conversations in the current study is similar to the conversations from the BNC.

Fig. 1.2 Continuum of formality

Table 1.4 Use of *eh, you know and I think* in LWP dialogues and meetings

Pragmatic marker	Dialogues	Meetings	LWP (overall)
Eh	997 (1,459)	772 (997)	1,769 (1,214)
You know	4,042 (5,916)	3,155 (4,076)	7,197 (4,939)
I think	2,343 (3,429)	2,195 (2,836)	4,538 (3,115)

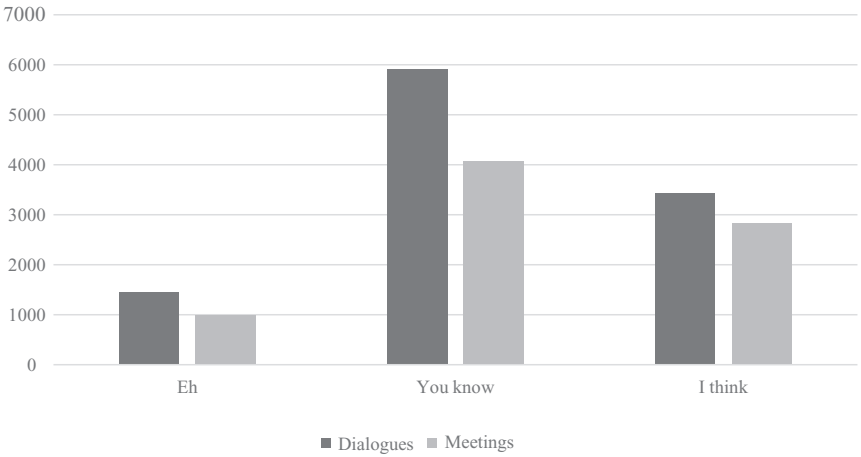

Fig. 1.3 Use of *eh, you know* and *I think* in different types of workplace data

The LWP data involves both dialogues and larger meetings. Part of the aim in collecting data from both contexts was to have informal meetings, as well as formal ones (Holmes and Stubbe 2003, p. 13). In Table 1.4 and Fig. 1.3, the results for each pragmatic marker in the LWP data are given for dialogues and for larger meetings.

In each case, there is variation between the workplace dialogue and workplace meeting results, with more occurrences of each pragmatic

marker in the dialogues compared to the meetings. For *eh* and *you know* this mirrors the pattern found in the NZE samples, with the frequency rising as the formality decreases. The pattern for *I think* on the other hand, in terms of relative frequency, reflects the difference between the dialogic NZE styles (conversation and broadcast interview) and the more formal monologue style, which has a lower frequency for this pragmatic marker. Each pragmatic marker is now discussed in more detail.

Discussion

Eh

> *and while I was doing it I was thinking we really should sit Anna down and have a similar sort of discussion eh you know and um* (*Pakeha Male Manager – Dialogue*)
> *well let's think about it a bit further eh* (*Pakeha Female Manager – Dialogue*)
>
> *say we got to hear about the education one and some had finished and some hadn't eh and but they wanted to see them* (*Maori Female Policy Analyst – Meeting*)

Of the three pragmatic markers examined in this study, *eh* is the one that is most strongly associated with informal speech. Stubbe and Holmes (1995) and Stubbe (1999) both found very few tokens in the broadcast interviews they examined, and this was also true of the larger NZE data set of broadcast interviews examined in the current study (see Table 1.2). The high use of *eh* in the workplace data in relation to the NZE samples suggests that the workplace context is more informal than the semi-formal data, although not as informal as the conversations.

As Aijmer (2015) notes, identity also plays a part in how speakers utilise pragmatic markers. With a pragmatic marker such as *eh* identity issues are foregrounded, as this marker has been associated with what Bell (2000, p. 222) calls Maori Vernacular English. It has also been seen to be associated with men and working-class speakers (Stubbe 1999).

The LWP data included in this study is a corpus of middle-class speech, so the relatively high use of *eh* in this data seems unexpected. This result suggests that this pragmatic marker has spread to a wider range of domains and is being used by a wider range of speakers than was evident in earlier studies. Andersen (2015, p. 144) notes that discourse markers are 'characterized by much innovation' and the adoption of *eh* in the New Zealand workplace seems to demonstrate the innovation that is typical of pragmatic markers.

The LWP corpus analysed in this study includes data from four workplaces where we examined the enactment of leadership (Holmes et al. 2011). This leadership sample consisted of interactions involving 12 focus leaders. A closer look at their speech in the current study shows a high use of *eh* in the speech of three of the managers (over the normalised average of 1,214), and in particular three of the male managers. Two of these men are Maori, and one is Pakeha. The use of *eh* by the Maori managers can be seen as an aspect of the way they enact their identity as Maori males. And for all three of these men, *eh* is a useful device to mark informality and relates to how they present themselves as leaders (see Holmes et al. 2011). *Eh* holds significance as a means of expressing the affective, interpersonal dimension of communication and its use in the workplace context reflects the values indexed by this pragmatic marker, i.e. informality, an easy-going stance, solidarity and social cohesion (see Vine and Marsden 2015).

The importance of formality level in terms of the differences between the dialogue and meeting data is also evident for the three male managers. All three men contribute over 10,000 words of dialogue and over 10,000 words of meeting data to the LWP corpus so we can see what effect the different contexts have on their use of *eh*. For each of the men their use of *eh* drops in the more formal meeting data.

You know

… and she went through those you know the [*name*] *case in England*
(*Maori Female Senior Staff – Meeting*)

so these three themes are you know things that need to be indelibly imprinted on our minds (*Maori Male Manager – Meeting*)

if we were asked to tender on this job you know we would need to take a little bit more of a look at it you know so we sort of flagged that

(*Pakeha Male Manager – Dialogue*)

For *you know,* the link with informality is clear in the NZE sample, with a much lower use of this pragmatic marker in the formal unscripted monologues than in the conversations and broadcast interviews (Fig. 1.1). Although not as high as the usage observed in the conversational data, the LWP data showed higher frequencies of *you know* than the broadcast interviews. Again, this supports the view that New Zealand workplace discourse is relatively informal and that use of this pragmatic marker can signal and index this informality.

We can explore more fully the different types of data, and factors that may affect speakers' rates of usage. The conversational, broadcast interview and workplace data sets are all dialogic, with two or more people talking together; no one person has exclusive possession of the floor. The role of *you know* as an interactive device is thus of relevance (Brinton 2008; Müller 2005).

In contrast to the broadcast interviews, however, the conversations and workplace data involve people who generally know each other well. This factor means that relationship management is an important concern, even while transactional goals are the reason each interaction takes place in the workplace data set. Rapport management is also important in broadcast interviews, but without the added need to maintain ongoing relationships.

When examining the LWP data more closely, the contrast between dialogues and meetings further supports the influence of formality level on speakers' use of *you know* with lower figures in the larger meetings.

You know was found to be present more in the speech of Maori than Pakeha in both Stubbe and Holmes (1995) and Stubbe (1999). Once again looking at the 12 focus managers from Holmes et al. (2011), 7 individuals stand out as using a high frequency of this pragmatic marker in their speech in one or both of the contexts (using more than the normalised average of 4,939 occurrences per million words). Three of these are women, although once again the highest users are men. Two of the

three managers who use *you know* most often are Maori men, but the person who has the highest frequency for this pragmatic marker in his speech is Pakeha. Again, leadership style is important, with none of these men enacting leadership in an authoritative manner. They all downplay status differences, and the strategic indexing of informality through the use of pragmatic markers such as *you know* is part of how they enact their professional identity. These 3 men also had the highest use of *eh* of the 12 managers. Each of these men use *you know* a lot less in the meetings as opposed to the dialogue data, further reinforcing the association between informality and the use of *you know*.

It has been suggested in the literature that the use of *you know* (and *eh*) and other addressee-oriented features by Maori indicates the value placed on cooperation in Maori society (e.g. Stubbe 1999). Use of these features is also compatible with the observation that New Zealand workplaces have low power distance, with both managers and employees expecting to be consulted (Hofstede 2001) and with the fact that New Zealand society values egalitarianism (Holmes and Stubbe 2003; McLeod 1968).

I Think

I think we're really fortunate in health cos you know …
(*Maori Male Policy Analyst – Dialogue*)

I think we might as well do it in here eh and …
(*Pakeha Female Manager – Meeting*)

well I think I mean anyone would've been a you know breath of fresh air really after [*name*] (*Pakeha Female Junior Staff – Meeting*)

The results for *I think* in the four contexts show that the semi-formal NZE sample and the overall LWP data set have very similar frequencies for this pragmatic marker. *I think* was less frequent in conversations than in the other two dialogic genres and even less frequent in the unscripted monologues. This suggests that for this item there is not a one-to-one

correlation with formality, with lower usage of this pragmatic marker in both the most formal and least formal contexts.

The most formal context in this study involves unscripted monologues. This is a non-interactive context and the samples in this category are lectures on a range of topics. A check of the British National Corpus (BNC) shows that *I think* is more frequent in arts and social science lectures than conversations[4] but has a much lower frequency in law, natural science and commerce lectures. The NZE samples contain monologues on a range of subjects, so the topics covered may influence the usage of *I think*.

The result for broadcast interviews in comparison to the workplace data shows that these two categories have the same rate of usage for *I think*. Using the frequency of *I think* as a measure of formality, therefore, supports the suggestion that New Zealand workplace contexts are semi-formal.

The lower usage of *I think* in NZE conversational data, and in particular in the speech of Maori, has been attributed to this pragmatic marker being a speaker-oriented device (Stubbe 1999; Stubbe and Holmes 1995; see also Coates (1987) and Ostman (1981) in relation to conversation and other varieties of English). Avoidance of speaker-oriented markers has been seen as an indication of the value placed on cooperation in Maori society (see also Britain's 1992 study of high rising terminals). An avoidance of speaker-oriented devices is also compatible with New Zealand values more generally (as discussed in regard to addressee-oriented devices above). In New Zealand workplaces inequalities are minimised and there is a tendency to avoid standing out or bringing attention to yourself, as with the use of *I think*. A check of the BNC (http://corpus.byu.edu/bnc/) gives a normalised figure of 4,060 per million words for *I think* in meetings, so the New Zealand workplace data shows a lower frequency for *I think*.

The situation for *I think* may also be further complicated by other factors. Firstly, a decline in the frequency of *I think* has been observed in more recent decades in other varieties of English, linked to the simultaneous rise of variant forms such as *I'm thinking, I just think*. These variant

[4] The frequency of *I think* in the NZE sample conversations in the current study is similar to the conversations from the BNC.

forms also function as pragmatic markers (Kaltenböck 2013, p. 287; see also Kaltenböck 2015; Van Bogaert 2010). In this preliminary investigation of pragmatic markers variant forms are not included, but their inclusion may show a wider variety of forms is being used.

A second complicating factor is that research has suggested that *I think* has lost its speaker-centred connotations. Traugott (1995, p. 39) comments that 'in the case of *I think* where the subject is first person, the subject is losing referential (objective) properties and becoming simply the starting point of a perspective'. Kaltenböck also notes that *I think* is a starting point or launching pad for a new proposition (2015, p. 118).

Thirdly, research has shown differences in the way *I think* is being used in different contexts (Aijmer 2015; Simon-Vandenbergen 2000). Simon-Vandenbergen (2000) found variability between political discourse and casual conversations in terms of functions, syntactic positioning and intonation (these last two may be linked to or indicative of different functions; see Aijmer 2015; Kärkkäinen 2003). To fully understand the way *I think* is patterning in relation to formality, the range of functions and meanings needs to be examined, although this is beyond the scope of the current chapter.

A possible indicator of whether the functions of *I think* in the workplace data align it more with the conversational data or with more formal contexts can be found by considering the wider context. The view of New Zealand workplaces as ones where power differences tend to be minimised suggests that *I think* would not be used primarily to exert authority (as seen in the broadcast discussions examined by Aijmer 2015). When examining directives, requests and advice in a small subset of the data included in the current study, Vine (2004, pp. 198–199) noted that the managers involved more often minimised rather than exerted power differences.

Holmes et al. (2011, p. 90) also highlight the importance for the 12 leaders in their study of integrating relational and transactional goals in the workplace. A closer look at the results for these 12 managers shows 5 of them use high frequencies of *I think* (over the normalised average of 3,115). Four of these managers are women and one of these women is Maori, as is the only male manager in this group. The male manager was one of the men who also had high frequencies for both *eh* and *you know*

in his speech, this being associated with his informal leadership style. This suggests his use of *I think* aligns more with conversational rather than more formal functions. All five of these managers use *I think* less in the more formal meetings as opposed to the dialogues, mirroring the pattern for the informal pragmatic markers *eh* and *you know*.

Conclusion

On a continuum of formality, New Zealand workplace data falls between informal and semi-formal genres. *Eh* and *you know* have both been associated with more informal speech contexts and their frequencies in the LWP workplace corpus support the assertion that communication in New Zealand workplaces is informal. The finding that *I think* functions differently in different contexts (Aijmer 2015; Simon-Vandenbergen 2000) means that there is not a clear correlation between the use of this pragmatic marker and formality. If the functions of *I think* in the workplace data more closely align with those found in conversation rather than more formal contexts, then this pragmatic marker could also be seen to index informality.

The association between informality and these pragmatic markers means that the presence or absence in a speaker's discourse provides information about how they enact their professional identity. A brief look at data from 12 managers suggests that speakers may strategically use *eh* and *you know* (and possibly *I think*) to index informality. In holding a position of power, the managers have control of how that power is expressed and the use of these pragmatic markers is one way they can downplay their power.

This preliminary investigation suggests that a fuller examination of each of these pragmatic markers is warranted, along with other features that may index informality. The examples at the beginning of each section in the discussion, for instance, illustrate a range of other linguistic features that may be relevant and the way that features can cluster together. The perceived formality of the context may vary for speakers depending on a number of factors, such as their role, so examination of other aspects of the context which may affect the use of *eh, you know* and *I think* could provide useful insight on speakers' choices to use these pragmatic markers (or not).

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2

Narrative and Informational Dimensions of AAC Discourse in the Workplace

Eric Friginal, Lucy Pickering, and Carrie Bruce

Introduction

For the thousands of working-age adults with complex communication needs in the USA, some form of augmentative or alternative communication (AAC) device or strategy can enable them to interact in the workplace in real time (Beukelman and Mirenda 1998; Blackstone 1993; Bryen et al. 2006). The most advanced type of AAC devices are portable speech-generating technologies housed in laptops, tablets, or smartphones that enable a person to formulate messages by selecting pictures, letters, words, or sentences and that can be accessed using a range of methods such as touch, eye gaze, or switch input. One such device is shown below in Fig. 2.1. Despite what has been described as an "AAC explosion" following the expansion of cheaper and more user-friendly technology (Wilkinson and Hening 2007, p. 58), these AAC modes are limited in terms of providing quick access to context-specific language, particularly in the workplace (Bryen et al. 2007).

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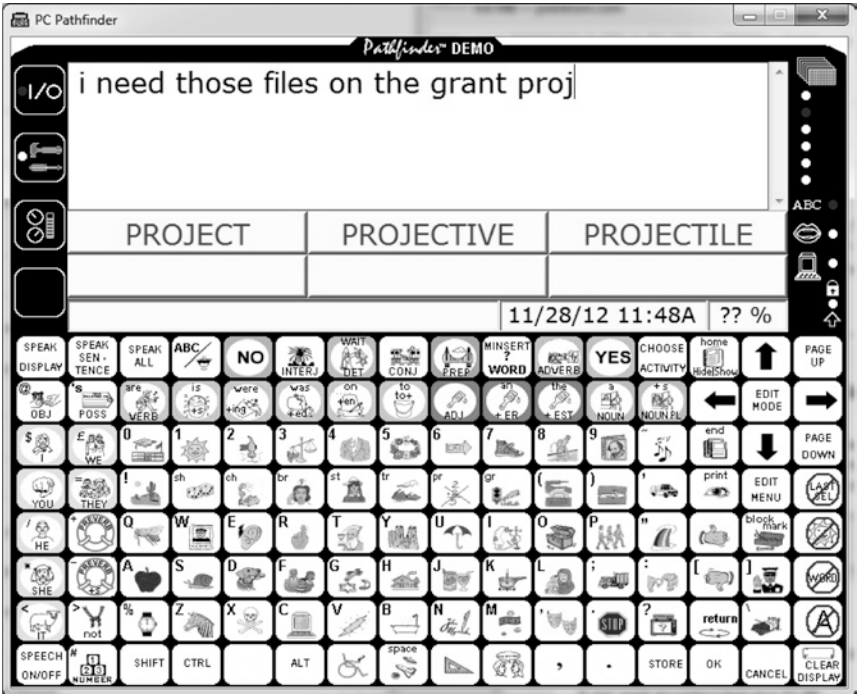

Fig. 2.1 A screenshot of AAC device "pathfinder"

Although technologies have increased user expression from 15 words per minute to 65, this still falls far short of the average conversational rate of 180 words per minute (Dominowska 2002; Tönsing and Alant 2004; Venkatagiri 1995). In addition, prestored language (sentences or paragraphs) that could increase the speed of message delivery often needs to be edited in some way to fit the specific ongoing context (Bedrosian et al. 2003). Thus, AAC device users in the workplace most frequently need to rely on spontaneous novel utterance generation (SNUG) which provides the broadest access to contextual vocabulary through the construction of messages through letters, individual words, sequences of words/terms that typically co-occur, and commonly used phrases (Hill 2001). Although this allows them to customize their message, the drawback is a lack of efficiency as users' selection speed is impacted by their visual, auditory, and/or motor skills (Simpson et al. 2000).

Our current understanding of how AAC users actually communicate in the workplace is meager and little is known about how the linguistic features of AAC-based discourse used in job situations may differ from those of non-AAC discourse in comparable work contexts. This study is a follow-up to one published in 2013 by Friginal, Pearson, DiFerrante, Pickering and Bruce in which we explored linguistic co-occurrence patterns in the language of AAC users in the workplace compared to those of their non-AAC, job-equivalent counterparts using the ANAWC (Pickering and Bruce 2009).

Workplace Discourse

Previous studies of AAC workplace discourse have focused primarily on differences in interactional norms (e.g., wait times, question/answer turns). The use of SNUG creates gaps and pauses in the interaction that can be frustratingly long (Wisenburn and Higginbotham 2008). This can sometimes result in non-AAC interlocutors attempting to anticipate the completion of AAC users' utterances in progress and often failing to understand AAC users' intended topic shift, word selection, or even the end point of an utterance (Bloch 2011). While Balandin and Iacono (1998, 1999) and Tönsing and Alant (2004) found that in work break discussions with interlocutors around an AAC user, conversation topics demonstrated little variation, Simpson et al. (2000) reported that, due to the degree of effort required for speech production, AAC users often did not make use of "initiators" (e.g., salutations, markers indicating topic introduction and maintenance, topic shifts) in interactions. Most AAC users also avoided small talk and narratives focusing on events not directly related to work. Our earlier study (Friginal et al. 2013) showed that in contrast to non-AAC spoken workplace discourse, the linguistic co-occurrence patterns of AAC texts potentially take on more features of formal, informational language (e.g., less involved or less personal, non-narrative, and more explicit) similar to most written texts. Linguistically, these dimensions are defined by the high co-occurrence of nouns, prepositions, and nominalizations, while features such as past tense verbs, personal pronouns, and emphatics are limited.

More is known about the linguistic features of workplace discourse in non-AAC user work contexts due to the creation of a number of corpora. CANBEC (the Cambridge and Nottingham Business English Corpus) comprises approximately 1 million words of recorded business meetings (Handford 2010); a considerably smaller corpus of approximately 34,000 words, the ABOT corpus (American and British Office Talk) includes informal workplace interactions in office settings (Koester 2010). The most relevant corpus with regard to the one used for this study is the Wellington Language in the Workplace (LWP) corpus that comprises over 1.5 million words from hundreds of interlocutors in various professional workplaces across New Zealand (Holmes 2000). The LWP does not include AAC users as far as we are aware; however, investigations conducted by the researchers of interactions involving workers with intellectual disabilities may have some correlates particularly with regard to the ways in which interlocutors respond to these workers. For example, Holmes (2003) and Holmes and Fillary (2000) followed workers with intellectual disabilities in order to investigate their participation in small talk (i.e., discussion of topics that are unrelated to workplace tasks) and their use of formulaic responses with coworkers. These studies reported that workers with intellectual disabilities tend not to engage in social talk and often give short, monosyllabic answers when they are involved in social interactions.

It is clear that AAC device users in the workplace are typically different from workers with intellectual disabilities. Workers requiring AAC devices for more complex conversational needs generally have no intellectual impairment and are likely fully aware of the importance and functions of social talk; however, their devices may not be sufficiently "augmented" to allow them to interact as they would like. For this reason, research-informed technology may allow them to better access and utilize the sociolinguistic and pragmatic competence that they possess but are unable to express. Comparison of the characteristic linguistic features of AAC vis-à-vis non-AAC workplace discourse in very similar contexts can provide the data needed to develop and advance the technology that will maximize AAC device users' successful participation in communicative exchanges at work. In ongoing studies analyzing the ANAWC, we are working to fill that gap by exploring linguistic co-occurrence patterns in the language of AAC users in the workplace compared to those of their non-AAC, job-equivalent counterparts.

We use a corpus-based, multidimensional approach to discourse analysis pioneered by Biber (1988, 1995, 2006) and in this study specifically, we utilize the dimensions extracted by Friginal (2008, 2015) from oral, telephone-based interactions in a business setting. Linguistic patterns and trends within three dimensions from Friginal's model are analyzed further to identify contributing factors and features characterizing these two groups of workplace interactions. Analysis of these features enables us to determine in what ways AAC discourse can be clearly differentiated from non-AAC discourse along textual and functional domains.

Methodology

The AAC and Non-AAC Workplace Corpus

The AAC and Non-AAC Workplace Corpus (ANAWC) (Pickering and Bruce 2009) used in this study and also analyzed in Chapters 3 and 4 in this book was collected in workplace settings in the USA in the spring of 2009. It comprises over 200 hours of spoken interaction (approximately 1 million words) involving 8 focal participants and more than 100 interlocutors in 7 different work locations. The eight focal participants wore speech-activated voice recorders for five consecutive days in the workplace. Four participants were AAC users and four were paired non-AAC users working in a similar environment. Each participant had control of their own recorders and was able to turn them off at any time for any length of time if they chose to do so (Holmes 2000). The criteria for these central eight participants were minimal, comprising (1) a native English speaker background, (2) employment in an office or warehouse setting, and (3) daily interaction with coworkers and/or other interlocutors. Table 2.1 provides biographical information for each participant.

The audio data were transcribed orthographically following a transcription scheme based on the T2K-SWAL (TOEFL 2000 Spoken and Written Academic Language) corpus (Biber 2006) and any identifying characteristics such as names and places were anonymized. These machine-readable text files were also partly annotated for nonverbal markers and other markups (e.g., length of pauses, number of filled pauses). The data continue to undergo an ongoing "cleaning" and annotation process (Chafe

Table 2.1 Participant information

Participant[a]	Age range	Gender	AAC status	Job description
Saul	46–55	M	AAC user	IT specialist
Katie	46–55	F	Non-AAC	IT specialist
Sarah	36–45	F	AAC user	Grant administrator
Paula	56–65	F	Non-AAC	Grant administrator
Ron	36–45	M	AAC user	Parks and recreation manager
Tony	56–65	M	Non-AAC	Parks and recreation manager
Lenny	46–55	M	AAC user	Administrative assistant
Alex	n/a	M	Non-AAC	Administrative assistant

[a]All participant names have been replaced with pseudonyms

et al. 1991). Two subcorpora comprising approximately 464,000 words in total were used for this study: one with AAC users in the workplace (214,619 words), and one from their non-AAC counterparts (249,503).

Linguistic Tagging and Analysis

The ANAWC was tagged for part-of-speech (e.g., nouns, prepositions, past tense verbs) and additional semantic categories (e.g., semantic categories of verbs: private verbs, suasive verbs, communication verbs) using the Biber tagger (Biber 1988, 2006). The Biber tagger was designed to incorporate a large number of linguistic features and return an output that can be easily processed for automatic tag-counting and norming. Grieve, Biber, Friginal, and Nekrasova (2009) reported that this tagger has a 94% accuracy rate for formal written registers. Every tagged feature was counted and normalized per 1000 words and inputted on a spreadsheet for statistical analyses. Other linguistic features such as type/token ratio, average length of words, total words per target participant, and various *n*-grams were also included in the dataset.

In total, AAC users produced far less speech as measured by number of words (a range of 614 to 5676 words) than their paired counterparts (a range of 18,057 to 45,312). Based on the labor-intensive nature of SNUG, this is not surprising; however, the AAC word count does not include any vocalization that these participants used (transcribed as [voc] in the corpus) which frequently substituted for linguistic responses or backchannels during interactions (see Chapter 3 in this volume for more

discussion). It is interesting to note that there was no major difference between the total word counts of interlocutors (i.e., coworkers) in the two subcorpora.

Multidimensional Analysis

Biber's (1988) multifeature, multidimensional analytical (MDA) framework has been applied in the study of a range of spoken and written registers and used in the interpretation of various linguistic phenomena. MDA data come from factor analysis (FA), which considers the sequential, partial, and observed correlations of a wide range of variables, producing groups of occurring factors or dimensions. According to Tabachnick and Fidell (2001), the purposes of FA are to summarize patterns of correlations among variables, to reduce a large number of observed variables to a smaller number of factors or dimensions, and to provide an operational definition (i.e., a regression equation) for an underlying process by using these observed variables. The purposes of FA support the overall focus of corpus-based MDA which aims to describe statistically correlating (i.e., co-occurring in the dataset) linguistic features and group them into interpretable sets of linguistic dimensions (Friginal and Hardy 2012). The patterning of linguistic features in a corpus creates linguistic dimensions that correspond to salient functional distinctions within a register, and allows cross-register comparison. MDAs of spoken registers have covered topics such as gender and diachronic speech (Biber and Burges 2001; Rey 2001), stance and dialects (Precht 2000), televised cross-cultural interaction (Connor-Linton 1989; Scott 1998), agent and caller telephone interactions (Friginal 2008, 2009), and job interviews (White 1994).

Friginal's (2015) Dimensions of Telephone Interactions

For the purposes of this chapter, established dimensions from Friginal (2015) were adapted to compare the distribution of linguistic features from AAC and non-AAC speakers, including their interlocutors in the workplace. The composition of the tag-counted features for Friginal's (2015) FA was based primarily on prior studies, especially Biber (1988),

Friginal (2008, 2009), and White (1994). Additional discourse features of oral interactions (e.g., filled-pauses, politeness markers, length of turns) were included in this dataset. Table 2.2 shows the complete list of tagged features (38 total lexical and syntactic features) used in this FA.

The composition of the three extracted factors (i.e., linguistic dimensions) of business telephone interactions is presented in Table 2.3. Factor loadings and subsequent functional interpretations of each dimension

Table 2.2 Complete list of linguistic features used in Friginal (2015)

Linguistic features	
Type/token	Number of words occurring in the first 400 words of texts
Word length	Mean length of words in a text (in letters)
Word count	Total number of words per agent/caller texts
Private verbs	e.g., *anticipate, assume, believe, feel, think, show, imply*
That deletion	e.g., *I think [Ø] he's gone*.
Contractions	e.g., *can't, I'm, doesn't*
Present tense verbs	All present tense verbs identified by the tagging program
2nd person pronouns	*you, your, yours, yourself* (and contracted forms)
Verb *do*	*do, does, did* (and contracted forms)
Demonstrative pronouns	*that, those, this, these*
1st person pronouns	*I, me, my, mine, myself* (plural and all contracted forms)
Pronoun *it*	Instances of pronoun *it*
Verb *be*	Forms of *be* verb
Discourse particles	e.g., *oh, well, anyway, anyhow, anyways*
Possibility modals	*can, could, might, may*
Coordinating conjunctions	*and, or, but*
Wh clauses	Clauses with WH (*what*, *which, who*) head
3rd person pronouns	*he, she, they* (and all contracted forms)
Nouns	All nouns identified by the tagging program
Prepositions	All prepositions identified by the tagging program
Attributive adjectives	e.g., *the small chair*
Past tense verbs	Past tense verbs identified by the tagging program
Perfect aspect verbs	Verbs in perfect aspect construction
Nominalizations	Words ending in *-tion, -ment, -ness*, or *-ity* (and plurals)
Adverb—time	Time adverbials e.g., *nowadays, eventually*
Adverbs	Total adverbs (not time, place, downtoners, etc)
Prediction modals	*will, would, shall*

Table 2.2 (continued)

Linguistic features	
Verb *have*	*has, have, had* (and contracted forms)
Average length of turns	Total number of words divided by number of turns
Filled pauses	*uhm, uh, hm*
Respect markers	*ma'am, Sir*
Politeness markers—*Thanks*	*thank you*, *thanks*, *[I] appreciate [it]*
Politeness markers—*Please*	*please*
Discourse markers—*OK*	*ok* (marker of information management)
Discourse markers—*I mean*	*I mean* and *You know* (markers of participation)
Discourse markers—*Next/then*	*next, then* (temporal adverbs)
Discourse markers—*Because*	*because, 'coz, so* (markers of cause and result)
Let's or *let us*	Instances of *let's* or *let us*

Table 2.3 Summary of the linguistic features from Friginal's (2015) three factors

Dimension	Features	
Dim 1:	**Positive: Addressee-focused, informational discourse**	
	2nd person pronouns	.683
	Word length	.612
	Nouns	.515
	Possibility modals	.445
	Nominalizations	.394
	Length of turns	.376
	Type/token ratio	.325
	⇕	
	Negative: Involved and simplified discourse	
	Pronoun *it*	–.687
	1st person pronouns	–.663
	That deletion	–.506
	Private verbs	–.439
	Perfect aspect verbs	–.345
	I mean/you know	–.338
	Verb *do*	–.321
Dim 2:	**Positive: Planned, procedural talk**	
	Word count	.821
	Length of turns	.678
	Type/token	.630
	2nd person pronouns	.515
	Next/then	.417

(*continued*)

Table 2.3 (continued)

Dimension	Features	
	Word length	.422
	Adverb—time	.409
	Prepositions	.383
	Present tense verbs	.341
	Nominalizations	.321
	Because/so	.310
	⇕	
	Negative:	
	1st person pronouns	–.663
	Past tense verbs	–.609
	Pronoun *it*	–.578
	3rd person pronouns	–.571
	Private verbs	–.563
	Discourse particles	–.397
Dim 3:	**Positive: Managed information flow**	
	Discourse particles	.947
	OK	.865
	Adverbs	.845
	Let us/let's	.563
	I mean/you know	.422
	⇕	
	Negative:	
	Length of turns	–.349

are also presented and summarized in this table and the following subsections below. Discourse particles, second person pronouns, average word length, total word count, length of turns, and type/token ratio loaded highly in the three factors. Friginal's (2015) FA reported that the Kaiser–Meyer–Olkin Measure for Sampling Adequacy (KMO = .711 middling) and Bartlett's Test for Sphericity (approx. chi-square = 12,101.415, df = 652; $p < .0001$) were sufficient for exploratory FA with principal axis factoring. Results from a three-factor solution were deemed to be the most interpretable merging of features, with 33.16 cumulative percentage of initial eigenvalues (total variance explained).

A comparison of AAC and non-AAC texts across the three dimensions from Friginal (2015) is presented in the Results section below. Data were obtained by computing an average dimension score based on the co-occurring linguistic features per dimension from four groups of speak-

ers: (1) AAC users, (2) non-AAC users, (3) all coworkers of AAC users (collected into one subcorpus), and (4) all coworkers of non-AAC users (also collected into one subcorpus). See Biber (1988), Biber and Conrad (2001), and Friginal and Hardy (2014) for detailed instructions and procedures for running a multidimensional analysis or computing dimension scores.

Results

For each of the three dimensions, four average scores comprising ANAWC texts are shown along comparison figures below. These figures describe cross-register linguistic distributions and relationships per dimension. Text samples with high or low dimension scores are provided in the following sections to better understand the functional characteristics and significance of these distributions.

Dimension 1: Addressee-Focused, Informational Discourse Versus Involved, Simplified Discourse

Fourteen (14) linguistic features comprise this dimension with seven features on each of the positive and negative sides. Positive features include markers of elaboration and information density (e.g., long words and turns, nominalizations, and more nouns), and second person pronouns (e.g., *you*, *your*), which indicate "other-directed" focus of talk. Possibility modals (*can*, *could*, *may*, *might*) also loaded positively on this factor. The features on the negative side, especially the pronoun *it*, first person pronouns, *that* deletion, private verbs, WH clauses, and the verb *do*, resemble the grouping in the dimension "Involved Production" identified by Biber (1988), Friginal (2008, 2009), and White (1994). These features are typical of spoken texts and generally contrast with written, informational, and planned discourse. Also on the negative side of the factor are past tense verbs, perfect aspect verbs, and the use of discourse markers *I mean* and *You know*. These elements point to an accounting of personal experience or narrative that tries to explain the occurrence of a particular situation or event. Schiffrin (1987) considers *I mean* and *You*

know as markers of information and participation; *I mean* marks speaker orientation toward the meaning of one's own talk while *You know* marks interactive transitions.

These co-occurring sets of features represent the contrast between the dominant objectives of speakers' utterances. Speakers in business, telephone-based exchanges who use more positive features are likely aiming to give details, explanations, or solutions. In the process, these interactants use more nouns, nominalizations, and longer utterances or turns to deliver the information. The information density in these turns is high because of higher average word lengths in the texts. Participants' turns are elaborated with detailed explanations, likelihood, or risks through the use of a high frequency of possibility modals. In addition, the high frequency of second person pronouns indicates that the transfer of information is highly addressee-focused.

In contrast, the grouping of features on the negative side of the dimension illustrates personal experiences and simplified information. The combination of perfect aspect verbs, private verbs, the pronoun *it*, and discourse markers *I mean* and *You know* demonstrates the typical goal of utterances which is to provide a personal account of a situation or an event. Involved production features such as first person pronouns, WH clauses, *that* deletion and *I mean* or *You know* serve a communicative purpose to establish personal orientation (White 1994). Most utterances on the negative side of the dimension have fewer word counts and are significantly shorter in length. To summarize, the combination of positive and negative features of Dimension 1 differentiates between addressee-focused and elaborated information and involved and simplified discourse portraying how informational content is produced in speakers' turns. Figure 2.2 shows the range of variation across the four corpora.

This comparison of speaker groups shows that texts produced by AAC users averaged on the positive side of Dim 1 (dimension score = 8.661) compared to the other three speaker groups in the corpus. Workplace interactions with non-AAC users and their interlocutors and spoken texts produced by coworkers of AAC users all averaged on the negative side. Speakers who do not rely on AAC devices maintain a consistent use of personal pronouns (including the pronoun *it*), private verbs in the pro-

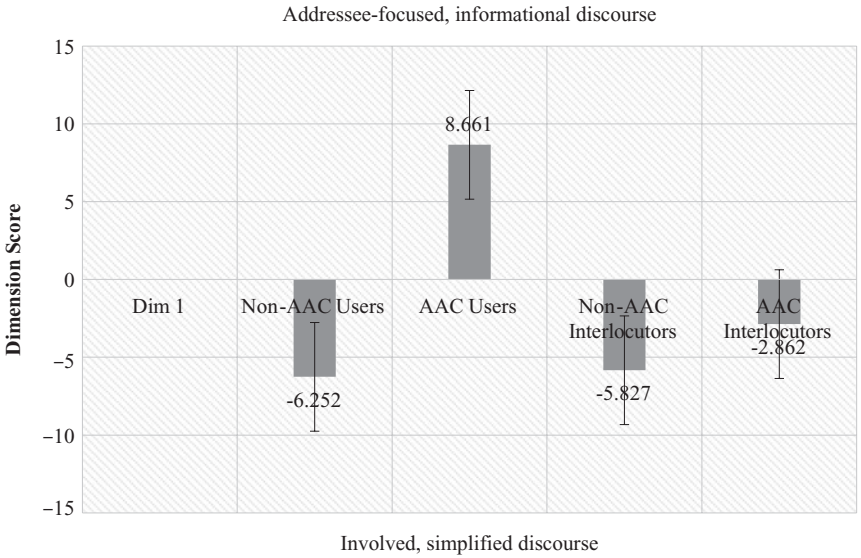

Fig. 2.2 Comparison of AAC and non-AAC texts in dimension 1: Addressee-focused, informational discourse vs. Involved, simplified discourse

duction of egocentric sequences (e.g., *I think, I believe*) and informal features of speech (*that*-deletion, contractions).

In contrast, AAC users rarely use involved and personal production features as this requires additional "typing" into their devices; thus, they focus on nouns and noun phrases in their responses to questions. This necessity also results in far fewer AAC user-initiated topics and very few lengthy responses or responses to small talk (Di Ferrante 2012; Friginal et al. 2013).

In the text excerpt below, AAC user Ron communicates with a coworker primarily by using short phrasal or nominal responses (e.g., *lose power, Saturday*). In some cases, these can function as an auditory cue built into the device interface to indicate to the AAC user that the utterance selection was made (and what that selection is). Some AAC users also employ this type of auditory cue as a method to maintain the conversational floor during the time it takes to produce their message. In

addition, Ron uses vocalizations (indicated in the transcripts by [voc]) and nonverbal responses to complement his speech-generated utterances.

Text Excerpt 1. AAC User Ron

AAC-Ron: ***lose power***
Coworker: I'm all powerful?
AAC-Ron: ***Saturday***
Coworker: Lost power?
AAC-Ron: ***Did you lose power Saturday morning?***
Coworker: mm we did lo- well sometime during the night cuz when we woke up on Saturday the clocks were flashing and then our internet was out all day Saturday uhm our power kept on flashing you know like kind of surging [+] Saturday morning [+] and Saturday afternoon [+] and it kept on knocking my router out my wireless router and then I get that going I tried plugging directly into the modem and it still wouldn't uhm come across so I don't know it's working now but [+] yep lost power [0:09] did you stay home all weekend?
AAC-Ron: **[*voc*]**
Coworker: alright Ron see ya

Dimension 2: Planned, Procedural Talk Versus Narrativity

The linguistic features loading on the positive side of Dimension 2 include lexical specificity and information density features (type/token ratio, average word length), temporal adverbs (*next*/*then*) and specific time adverbials (e.g., *eventually, immediately*), complex and abstract information features (word count, length of turns, and nominalization), second person pronouns, prepositions, and cause and result discourse markers (*because*/*so*). First and third person pronouns, discourse particles (e.g., *oh*, *well, anyway*), past tense verbs, the pronoun *it*, and private verbs loaded on the negative side.

The positive side of this dimension signifies a one-way (addressee-focused) transfer of a large amount of planned, abstract, and technical

information. In this case, the information appears to be procedural or process-based due to the presence of temporal adverbs combined with prepositions (e.g., *in, on, below, above*), cause and result discourse markers and, especially, present tense verbs. The frequent occurrence of present tense verbs in the texts illustrates the use of directives/imperatives in utterances (e.g., *"…then choose OK"*; *"…now, remove the microfiber casing…"*). It appears that this form of instructional language, especially common in telephone-based transactions, is expressed through a series of directions marked by second person pronouns (especially *you* and *your*), succession between steps (*next*/*then*) and progression through the discourse (*now*). Discourse particles, used very sparingly in this dimension, perhaps indicate that the utterances are somewhat prepared or organized, and produced with limited hesitations or tentativeness.

The negative side of this dimension clearly illustrates narrativity in oral interactions, particularly in face-to-face communicative contexts. First person pronouns strongly co-occur with multiple discourse particles (e.g., *well, so, anyway, oh, OK*), third person pronouns (*his, her, they* and all contracted and possessive forms), private verbs (e.g., *think, feel, believe, guess*), the pronoun *it*, and verbs in the past tense. Linguistic patterns from storytelling discourse and narrative written prose mirror these distributions. Biber (1988) states that narrative discourse depends heavily on the combination of past tense verbs and third person pronouns, illustrating a sequential description of past events "involving specific animate participants" (p. 109). Together, these features emphasize a speaker's focus on vivid images in descriptive discourse, event-oriented talk (as compared to static, expository texts), and reported speech.

As shown in Fig. 2.3, Dimension 3 again differentiates AAC users' turns from the three comparison groups in this chapter. Non-AAC users and the two groups of interlocutor texts all have negative aggregate scores. These three corpora have a higher frequency of past tense verbs, first and third person pronouns, and discourse markers that are in complementary distribution primarily with temporal adverbs and cause and result (*because, so*) markers. Friginal (2008, 2015) suggests that the merging of features indicating lexical specificity, complexity, and abstraction of information are primary characteristics of telephone-based discourse compared to general conversation and other subregisters of oral interactions

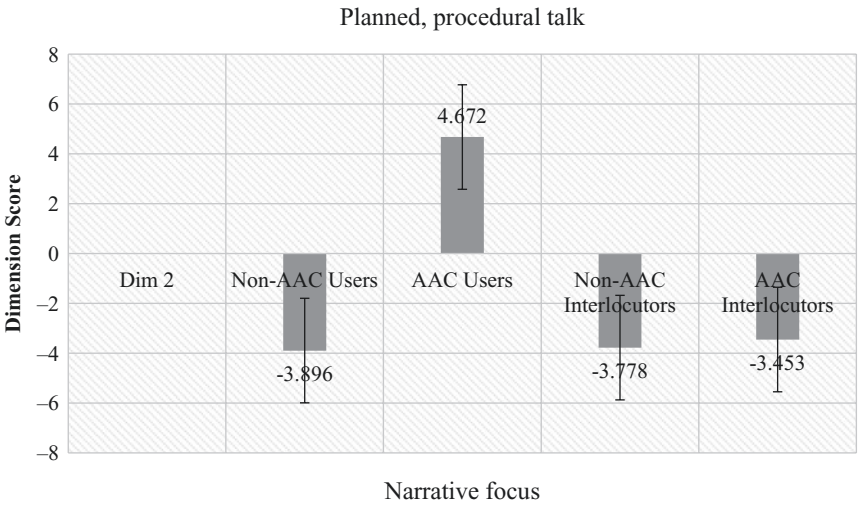

Fig. 2.3 Comparison of AAC and non-AAC texts in dimension 3: Planned, procedural talk vs. Narrative focus

(including those that are set in the workplace). In typical customer service calls, longer words (based on average word lengths) and technical vocabulary are often used in extended turns during the interaction.

In general, the packaging of information by AAC users in workplace interactions is, therefore, more similar to written, planned texts because of the presence of features that are not commonly produced online such as nominalizations and a higher type/token ratio (normalized per total word count in the corpus). Both Friginal (2015) and Biber (1988) state that these features are more common in academic written texts and less observed in spoken texts because of the influence of production circumstances. In typical, online conversations, general topic shifts allow for the occurrence of more common words and phrases, narrative features, and limited complex or abstract vocabulary. AAC users, however, often stay with the question–answer type of discourse, given the clear limitations regarding their production of spontaneous utterances. There are very few attempts at telling stories, commentaries, and expanded turns, and the successive responses and questions by AAC user Saul to an interlocutor shown in the excerpt below are more typical.

Text Excerpt 2. AAC User Saul

AAC-Saul: [0:06] Do you want me to [0:06]
AAC-Saul: Tell what drop off points are working on
AAC-Saul: Which house?
AAC-Saul: But where?
AAC-Saul: Where are the calls coming from?
AAC-Saul: It will be ...
AAC-Saul: Word will spread like wildfire
AAC-Saul: That's why I want the drop offs [voc]
AAC-Saul: Exactly.

In contrast, non-AAC users maintain typical conversational features that show descriptive discourse and event-oriented talk. In the extract shown below from Tom, a non-AAC user, even though the speakers were talking about work-specific topics, segments such as these also typically included particular references to past events (e.g., "... *they **did** pretty well cuz uh uh the Rockdale high school **won** the meet* ...").

Text Excerpt 3. Sample Office Narrative from Non-AAC User

Non-AAC Tony: yeah uhm my wife and I **talked** to you probably uh about a year and half ago and uhm uhm let me just doing here fo-
Non-AAC Tony: it **was** uh I think 81 or 80 or 81 last I **was** fine
Non-AAC Tony: well I **told** you about that [overlap] that thing where they put uh the same maple syrup [overlap] in bottles from Vermont and bottles from California [overlap] and everybody **said** the Vermont ones **were** much better and it **was** the same stuff
Non-AAC Tony: they **did** pretty well cuz uh uh the Rockdale high school **won** the meet and they're using at the [overlap] strongest team
Non-AAC Tony: let's see I **took** 4 years in high school and it **was** pretty good because I **tested** it in college I **tested** out of uh like 8 hours so got 8 hours for free you know that's pretty good [laughs]

Dimension 3: Managed Information Flow

The linguistic features on the positive side of Dimension 3 are discourse particles (e.g., *oh, well, anyway*), the discourse marker *ok*, occurrences of *let's* (and *let us*), and adverbs (any adverb form occurring in the tagger's dictionary, or any form that is longer than five letters and ends in *-ly*). The adverbs comprising this list do not include time and place adverbials and those counted as amplifiers or downtoners. The positive features in this factor are very common in spoken registers. Discourse particles are regarded as necessary for conversational coherence (Schiffrin 1994) and in monitoring the flow of information in talk (Chafe 1985; Friginal 2009). *Ok* is also regularly used in conversation and purposeful interactions like service encounters, and serves as either a marker of information management (Schiffrin 1987) or a backchannel (Tottie 1991). The use of the imperative *let's* is characteristic of interactions that especially focus on the performance of tasks (Friginal 2009). This combination of discourse particles and backchannels can be interpreted as conversational devices used to maintain and monitor the progressivity of transactions.

Thus, the grouping of linguistic features in Dimension 3 signifies speakers' attempts to manage the flow of information. In business, telephone-based interactions, for example, this dimension separates callers and call-takers in their use of discourse particles, *ok*, and adverbials intended to facilitate and monitor the transaction. In typical face-to-face workplace interactions these features suggest speakers' active participation in the discourse through the maintenance of turn-taking signals, and also the use explicit agreement and disagreement markers in utterances. Figure 2.4 shows that only AAC texts registered negative dimension scores in Dimension 3, with AAC interlocutors' texts having the highest average frequencies of discourse markers and *ok* (but both of these features are also commonly used in the two other groups of interactions). The use of *let's* contributes to the difference in the factor scores of the AAC interlocutors subcorpus against the two other groups on the positive side of this dimension. There is a higher frequency of *let's* and *let us* in the turns of AAC interlocutors, compared to the other interlocutor group, possibly to signal the introduction of a request directed to the

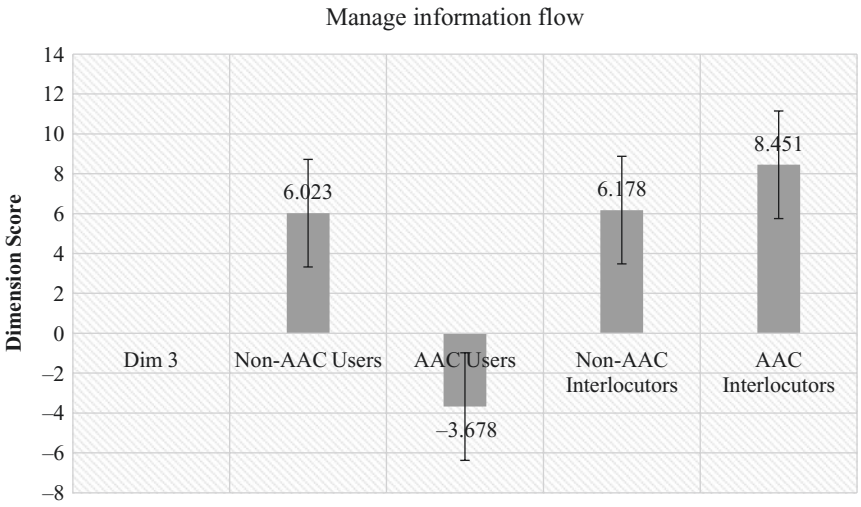

Fig. 2.4 Comparison of AAC and non-AAC texts in Dimension 3: Managed information flow

AAC user (e.g., "*Ok,* ***let's*** *consider that option then …*"; "*… it's then* ***let's*** *not work on that today …*").

This dimension once again clearly separates AAC users from other speaker groups in the corpus. The management of information, delivery of marked discourse features (of turn-taking, elaboration, participation, and agreement/disagreement), and monitoring of talk are very limited in machine-based responses generated by AAC devices. AAC users' interlocutors have the most number of Dimension 3's co-occurring features, perhaps to compensate for the limited responses they receive in these interactions. Compensatory discourse markers such as *ok*, *well*, and *now*/*then* are typically used in requests and clarification sequences.

Non-AAC users and their interlocutors' texts in the workplace are no different from typical conversational corpora (e.g., face-to-face conversation texts from the American English Conversation sections of the Longman Corpus) in how the linguistic features of Dimension 3 are distributed. As shown in Text Excerpt 4, non-AAC user Paula and her coworkers make repeated use of *well*, *I mean*, and *you know* in their turns as they pursue a conversational topic.

Text Excerpt 4. Discourse Markers and Dimension 3 Features from a Non-AAC User

Speaker 1: **Well** don't they have locks on their doors or **I mean** aren't they in a secure are **I mean** this is
Speaker 2: It's a secure area
Paula: **Well you know yeah** uhm [+] I guess not because they have access [+] but **you know** they shouldn't be **you know** people you shouldn't be going through somebody's desk
Speaker 1: Right no I
Paula: **you know** regardless of what for **I mean** you shouldn't be going through anyone's desk you shouldn't look [+] **you know** in their refrigerator it's just none of your business **you know** it's just **you know** there's like this inherent right to privacy **you know** uhm
Speaker 2: I wonder what they've looked at or taken before
Paula: **Well** that's exactly it and what is it and really what is it I think it's more of a compulsion **I mean** it's not like you've never eaten your life or that you're a homeless person what would possess you to just go and open up someone's desk grab chips go into their fridge get a coke and feel like you have to sit down and eat this really fast and choke it down **you know** it's
Speaker 2: Yeah why would you stay in the office number 1 why wouldn't you just pick it up and walk out **you know** [+] wherever you're
Paula: **You know** surely **you know** you brought breakfast lunch and dinner
Speaker 2: she must have sat there and watched him leave for lunch or something
Paula: No this is in the evening
Speaker 2: **Oh** this is after work
Paula: Yeah
Speaker 2: **Oh ok**

Discussion

This study reports the application of a multidimensional analytic approach to an examination of workplace discourse using the ANAWC. The ANAWC follows eight focal participants in typical office settings in order to compare the linguistic features of individuals with communication impairments who use AAC devices with non-ACC users in comparable workplace settings. As a follow-up to our previous exploration of the ANAWC (Friginal et al. 2013), a comparison between AAC and non-AAC texts along three dimensions previously identified by Friginal (2015) highlights macro-level differences in linguistic co-occurrence patterns in these four subgroups of workplace texts. The three comparative dimensions show that AAC texts, for the most part, resemble the linguistic patterning typically observed in written corpora and are in direct contrast with characteristics of oral, communicative discourse. AAC users produce texts that are primarily addressee focused and informational (Dimension 1), non-narrative and procedural (Dimension 2), and unmanaged in the sense of a very limited use of discourse markers and communicative devices (Dimension 3). These results indicate that AAC texts mirror the linguistic co-occurrence patterns of professional letters and workplace emails (Titak and Roberson 2013) and academic writing (Hardy and Römer 2013) more than texts representing interactive, spoken communication (e.g., face-to-face communication, telephone exchanges) common in the workplace.

Our analysis has focused largely on lexical variety/diversity and richness and shows that AAC texts have lower average counts for type/token ratio, length of turns, and word count (per hour/day) compared to their non-AAC counterparts. AAC users, however, have more content words—nouns and verbs, on average (using normalized frequencies) in their turns. These key content words are often delivered as one-word or phrasal "clues" for the hearer (e.g., *lose power*; *Saturday*) due to the time it takes for AAC users to type and play responses when they are using spontaneous novel utterance generation (SNUG).

Workplace discourse is typically interactive and involved, and non-AAC data show speakers' extensive use of the kinds of discourse markers and fillers that were discussed in dimensions 2 and 3 such as participation markers and filled pauses (e.g., *I mean, you know, ehm, um*, and so on). These features rarely appeared in AAC data transcripts unless they were part of a vocalized utterance by the AAC user. In addition, common conversational features such as small talk and extended greeting routines were very limited in AAC user discourse (Pearson et al. 2011).

It is important to note, however, that while these linguistic features have been shown to differ between AAC and non-AAC users, these differences did not appear to impede the transfer of information. Corpus data reveal that by using vocalizations, paralinguistic markers, and one-word responses, AAC users were able to compensate for the limitations of their devices. In addition, coworkers were, for the most part, able to sustain the flow of workplace discourse within an AAC user context.

Conclusion

> People like me, who use Augmentative Alternative Communication, are frequently, and wrongly, silenced. … It takes patience and some intuition to start communicating with an AAC user. You have to be good at looking for cues in body language and facial expressions. (Abbott 2009)

As Hustad and Shapley (2003) point out, it is a misconception to think of AAC as replacing spoken communication. Throughout the ANAWC, AAC users frequently use vocalization and other nonverbal means of communication (e.g., smiles or head nods) to maintain the floor in conversational interaction as well as the linguistic features documented here such as telescopic phrases. This supports anecdotal evidence that SNUG users will elect speed over appropriateness (Bedrosian et al. 2003). The use of preprogrammed language such as that used by Dr. Steven Hawking during prepared monologues and used by two of the AAC users in this corpus for training presentations and lectures can be more efficient and perhaps offer greater linguistic complexity. However, the majority of workplace talk documented in this corpus requires real-time, online production.

The slower communication turns taken by AAC device users can create an imbalance in conversational equity (e.g., lower initiation rates and/or fewer conversational turns), which can negatively impact an interlocutor's attitude toward device users (Hoag et al. 2004). As a result, workers using AAC are less likely to have their communication needs met by their device and are therefore, unable to fully participate in the workplace.

Using the ANAWC, we are currently working on a variety of quantitative and qualitative approaches to understand in greater depth the nature of the talk produced by AAC users in job situations, and the typical strategies that they employ. Descriptions of the functional features of AAC texts can be used to inform the development of AAC devices. For example, in these conventional office settings (e.g., grant administration or parks and recreation management), support for the use of specific key/common vocabulary (content words) and some office-based formulaic sequences may improve the flow of conversational turns. In addition, application of these studies can be used to provide information regarding the needs, expectations and reactions of non-AAC coworkers and listeners in the workplace.

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3

Spelling as a Last Resort: The Use of Spelling in Workplace Interaction by Speakers with a Speech Impairment

Julie Bouchard

Introduction

Communicating effectively in the workplace can be challenging. One must think about the position of the addressee and their knowledge of the work being discussed in order to produce a clear and appropriate message. The difficulties encountered in the workplace are exacerbated for workers with a speech impairment because of the problems they face when producing their talk. These workers have complex communication needs based on their specific impairment, and they rely on various resources to produce their talk because their speech is not typically easily intelligible. They depend on the help of interpreters or on different devices including but not limited to: tables, pictures, and keyboards or eye trackers attached to a dedicated computer. These augmentative and alternative communication (AAC) devices are designed

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to help workers with a speech impairment interact more efficiently with their colleagues.

However, it is also the case that these devices do not reach the level of efficiency of traditional means of communication such as face-to-face talk. The time required to produce the talk using the AAC devices and the intelligibility of the synthesized talk produced specifically by voice output communication aids (VOCAs) are two salient problems that can have a negative impact on communication between AAC users and their coparticipants (McNaughton and Bryen 2007; McNaughton and Chapple 2013; McNaughton et al. 2003). Both employers and AAC users have reported that the time necessary to produce talk using AAC devices is problematic for smooth interaction in the workplace (Bryen et al. 2006; McNaughton et al. 2003; McNaughton and Bryen 2002). The effectiveness of the devices also depends in part on the users' motor skills and speed. This in turn has an impact on the interactions between VOCA users and their interlocutors. For example, McNaughton et al. (2001) include the following quote from an AAC user talking about her experience interacting through AAC devices: "I become very frustrated not being able to fully express myself, coming in later after the communication has moved on" (p. 187). In addition, the intelligibility of the synthesized speech typically produced by VOCAs can be an issue for interlocutors who are not familiar with the devices (Rackensperger et al. 2005). For these reasons, it is not uncommon for AAC users whose speech is still partially intelligible to use a mix of their device and their own speech. The result, however, is frequently unintelligible talk that needs to be clarified by coparticipants throughout the conversation.

It is well known that problems of understanding are common in this mixed medium talk and need to be solved by the VOCA users and their recipients. For example, Bloch (2011) investigated the talk of VOCA users in their home environments and found that problems in communication are typically solved using strategies such as guessing, repetitions and reading off the VOCA user's device. Because of the nature of the work environment, however, it is to be expected that problems of understanding may be solved differently at work. Currently, much less research has been conducted in the workplace, yet it is important to understand the strategies used by VOCA users and their coparticipants in order to

gather a better picture of VOCA users' experiences in the workplace and to facilitate their interactions with colleagues. This chapter reports on the use of spelling as a means to solve problems of understanding between one VOCA user in the workplace and his colleagues. Thus far, this strategy has not been reported on in the literature (although see Bloch (2005) for a similar discussion), yet it appears regularly in the workplace data that we examine here. This chapter focuses on the use of this strategy in the workplace using conversation analysis (CA), a method of analysis that has been used in prior investigations of VOCA-based interactions (Bloch 2011; Bloch and Wilkinson 2004, 2011).

Literature Review

Conversation Analysis

Conversation analysis (CA) focuses on social interaction and its sequential organization. As data, it prioritizes ordinary conversations and investigates how conversationalists make sense of their interactions. This approach is interested in how participants construct their talk as it is happening turn by turn. Analysts describe the procedures used by the participants to produce, understand, and deal with talk (Heritage and Atkinson 1984). Because talk is orderly and produced turn by turn, it is possible for the researchers to assess how a given participant understands a turn at talk by analyzing their response. This method is particularly fruitful when investigating trouble talk in which a recipient does not understand a prior turn as the speaker intended. The problem identified by the participants in the talk is referred to as the *trouble source* or *repairable* (Schegloff 2000), and the trouble is remediated through a repair sequence. Repairs are categorized according to the way they are initiated and their outcome. Four different types of repair have been identified based on which interlocutor initiates the repair and which interlocutor produces the repair. Repairs can be self- or other-initiated, depending on the person who first indicates that there is a trouble in the talk. In the case of self-initiated repair, the person who produces the trouble word or expression realizes the problem and initiates the repair, while in the

case of other-initiated repairs, the recipient notices the problem and initiates the repair. Similarly, the trouble can also be self- or other-repaired depending on who produces the repair (Schegloff, Jefferson and Sacks 1977). For example in the extract shown below taken from Schegloff et al. (1977), the trouble source is in line 2 when K produces "Samu". The problem is signaled by the repair initiator *who* produced by F on line 3. This indicates trouble in the previous turn. The trouble source is then repaired by K on line 4 who repeats *Samu*, thus producing a self-repair. Thus, this is an other-initiated self-repair.

Extract 1 (Schegloff et al. 1977, pp. 367–368)

```
01  F   This is nice, did you make this?
02  K   No, Samu made that.
03  F   Who?
04  K   Samu
```

Repairs in Interactions Involving VOCA Users

One salient difference with repairs that include speakers with a speech impairment is that in normal conversations, only one attempt at repair is usually necessary to solve the trouble (Schegloff 1979). In the case of interactions that include a speaker with a speech impairment, however, it is frequent for repairs to necessitate more than one repair sequence (Bloch and Wilkinson 2011). This means that more than one attempt is often necessary to solve the trouble talk.

Intuitively, it might be assumed that a repairable produced by a speaker with a speech impairment would be caused by intelligibility issues, but in reality Bloch and Wilkinson (2004) argued that when the participants were using AAC devices this trouble talk was mostly related to issues of understandability, most particularly, sequentiality. In these cases, the meaning of an utterance is lost because the recipient cannot trace the link between the utterance that was just produced and what it responds to. This can happen for example because of the launching of a repair sequence or because of the speed of speech production. This is particularly an issue with VOCA users because even if intelligibility issues are solved, the long gaps between turns have an impact on understandability.

The use of VOCAs not only impacts the speed of talk production, but it also influences how repairs are produced. When concentrating on the construction of repair sequences, Bloch and Wilkinson (2004) found two different structures in their data with dysarthric participants. Dysarthria is a motor speech disorder caused by damage to the brain and it impacts the use of the muscles necessary to produce speech. When the dysarthric participants used only speech (i.e. vocalizing without the use of the VOCA), the repair sequences were similar to those of speakers without any speech impairment. They included three different stages: (1) the production of the trouble source by the dysarthric speaker, (2) repair initiation by their conversation partner, producing an other-initiated repair, and finally (3) a repair attempt by the dysarthric speaker, producing self-repair. Conversely, they found a recurring pattern in their data when the speaker with dysarthric speech used the VOCA to produce the self-repair in which two turns were added to the sequence. Following (1) production of the trouble source through dysarthric speech, (2) the other repair initiation, and (3) the self-repair produced including the VOCA, a second other repair initiation (4) and finally, a second self-repair (5) was added to the sequence. The researchers explain that the second repair initiation was motivated by a problem in understandability. Although the words were intelligible to the recipients, they could not make sense of the meaning of the talk in context.

VOCA devices have a screen for the user to see what they are typing, and this feature can also be used by recipients to read from the device as the words are produced. Bloch (2011) found that if a VOCA user feels comfortable with the practice, the recipient can guess the words being produced before the typing is completed which can help to speed up the production of an utterance. However, Bloch also found that the recipient needs to be able to foresee not only the words that are produced, but also the action the VOCA user is intending. Without this, problems can arise and longer repair sequences may be needed. Bloch notes that these issues are often occasioned by the lack of prosody in the VOCA speech, which makes it difficult to know when a unit is completed. Turn constructional units (TCUs) are units between which the recipient can take a turn at talk, and are determined by three components: (1) that the grammar of the TCU is complete; (2) that the action it achieves is complete; and (3) that its prosody is also complete. The end of a TCU indicates the beginning of the *transition-relevant place* (TRP) where a new speaker can

initiate a turn (Schegloff 2007). Without the prosodic element, it can be difficult to identify the end of a TCU, which causes problems for VOCA users as prosody is typically absent from synthesized speech.

Bloch (2011) documents a number of different strategies to facilitate the repair of trouble talk. For example, both the speaker with the speech impairment and the recipient of the trouble talk can take action to help with the process. One of the strategies he observes is for the recipient to produce a repair initiator that projects the problematic word. For example in Extract 1, F asks *who* on line 3 to initiate repair which tells K that the problematic word is *Samu*. If F had produced *uh,* then it would not be clear which part of the message needed repair. When the recipient pinpoints the problematic word it makes it possible for the dysarthric speaker to produce only that word. This then enables the speaker to focus their motor efforts on reproducing only problem words. Reducing the number of words is a strategy that is also used for longer strings of words. When the trouble source is a longer phrase, the speaker can separate it into smaller segments that can be understood individually before being put back together. In Bloch's study, this strategy was found to be successful at times; however, one difficulty is that the recipient may understand parts of the utterance but may not be able to understand its meaning in context. In other situations, participants may opt to change some lexical items in order to repair their speech. Two common elements of all of these strategies are that the participants work collaboratively in order to complete the repair, and that they are willing to go through lengthy repair sequences in order to complete their talk. An additional strategy not discussed by Bloch but present in the ANAWC data, is the use of spelling as a way to repair trouble words. This chapter focuses on this repair strategy, and how it is typically constructed between VOCA users and their colleagues in workplace interaction.

Method

Data

This chapter uses data from the AAC and Non-AAC Workplace Corpus (ANAWC) (Pickering and Bruce 2009). Eight participants were

audio-recorded in the workplace during a week of work. The participants were grouped in pairs of one speaker with a speech impairment and one without a speech impairment engaging in similar professional occupations. The total data set comprises over 200 hours of audio recordings and approximately 1 million words. All participants wore a lapel microphone as well as a badge informing their peers they were being recorded and they could ask for the recorder to be turned off if needed. The use of the recorder was also announced at the beginning of meetings. The data from the corpus were transcribed orthographically, and the names, places and other identifying characteristics were anonymized. This analysis focuses on one AAC user participant whose pseudonym is Lenny. The data collected by Lenny include interactions with coworkers and other people he interacts with for work, and also caretakers who help him throughout his workday, as well as during lunchtime. Lenny works as an administrative assistant and has been using a Dynawrite | to produce speech for four years. The Dynawrite | is a specialized device developed by DynaVox to help people who live with a speech impairment and whose literacy skills are developed. This device gives them the ability to interact independently with other people by inputting their talk using the dedicated keyboard. The device then turns the talk into synthesized speech. This enables vocal interactions between the users and their interlocutors. Even though he has access to his device at all times, Lenny chooses more often to vocalize than to use his device during his interactions in the workplace.

Data Analysis

The data are analyzed using applied CA. Applied CA distinguishes itself from pure CA by its focus on institutional talk. Applied CA can also focus on specific populations or activities in a way that may add knowledge about them or that supports efforts to improve quality of life (ten Have 2007). It is used here because this analysis focuses on conversations that are produced in the workplace and it adds to our knowledge of AAC use by people with motor speech difficulties. During the transcription of the corpus, instances of repairs were built into a collection to be analyzed at a later time. These data were retranscribed using a modified version of

Gail Jefferson's transcription conventions (Atkinson and Heritage 1984) (see Appendix A). Only instances of repairs that included spelling were gathered together and used for this analysis, and these were analyzed turn by turn to provide a more detailed understanding of the repair sequences. The extracts analyzed here are representative of the collection.

Results

In these data, the repairs are produced to solve both issues of intelligibility and understandability in Lenny's vocalized speech, i.e., speech in which he does not use his AAC device. In this section we will look at five extracts where Lenny needs to repair his talk. Extract 2 is an example of successful repair that does not include spelling; the following four extracts show complex repair sequences that include spelling as a last resort.

Successful Repair through Repetition

Extract 2 is an interaction between Lenny and a caretaker, Sarah. They are talking about Sarah's new hairstyle. Sarah makes a negative evaluation of her hair on line 3. Lenny agrees with her assessment, and Sarah requests a positive assessment in line 6. Lenny replies that he likes her hair like it is on line 8. Sarah produces an open-class repair initiator on line 9; this prompts Lenny to repeat his positive evaluation. Sarah repeats Lenny's utterance with a rising intonation showing that she understood the words but is checking the meaning. Lenny confirms on line 13.

Extract 2

```
01  SAR   uh::
02  LEN   hi:::.
03  SAR   ↑I look like I'm nuts?↑
04            (0.8)
05  LEN   yea:::[::::::::::h.]
06  SAR   [(say a) ni:ce] thing.
07            (0.8)
```

```
08  LEN   I like it like that.
09  SAR   u::h::.
10              (0.8)
11  LEN   I like it like that.
12  SAR   ↑you like it like that↑
13  LEN   yea:h yeah.
```

In this extract, the first trouble source is repaired through a repetition of the utterance that was produced initially. This shows that Lenny was orienting to a problem of intelligibility. The second repair initiation is a repeat of the previous repair and shows that the intelligibility issue is solved. This makes it relevant for Lenny to confirm or deny his evaluation. This is a repair initiated using an open-class repair initiator. It shows that there is a problem in the prior turn, but does not specify what the problem is. These types of repair initiations are often oriented to as problems of hearing (Sidnell 2010) as opposed to problems of understanding. In the current example, because Lenny tends to vocalize in his interactions, some of the words or phrases he produces are unintelligible to his recipients. When this is the case, a preferred way of solving the problem is for Lenny and his coparticipants to cooperatively solve the issue by finding the appropriate word. They do it either by repeating the problematic word(s) until there is agreement on the word(s) Lenny uttered or by trying to guess the word(s) Lenny tried to produce. These strategies work most of the time but on some occasions a further step is needed for the trouble to be solved. In these cases, the participants sometimes rely on spelling in order to complete the talk. The following examples focus on this strategy.

VOCA User-Initiated Change in Strategy

The next extract is a conversation that involves Lyn, the caretaker team leader, Sarah and Ruth, both caretakers, and Lenny. The interaction happens during lunchtime when everyone is busy helping with the meals. It opens with Lyn teasing Lenny on line 17 asking if he is giving her team a hard time. Lenny's response on line 18 is incomplete, and he produces his answer again on line 21 after a 1.5 second silence. This is followed by

an other-initiated repair sequence on line 22 that progresses as the coparticipants understand parts of the turn.

Extract 3

```
17  LYN     are you giving my team a hard ti:me.
18  LEN     e he (      ) ((voc)) I e: e I e: I e: I (.) I got
19  RUT     he needs help
20              (1.5)
21  LEN     I I got (.) tough up I got (.) tough up (1.0) I
got=
22  RUT     =what.
23  LEN     I got (.) tough e (.) up
24  RUT     you got a:: [so]mething up?
25  LEN                 [to m]  (0.8)  tough you up
26               (0.6)
27  RUT     turn me up?
28  LEN     tough you up?,
29              (0.8)
30  RUT     sum me up?
31  LEN     t o u (.) g-h
30  RUT     t o u.
31  LEN     ( ) g:, ( ) h.
32  RUT     t o u.
33  LEN     g h.
34  RUT     c:?
35  SAR     tough
36  LEN     yeah
37  SAR     tough you up?,
38  LEN     yeah hea
39  RUT     a::h: no
40  LEN     ((voc))
41  SAR     ah ha ah ha
42  LEN     ((voc))
```

Lenny's answer on line 21 sounds like "I got to tough you up". Ruth responds by producing "what" on line 22, demonstrating that she did not understand and initiating a repair. Lenny then attempts self-repair for the first time on line 23. Ruth produces a candidate understanding on line 24. Lenny does not accept this candidate and repeats "tough

you up" on line 25. This continues for two more turns before Lenny initiates a change in strategy by starting to spell a word. Looking back at lines 26 and 28, both guesses from Ruth include the words "me up", which she clearly understands. The new repair sequence initiated by Lenny on line 29 does not attempt to repair the whole TCU including *me up*, but only the trouble word *tough*. By spelling the trouble word, Lenny is breaking it into smaller units. This spelling sequence lasts for six turns in total before Sarah finds the problematic word on line 35. Lenny accepts *tough* as being the correct word on line 36, uttering the word "yeah". At this point, all the words have been guessed separately and need to be put back together. Sarah closes the first repair sequence when she guesses "tough you up" on line 37. Lenny produces "yeah" again, accepting Sarah's guess.

There are two repair sequences in this interaction, one that aims at repairing the expression uttered on line 21 and a second one that is inserted to repair a word on line 31. It is important to note that the second repair sequence is necessary in order to complete the first one. Also, as the participants understood parts of the trouble source, Lenny dropped parts of the phrase in his repetition, breaking it into smaller units. When only one word was left, it was broken into letters, the smallest unit of written discourse. This would not have been possible if all involved had not been literate. In fact, in Bloch's (2005) data collected between a dysarthric speaker and a family member, the participants spell not only using letters but also sounds (e.g., the word *phone* is spelled *fone).*

Other-Initiated Change in Strategy

Extract 4 happens during an interaction between Sarah and Lenny. It begins after Sarah has helped Lenny do something that resulted in him getting dirty. Sarah offers to clean him up, and the conversation moves to small talk. In this extract, they talk about Lenny's family's origins.

Extract 4

```
01              (6.0)
02  SAR    now you're gonna be all sticky.
03              (6.3)
```

```
04              so are you Greek?
05              (0.8)
06              or Portuguese.
07              (1.0)
08  LEN   Portuguese.
09  SAR   Portuguese?
10  LEN   yeah. half,
11  SAR   Basilio.
12  SAR   half.
13              (0.5)
14  SAR   hmm?,=
15  LEN   =half.
16              (0.8)
17  SAR   half?
18  LEN   yeah?,
19              (0.6)
20  SAR   half u:h (0.6) both or:
21  LEN   uh
22  SAR   >half half<
23  LEN   m
24  SAR   or just half Portuguese.
25  LEN   half Portuguese.
26  SAR   oh okay from who's side.= your father?
27  LEN   yeah.
28  SAR   and your mother is?,
29  LEN   i English. and=
30  SAR   English?
31  LEN   German.
32              (1.0)
33  SAR    what?
34  LEN   (and) i German.
35              (1.0)
36              English and German.
37  SAR   English?
38  LEN   yeah and (.) German.
39  SAR    spell it.
40              (.)
41              you and me?
42              (.)
43              like us?
```

```
44  LEN   g,
45              (0.8)
46  SAR    spell it
47  LEN   g,
48  SAR   g?
49  LEN   e. r, m:. a:?,
50  SAR   ↑o:h really your mom?↑
51  LEN   yea::h,
52  SAR   ↑oh >where d'your mom and daddy meet?<↑
53              (0.8)
54              never mind it's not my business
55  LEN   um
```

There are several repair sequences in this extract, but this analysis focuses on the repair sequence initiated on line 33 with the open-class repair initiator "what". The trouble source is Lenny's vocalization on lines 29 and 31. Part of the difficulty is that Lenny produced "English and German" in the form of a one-word TCU ("English") and an increment ("and=German"). In other words, "English" answers the three criteria to be considered a complete TCU: (1) Lenny produced completion intonation at the end of *English*, (2) *English* could be a complete action in the sense that it would be a complete answer to the question asked by Sarah, and (3) it is grammatically complete. This caused the problem of understanding apparently caused by Lenny's difficulty in articulating the words. Lenny repeats "English and German" on line 36, to which Sarah suggests "English" as a candidate. Lenny vocalizes again on line 38 with "yeah and German". Sarah does not understand and asks Lenny to spell the word, thus asking for a different formulation of the repair. Lenny responds by vocalizing the letter "g". Sarah then repeats her request for spelling on line 46. Lenny restarts spelling on line 47 producing the letter "g," which is checked by Sarah on line 48. Lenny pursues his spelling on line 49, adding "e r m a". This does not complete the word, but it is enough for Sarah to claim to understand what Lenny was saying on lines 29 and 31. Sarah brings the repair sequence to a close by asking "really your mom", thereby continuing the conversation where it was before the repair sequence was initiated. In this case, the change from the strategy of repeating the word to spelling the word was not initiated by self but

by other. The change in strategy was made explicit when Sarah asked Lenny to turn to spelling when she could not guess the word from his vocalizations.

Context for Other-Repair

In the previous extracts, the intelligibility issues were repaired through repeats. In the next extract, the issue is treated as being a problem of understanding rather than a problem of intelligibility. As a result, the repair is not built the same way. After some repairs, the recipient turns to categories in order to find the problematic word, making sure he understands the meaning of Lenny's talk before focusing on intelligibility.

Extract 5 is a phone interaction between Lenny and a call operator. Lenny uses the service of the call operator in order to facilitate his conversations when he is on the phone. Lenny's interactions with the call operator usually follow a same structure. First, they talk about the call and what the operator will say to open the call. Then the operator makes the call and explains the process to the person receiving the call. During the call, the operator repeats everything Lenny is saying to make sure the listener understands him. Finally when the call is concluded, Lenny and the call operator prepare for the next call or conclude their interaction.

This particular instance happens during a call in progress between Lenny and the call operator. Lenny has just concluded a call and is ready to prepare for the next call with the operator. Lenny wants to tell the operator whom he wants to call, but the call operator wants to follow the normal procedure. He starts by checking the information that he needs to give at the beginning of the call before he is ready to listen to what Lenny has to say. The problem starts when Lenny produces the name (*Augie*) of the person he wants to talk to. In this interaction, Lenny uses both vocalization and his VOCA.

Extract 5

```
01  CAL   okay
02  LEN   I wanna
03  CAL   Lenny
```

LEN I- I- I wan
CAL Lenny (.) Lenny whoa hold on. let me ask you a couple of basic questions first.
LEN m-m
CAL and then if you have other instructions
LEN yeah
CAL and so I don't get confused ( )
LEN alright
CAL okay so you want me to announce your name the same way right?
LEN yeah
CAL and you want me to repeat everything right?
LEN yeah
CAL okay now what are you trying to tell me?
LEN I wanna call (0.8)((press on button)){Augie}(.)I wanna call (.) Augie
(1.0)
CAL are you asking for a name here?
LEN yeah
CAL okay I didn't hear the name off the device. say it again
LEN Augie (4.0) ((press button)) {Augie} (.) Augie
CAL is this a man's name or a [wo]man's name?
LEN [( )]
LEN man
(0.8)
CAL a man?
LEN yeah
CAL spell it for me
LEN *A*
CAL *A*
LEN *U*
CAL *U*
LEN ( ) *G I E*
CAL *G I E?*
LEN yeah
CAL Augie?
LEN yeah.
CAL o:kay (0.8) I wouldn't have gotten that
LEN ha ha-han
CAL okay so ask for Augie

```
45  LEN   yeah
46  CAL   is that it.
47  LEN   yeah.
48  CAL   okay one moment.
```

In this instance, the trouble source is a single word that is produced twice by Lenny. It is produced with the device the first time on line 18 and through vocalization the second time on line 19. This first repair produced by Lenny includes a change of mode on the word that will later be proven problematic by Cal. This repeat shows Lenny's anticipation of the trouble. There is a 1 second silence after Lenny's turn, possibly indicating a problem. Other-initiated repairs are dispreferred actions and can be withheld (Schegloff et al. 1977). This withholding can delay the next turn thus producing a short gap such as the gap on line 20, which gives the speaker an extra opportunity to produce a self-initiated repair. As Lenny does not use this opportunity to self-initiate repair, Cal then initiates repair on line 21. Here, the repair is not initiated by an open-class repair initiator (e.g., *huh?*) but by a specific question that narrows the possibilities to words that form part of the category *name*. This shows that the problem is not thought of as only a problem of intelligibility, but also as a problem of understanding. After the category *name* has been accepted to identify the problematic word, Cal claims a problem with hearing the name off the device and asks Lenny to repeat it. Lenny does it through vocalization, bypassing the machine that was claimed to be the original source of the problem. A 4 second gap follows Lenny's repeat, and Cal does not take his next turn allowing Lenny to repair the problematic word again. Lenny uses his device to repeat *Augie* again, and then repeats it one more time through vocalization. These repairs do not solve the trouble, and Cal further specifies the category asking if it is the name of a man or a woman. Lenny answers that it is a man on line 28. Cal still does not guess the word and asks for a confirmation that it is a man's name. At this point, Cal changes to a spelling strategy and asks Lenny to spell the problematic word. The spelling sequence gives Cal the necessary information to help him understand the word Lenny had been producing. The trouble is solved on line 40, and this is accepted by Lenny on line 41. Cal then comments on the difficulty of the name *Augie* on line 42.

In this case, the strategies used to try to find the word were slightly different. Instead of using only repetition as a first strategy, Cal tried to find the category the word belonged to in order to narrow the possible options. In this context, the word that Lenny was producing could have been the name of a place or the name of a person. Narrowing the possibilities to the name of a male person excluded several options and could have helped with the word search. Rather than intelligibility, understandability was perceived as the source of trouble.

Spelling as Source of Difficulty

In the three previous extracts, spelling was used to successfully solve a problem that could not be solved using other strategies. Spelling can be very efficient method to resolve a problem for a single word when all participants are aware that it is the strategy being used. In some cases, however, the change of strategy to spelling does not initially solve the problem but creates more confusion. An example is shown in the final extract below. Extract 6 is a continuation of the call between Lenny and the call operator that was introduced in Extract 5. Following the discussion in Extract 5, the call operator called Augie but only reached his voice mail. Lenny and Cal then prepare the message to leave on Augie's voice mail.

Extract 6

```
01  CAL   okay (0.5) we've reached an answering machine do
02              you want to leave a message
03  LEN   °ye-° yeah
04  CAL   okay what's your message
05  LEN   (hello) Augie (.) how are you?
06  CAL   hi Augie how are you?
07  LEN   (it's) (.) Lenny (.) Basilio (.) call (.) you (1.0)
08              progress (.) center
09              (1.0)
10  CAL   hold on this is u:h Lenny (1.5) uh (1.0) this is
11        Lenny Basilio calling from (.) the Wellness Center?
```

LEN yea:- yeah (2.0)((push button) {I'm just calling you}
CAL I'm just telling you
LEN unh (.) call you
CAL I'm just calling you?
LEN yeah (1.0) {I'm just calling you (.) to follow-up on my letter I sent you (.) a couple of weeks ago}
(3.0)
CAL uh hold on
LEN m
CAL okay (.) u::h (.) I'm just calling (.) you to follow-up on my letter I sent you a couple of weeks ago
LEN m::¯ (3.0) ((push button)){I'd like to know (.) if you made(.) any (.) accessibility improvements (.) to your business}
(3.0)
CAL that I'd just like [+] right I'm sorry that I'd like to know if you've made any accessibility: improvements
LEN yea:h yeah
CAL to other business
LEN uh y- you your bu:
CAL are you saying to the other business?
LEN ( ) your *y o u-r* (2.0) *y o u-r*
CAL you are (3.0) I'm- I'm not sure what you are trying to tell
me do I have a part wrong?
LEN yeah
CAL okay let me go back through it then. (.) I sent you- u:h I'm
just calling you to follow-up on my letter that I sent you
a couple weeks ago. (.) that I'd like to know, if you made
any accessibility improvements=
LEN =yeah=
CAL =to=
LEN =yeah
CAL alright is that much correct?
LEN yeah
CAL okay.
(0.8)

48 CAL continue from there then
49 LEN *y o (.) u*
50 CAL to your
51 LEN yeah
52 CAL business.
53 LEN yeah
54 CAL okay
55 LEN umf (hey Augie) call me

In this example, the source of the problem is a word that Lenny produces using his device as he is producing the message that he wants Cal to leave on Augie's answering machine. Lenny wants to know if Augie has made accessibility improvements to his business and produces the expression "to your business" on lines 24–25. Cal does not understand this expression, and he repeats it as being "to other business" on line 30. Lenny initiates a repair on line 31 by repeating the problematic expression through vocalization. Cal produces an understanding check on line 32, repeating what he understood. As this is not correct, Lenny repeats the problematic word in the following turn in a manner similar to that used in Extract 3. He drops the words that were understood and repeats only the problematic word. In this case, he produces one repeat and then spells the word twice. Cal does not realize that Lenny is spelling the word, and he takes the two last letters *U* and *R* to mean the words *you* and *are* (lines 33–34). This produces confusion, and Cal's repeat of "you are" is not taken up by Lenny on line 34. There is a 3 second gap before Cal asks about the problem. He then decides to repeat everything that Lenny has produced with his device from the beginning. Cal repeats everything up to the problematic word before checking that what he said was an accurate repeat of what Lenny had produced before. He asks Lenny to produce the problematic word on line 48. Lenny answers by spelling the word again which Cal understands before Lenny spells the final *R*. Cal produces the correct word on line 50, and Lenny accepts it on line 51.

In this case, the problem of intelligibility was compounded with a problem of understanding caused by the spelling of the uncertain word. This occurred when Cal tried to make sense of the sounds he heard as being a word, and not letters. It was further complicated by

the fact that Lenny produced the two letters close to each other that it sounded like two words. This prompted a longer repair sequence where Cal repeated a longer section of the talk, making sure that he understood the meaning of the whole sequence. Once assured that he understood the context, he was better able to understand Lenny's spelling. Lenny's change in rhythm when he spelled *your* on line 49 also facilitated understanding. Lenny did not spell the *R* because Cal guessed the word before Lenny had the time or found the need to produce it. This problem may have been avoided if the change in strategy had been announced, thus permitting Cal to orient to Lenny's new way to solve the problem word.

Conclusion

The use of spelling to complete a repair sequence was not a strategy typically used between non-AAC users in ANAWC. However, the data presented here suggest that spelling can be used as an efficient strategy to solve problems of intelligibility between an AAC user and his interlocutors. In these interactions, spelling was introduced as a strategy not only by Lenny, who had uttered the repairable, but also by his coparticipants. Once the repair was in progress, any of the participants could suggest a move to spelling to help with intelligibility. When Lenny's coparticipants introduced the move, all were aware of the change in strategy. However, when Lenny changed to spelling on his own, it was not announced and was misinterpreted by the recipient who was arguably listening for words and not letters (although see Bloch 2005 for a different context in which spelling was routinized). An important factor that had an impact on understanding when Lenny was spelling words was the rhythm he used during the spelling sequences. When letters were produced very close to each other, they were difficult to understand; however, when Lenny left a gap between the letters, they were better understood. The short gaps worked as boundaries between the letters and facilitated processing.

Spelling is an effective alternative to other possible strategies that an AAC user might attempt as it retains the speaker's meaning and leaves the power in the hands of the AAC user. For example, another strategy that was present in the data was accepting a guess that was close to what the VOCA user was trying to say. This is not to say that the recipients are not part of the solution. Similarly to findings in studies with other speakers with a speech impairment, the participants in this study worked collaboratively in order to solve the trouble source (Bloch 2011). The recipients of Lenny's talk took part of the responsibility for solving the repairable, and in some cases, coworkers who were not directly involved in the conversation would suggest a candidate to repair Lenny's talk. In Extract 2, for example, Sarah only participates when she knows what Lenny was trying to say, and it is also clear from the recording that she is further away from Lenny than Ruth and Lyn. Even as they worked collaboratively, however, whether they knew him or not, the interlocutors interacting with Lenny did not read off his device. This is a different finding from that of previous work on interactions involving VOCA users at home (Bloch 2011) and suggests that the different relationships between the participants in the work environment and between participants in their homes impact the way they interact with VOCA users. Spelling was only one strategy used by Lenny and his interlocutors, and more work is needed in order to develop a better understanding of the needs of VOCA users in the workplace and possible strategies to help them produce more efficient talk. Blackorby and Wagner (1996) note that people with complex communication needs have the lowest level of employment within the disability community. Yet, working is critical for AAC users with regard to quality of life. It offers them improved financial gains and the chance to build an increased social network (McNaughton and Bryen 2002). Thus, continued investigation of this context is an important area of AAC research.

Transcription Conventions

[ ]	overlapping talk
=	the two lines connected by the equal signs are continuous talk
(0.5)	silence timed in tenths of a second
(.)	micro pause of less than 0.2 seconds
.	falling intonation
,	continuing intonation
?	rising intonation
:	lengthened sound
↑	marked rising shift of intonation
word	emphasis
°word°	quieter talk
•hhh	inbreath
hhh	outbreath
(( ))	transcriber's notes
( )	uninterpretable speech
(word)	uncertainty about the words in parenthesis
{word}	spelled letters
	talk produced using VOCA

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4

"I Love Red Hair. My Wife Has Strawberry": Discursive Strategies and Social Identity in the Workplace

Laura Di Ferrante

Introduction

Workplace discourse studies have widely acknowledged and demonstrated the nontransactional nature of some interactions taking place among coworkers in workplace settings (Coupland 2000; Holmes 2000a, b, c, 2003, 2005; Holmes and Fillary 2000; Holmes and Marra 2004; Holmes and Stubbe 2003; Koester 2010; Stubbe 1998). Throughout these studies, nontask-oriented exchanges are referred to as *small talk*, which is a type of discourse defined as having goals that are primarily relational. This allows each speaker to function in the workplace community and to build his/her own social identity as a member of this community (Tajfel and Turner 1979). Clearly, the workplace context has a

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number of constraints that inform the verbal and nonverbal behaviors of its members and hence, the construction and presentation of their own social identity to the coworkers.

Through a systematic and quantitative analysis of small talk interactions, Di Ferrante (2013) was able to identify and classify topics discussed in exchanges among coworkers in three different US workplaces. Although many topics would be interweaved within a given interaction, the primary ones were distinguished on the basis of their relative frequency in the exchanges among coworkers. The analysis showed that many non-safe topics such as gossip, complaints, personal ideas, politics, and beliefs on matters not connected with job tasks were chosen by the participants when engaging in small talk. This result contradicts a common conception that small talk is primarily concerned with safe topics such as the weather. This long-held belief is derived from studies in the 1970s, which focused on encounters that were either casual (Beinstein 1975; Ventola 1979/2006) or only analyzed at conversation boundaries (Laver 1975). Small talk was conceived as inherently consisting of "superficial exchanges about the weather, news, and health [that do not require the presence of] mutual trust and/or attraction" in comparison to its opposite, "deeper conversation" (Beinstein 1975, pp. 147–148) during which disagreement or conflict may arise.

More recent research suggests that the context of the exchanges has a significant influence on the kind of topics discussed in small talk interactions. Using the Small Talk at Work corpus (henceforth STW; Di Ferrante 2013), for example, the topic of *weather* which has typically been regarded as "a paradigmatic case" of small talk topics (Coupland and Ylänne-McEwen 2000, p. 63) as it is something observable by everybody at any time, and it is as far as possible from the realm of intimacy, appears in eighth place (only 3.5% of the interactions) among the typically occurring topics discussed by coworkers.

Instead, interactions more often pertained to the intimate sphere of coworkers' lives and interpersonal relationships outside the workplace. For example, *acquaintances* and *family and friends* were respectively the third (9.9% of the interactions) and the seventh (4.0% of the interactions) most frequent topics among coworkers, covering almost 14% of the interactions occurring in the workplace. The significance of these

rankings is even better appreciated when we note that the most frequent topic consisted of *greetings,* which are inherently more numerous in a situation where people continuously arrive and leave, and the second most frequent was an *other* category comprising topics that were discussed so few times that they did not constitute a separate topic category on their own. Thus, *acquaintances* can be ranked first in terms of specific topics dealt with in small talk interactions in the workplace.

Observing these interactions in which the topic focused on people known by the speaker outside of the workplace, Di Ferrante (2013) noted two recurring strategies, termed the *my-relative* strategy and the *I-feel-you* strategy, that were used in informal conversations among coworkers to participate in the interaction. The *my-relative* strategy consisted of building discourse by referring to events involving acquaintances, family, and friends; it was found that such strategy had a relational function (namely, helped the speaker to contribute to the exchange), and it also helped the speaker to inform and familiarize the interlocutor with him/herself. Similarly, the *I-feel-you* strategy consisted of referring to personal life events involving the speaker and/or people in his/her life and was used by the speaker to show understanding and empathy.

These results prompted the present study, which focuses on how the speakers present themselves to their coworkers through the narration of events in which their family or friends were involved. In particular, the research questions concern discussion of specific linguistic strategies used by speakers when they mention acquaintances, family, and friends in their discourse. In addition, the role that such interaction fulfills in terms of representation of one's own social identity in the workplace context is examined. The chapter addresses the following research questions:

1. What kind of social/pragmatic goal does the speaker pursue by telling coworkers private life events involving family and friends?
2. What is the function of the *my-relative* strategy and the *I-feel-you* strategy in terms of presentation of the self and construction of social identity in the workplace?

In order to answer these questions, it is insightful to look not only at the interactions among coworkers from a perspective that allows us to

consider not only the immediate context, namely the workplace and its social dynamics, but also a larger context of in-groups and out-groups (Sumner 1906) that inform and influence the membership of each speaker within the workplace (Koester 2010; Merton 1968; Stroebaek 2013; Tajfel 1974; Van Dijk 1998).

The Theoretical Framework

Small talk in the workplace appears to be different from small talk in nonworkplace contexts as described by several scholars (see, for example, small talk at parties [Schneider 1988], at the coffee shop, and other types of informal settings [Ventola 1979]). The distinctive characteristics of small talk in the workplace mainly depend on its speakers. Because their relationships are strictly connected to their being coworkers, their linguistic and social behaviors are informed and sometimes biased by the workplace culture, rhythms, and practices. In other words, their rapport is not as authentically (and solely) social as that of, say, two strangers at a bus stop; clearly, workplace discourse is informed by the working context, office setting, interpersonal dynamics, power roles, etc. (Holmes and Marra 2004; Holmes and Stubbe 2003); From sociolinguistic, sociorhetorical, and ethnographic perspectives, a community of coworkers is very well articulated and their discourse is influenced by such a plethora of variables that a single concept such as *community of practice*, *discourse community*, or *speech community* can hardly cover the complexity of its characteristics (Di Ferrante 2013).

On the one hand, members of a workplace community have a job to complete, and this is their primary goal; however, it must not be forgotten that many employees work in a given office for a substantial length of time—sometimes for their entire lives—and their relationships with their coworkers may last as long as their careers. In addition, such relationships may even extend outside the workplace. In any case, it is common sense to build a good social relationship with a coworker (beyond the needs of the tasks at hand) as much as it is a good idea to build good relationships among neighbors, classmates, or teammates. Moreover, within one workplace, many different types of employees may work together on a daily

basis. In the present study, these roles include an administrative manager, a worker who mainly fixes mechanical objects (wheelchairs, hospital beds, etc.), two men who primarily load and unload furniture from a truck, a volunteer who organizes used clothes and similar items, and two cashiers. Although these people are separated by their respective specialties, they share the same space and maintain continuous communication with each other to coordinate work or simply to socialize.

Within any workplace community, specific cultures and practices, as well as tacit and shared norms, regulate what can be said and what cannot, which kind of jokes are acceptable and which are not, which topics should not be discussed and which are welcome. Such norms are also continuously renegotiated through coworkers' daily exchanges (Mirivel and Tracy 2005; Mullany 2006; Norrick and Spitz 2008). For the purposes of the present study, it must be acknowledged that the workplace community is only one of the in-groups each worker belongs to; Tajfel even stated that "the definition of a group makes no sense unless there are other groups around" (1974, p. 72) which entails that the workplace community is a group because each of its members also belongs to other groups (family, sports team, etc.). Based on his/her membership in the workplace community, the worker also partially builds his/her own self-concept and therefore his/her identity as a member of the society. According to Tajfel, the social psychologist who formulated the social identity theory (Tajfel and Turner 1979), social identity is "that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups) together with the emotional significance attached to that membership" (Tajfel 1974, p. 69). In other words, an individual's concept of his or her own identity greatly depends on the groups s/he belongs to.

Along the same lines, in their work on humor as a means to construct group cohesion, Holmes and Marra (2002), following constructionist approaches, note that "individuals and groups can be regarded as constantly engaged in the process of constructing aspects of interpersonal and inter-group identity" (p. 378). The speakers, by revealing information about themselves, also describe their own identity as members of in-groups that are extraneous to their coworkers; such in-groups (re) present the background, distinctiveness and, in a sense, the legacy of the

speaker. The prefix *re-* clearly serves to highlight the subjectivity of the *presentation of self,* which is "staged" (Goffman 1959). The speakers draw for their coworkers the most convenient (re)presentation of themselves, giving only certain information about their lives outside the workplace. From this perspective, the speaker offers a *(re)presentation* of his or her identity, rather than a presentation.

Goffman (1959) emphasizes that "information about the individual helps to define the situation, enabling others to know in advance what he will expect of them and what they may expect of him" (p. 1). Within an exchange, the interlocutor gathers information about the speaker to build, shape, or better define the concept s/he has of the speaker. On the other hand, the speaker is also aware of this and, through talking, feeds the interlocutor with information s/he chooses to declare. In Goffman's words, the interlocutors "can rely on what the individual says about himself or on documentary evidence he provides as to who and what he is" (p. 1).

The construction of the social identity and the subjective presentation of self are important goals that each individual pursues to actively participate in different social contexts, and linguistic strategies play a fundamental role in fulfilling these social goals. The identification and analysis of the linguistic strategies, in the specific context of small talk in the workplace, constitute the object of the following sections.

Analysis and Results

The interactions analyzed here were extracted from the STW subcorpus (Di Ferrante 2013), which is a 48,755-word collection of samples of small talk in the workplace extracted from the AAC and Non-AAC Workplace Corpus (henceforth ANAWC) created by Lucy Pickering and Carrie Bruce (2009). Specifically, the STW corpus comprises 423 naturalistic, spontaneous exchanges between over 160 coworkers in three different North American workplaces. The corpus only includes nontask-oriented exchanges that are characterized by their relational nature and their function to build social ties among coworkers. The interactions analyzed here were systematically extracted from the STW corpus following the crite-

rion that one of the speakers participating in the exchange narrated one of two different kinds of story: (a) personally experienced stories or events connected with one already produced by the interlocutor;(b) stories or events connected to a relative's life events. In the STW subcorpus, almost 14% of the interactions had as their main topic *acquaintances* or *family and friends,* which is the largest category in terms of specific topics dealt with in interactions in the corpus.

The *my-relative* Strategy: Validation and Presentation of Self

The *my-relative* strategy is one of the most frequently occurring linguistic strategies used by the speaker to inform the interlocutor about his/her social identity. Every time speakers refer to members of their other in-groups, they are defining their social identity through their identification with other social groups. In Turner's words, "the sum total of the social identifications used by a person to define him- or herself will be described as his or her *social identity*" (1982, p. 18). The *my-relative* strategy is used by speakers in the corpus to fulfill two functions:

1) [Re]presentation of self: giving information about his/her social identity;
2) Validation: supporting the truthfulness of what s/he is saying with concrete references.

First, when talking about acquaintances, relatives, and events connected to them, the speaker draws for the interlocutor a more detailed description of his/her other in-groups, along with his/her role within these in-groups. Second, the narration of concrete events that have happened in his/her life, helps the speaker to demonstrate that what s/he is talking about are his/her true beliefs, and that there are concrete occasions in the past, in which s/he was witnessed by acquaintances, family, and friends expressing those very beliefs.

From a discursive perspective, the *my-relative* strategy consists of telling an event in which (a) one or more relatives or acquaintances were

involved and where (b) the speaker makes a statement of his/her own beliefs by explaining how s/he behaved in that occasion. The interlocutor may also use a parallel textual structure. The following example from the ANAWC is a naturally occurring workplace interaction and a small talk event. While its main topic is *smoking*, it illustrates well how acquaintances, family members, and friends are objects of discussion among coworkers in workplace contexts, and thus how the *my-relative* strategy works in interaction. In this excerpt, coworkers are talking during a break. One of them is smoking and they are talking about people who smoke or who have quit smoking, and people who complain about other people smoking. This interaction has been underway for some time and only a part is shown here. The following transcription conventions are used: background noise, [keyboard, etc.]; verbalizations, [laughter, sigh, etc.]; unintelligible utterances: [unclear]; overlapping or simultaneous talk: [overlap]; pauses of less than two seconds [+].

Extract 1 Smoking

```
 1 Jay: I can't help it [laughter] that's just the way it is
   and people that have never smoked are
 2 pests because they never
 3 Ariel: got [overlap] to be a prick
 4 Jay: [+] you know
 5 Andrew: [laughter]
 6 Ariel: they don't know about the joy of inhaling [+] there
   you go [+] are you still messing
 7 with that?
 8 Jay: yes ma'am
 9 Ariel: okay
10 Jay: well I I've got I got a friend ah that [+] she's a
   nutritionist one of her favorite patient's
11 died because he was smok- sneaking around smoking and not
   telling her [+] and I told my
12 sister I said well I wouldn't tell her either [+] if I was
   still smoking cuz I wouldn't want her
13 browbeating me to quit
14 Ariel: [+] you know when my father was dying he was going
   out of the house and then to
15 the backyard smoking [+] he had an aneurism that was
   inoperable and I just said—[+] and
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16 my mother was having fits and then my siblings were having
   fits but I was down there
17 taking care of him and my mom—and I just said [overlap] the
   dude is dying [+] let him
18 goddamn smoke [overlap] [+] leave him alone absolutely
19 Jay: well […]
20 Jay: yeah leave him alone
```

Both Jay and Ariel elaborate on the topic at hand by telling short stories related to the main topic that were experienced by people they are related to or acquainted with. By telling these stories, the coworkers are (re)presenting themselves in that they are informing their interlocutor about pieces of their own life story, and they are offering additional elements of their own social identity to their interlocutor in order to create a more nuanced image of themselves. For example, Ariel tells a story about the last part of her father's life and how the rest of her family responded to it. At the same time, she is giving information about her having a father—who is now dead—and a mother and siblings, and about her role within the family; for example, confronting her family members to stand up for her father. These supplemental elements about her identity in her family's in-group may be integrated by Jay as he builds his own concept of Ariel. In a similar manner, Jay discusses his nutritionist friend and his sisters as an in-group that does not include Ariel. From this perspective of group membership, we can see that both Jay and Ariel are feeding each other with additional information ([re]presentation of self) about other in-groups as a way of elaborating their social identity.

We can also observe that Jay concludes his anecdote by saying (lines 11–13): "I told my sister I said well I wouldn't tell her either [+] if I was still smoking cuz I wouldn't want her browbeating me to quit." In this way, Jay comments on the short story he just told and presents his own point of view. This point of view is consistent with Ariel's expressed view regarding her father. By including his sister in the story, he validates and authenticates his statement that he understands Ariel: Jay is claiming to have already expressed that point of view previously when he spoke to his sister. In this sense, his sister functions both as interlocutor and as witness. Ariel follows Jay with her comment (lines 17–18): "I just said [overlap] the dude is dying [+] let him goddamn smoke [+] leave him

alone." The narrative structure of Ariel's anecdote runs noticeably parallel to Jay's:

1) Someone is dying (the nutritionist's patient/the father);
2) Someone else disapproves (or would disapprove) of their smoking (the nutritionist/the mother and siblings);
3) The speaker/narrator comments in favor of the soon-to-be dead person (Jay/Ariel).

Just like Jay, Ariel chooses to state her opinion by repeating what she allegedly said to her mother and siblings, which is consistent with Jay's point of view. Also, in this case, the truthfulness of her belief is reinforced by her claiming to have expressed it at least once before to other people (her interlocutors/witnesses), just as Jay had expressed it to his sister. Thus, despite the very different contexts, this provides evidence for the truthfulness and noncontingent nature of the opinion. In this sense, the speakers include relatives in the stories they tell and specify the type of familial relationship to appear *truthful*. A member of one of the speaker's primary in-groups (the family) has been a witness to what s/he is talking about. This validation function is achieved through the use of the possessive first person pronoun *my* followed by members of the speaker's in-group, in these cases, their families.

In sum, in Excerpt 1, Ariel presents herself as a strong woman who stood up for her father by confronting the rest of her family. That event helps Ariel to define herself when talking to Jay and helps Jay to identify Ariel as a daughter who defended her dying father's right to smoke. These exchanges of information contribute to constructing the social identity of an individual as a member of a group. As synthesized in Fig. 4.1, the *my-relative strategy* is used by the speaker to display the authenticity and the truth of the statement, and to fulfill the function of (re)presenting his/her own social identity. In this way, each time that a speaker gives information about him- or herself, and about members of his/her other in-groups, the hearers may use this information to form, consolidate, or complete their ideas about the speaker as a member of other groups, and therefore as a social individual.

Extract 2 is another prototypical example of the *my-relative* strategy.

Fig. 4.1 Functions of the *my-relative* strategy

Extract 2 Red Hair

1 Mitch: I love red hair I love my- **my wife** has strawberry [+] you know what [+] that is
2 strawberry blonde?
3 Mariah: mmm-hmm I that's what **my sister**
4 Mitch: tint [overlap]
5 Mariah: has she's got strawberry
6 Mitch: tint of red [+] you know
7 Mariah: mmm-hmm
8 Mitch: and my uh new well not yet but **my youngest son's fiancé** has nice bright red hair she
9 she's only pint size she's only about so tall
10 Mariah: oh pint size
11 Mitch: **my son** is about my height so yeah lot of red hair always loved red hair

In this exchange, as in Extract 1, the list of relatives of both the speakers and their characteristics fulfills both the (re)presentation of self and the validation functions. Firstly, Mitch and Mariah can be seen presenting their social identities by offering information about members of one of their other in-groups; in this case, their families. Mariah is indirectly informed by Mitch that he has a wife and more than one child and that the youngest of his children has a fiancé; Mariah also learns that Mitch knows his soon-to-be daughter-in-law in person.

Secondly, they both fulfill a validation function. Mitch corroborates the truthfulness of his statement (that he likes red hair) with the evidence that he has married someone with strawberry blonde hair. Mariah follows

the same strategy by introducing one of her relatives—her sister—who has a similar hair color. Thus, the three characterizing elements mentioned above are present: (a) presence of relatives, (b) statements of beliefs, and (c) parallelism or symmetry. In this specific case, Mitch refers to one of his relatives to point out physical characteristics and Mariah responds by referring to one of her relatives to comment on the same characteristics.

From a strictly linguistic point of view, the use of the possessive adjective *my* is critical as it clearly functions as a deictic element. In 1934, Karl Bühler drew two Cartesian axes (see Fig. 4.2) and stated that "if this arrangement is to represent the deictic field of human language, three deictic words must be placed where the 0 is, namely the deictic words *here, now* and *I*" (p. 117).

In Bühler's conception, these words refer to the three dimensions of space, time, and person. The person who speaks is the "*origo*," the "zero-point" of deictic orientation or the "central person" of the "deictic centre" (Levinson 1983, p. 64). In Lyons' words, "the canonical situation-of-utterance is egocentric in the sense that the speaker, by virtue of being the speaker, casts himself in the role of ego and relates everything to his viewpoint" (1977, p. 638). From this perspective, the speaker deictically orients the interlocutor.

Centered on the first person, the utterances in which the speakers use the *my-relative* strategy posit the speaker and the relative referred to as close to one another, not only in the sense that they are close because they are related, but also in the sense of possession as expressed by the possessive adjective. Possession and belonging are related to being members of the same in-group and mark common membership. To better understand this mechanism, we may think of a widely used parenting strategy. In English, when parents want to show disappointment with their children,

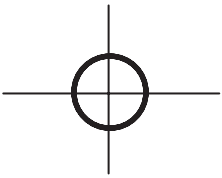

Fig. 4.2 Bühler's cardinal system representation

they may call them by their first and last name, not just by their first name. Adding the last name increases the formality of the expression and creates a distance between the parent and his/her child. A similar linguistic strategy may be used when a spouse wants to express disappointment about a child's behavior to their partner. He or she may refer to the child as "your son" or "your daughter," instead of calling the child by name or with the more appropriate possessive "our." By referring to her as "your daughter," the speaker diminishes the relationship between him/her and the daughter increasing the distance between the two of them and marking his/her disapproval. Conversely, by specifying the type of relationship with the person referred to and tying it to the possessive adjective, the speaker reduces distance and reinforces the existence of these people in a paradigm where closer equals significance. Consequently, *my* makes the other in-groups more significant, and the speaker's social identity more defined.

The *I-feel-you* Strategy: Sympathy and Presentation of Self

Just like the *my-relative* strategy, the *I-feel-you* strategy fulfills the function of presentation of the speaker's social identity. However, instead of validating the truthfulness of the speaker's beliefs, it is a strategy used to refer to an event associated with the speaker's relatives or to a personal experience in order for him/her to show sympathy with the interlocutor. An example of how it works in interaction is shown in Extract 3.

Extract 3 Greeting Cards

1 Fatima: **my daughter's birthday** was Friday and for two years in a row I bought all of
2 her Valentine's [+] she's the 13th and then Valentine's the [overlap] 14th
3 Paula: oh yeah
4 Fatima: and I forgot to give her a card two years in a row [overlap] so I went to my [+]

```
5   drawers and I gave her like four cards and it was 16
    dollars right there
6   Paula: oh I know I know
7   Fatima: it's a lot of money
8   Paula: it is a lot of money and these are what? A quarter?
    So
9   Fatima: not anymore. Okay
10  Paula: thank you
11  Fatima: you're welcome
```

In this extract, Fatima sympathizes with Paula's need to get less expensive greeting cards. In order to show her sympathy, she tells Paula of an event related to her daughter that demonstrates that she is familiar with and understands Paula's concern with the price of birthday cards.

The *I-feel-you* strategy is also used by speakers to refer to a relevant personal experience. An example is shown in Extract 4 in which Paula asks Tyler about his wife.

Excerpt 4 I Feel Her

```
1   Paula: speaking of [+] uhm how is Claire doing?
2   Tyler: Uh she's doing okay they did a uh [+] a bone scan
    and stuff and they [+] they saw
3   something on the bone scan
4   Paula: No
5   Tyler: So she's waiting to hear back from the doctor and
    because of the holiday
6   Paula: yeah
7   Tyler: and it was on a Friday when she had the bone scan
    [+] last Friday
8   Paula: mmm-hmm
9   Tyler: so it's been she's been waiting at the house [+]
    cause the lady that did the scan was
10  like well yeah you know we saw something so you have to go
    have this other test done so
11  they did it right away and she hasn't heard anything back
12  Paula: oh I hate that
13  Tyler: it's horrible [+] but I mean she's [+] fine
```

```
14  Paula: is she?
15  Tyler: yeah she's in good spirits
16  Paula: good good
17  Tyler: she's just worried about everything
18  Paula: I know yeah
19  Tyler: cause they can't do radiation or anything
20  Paula: I know
21  Tyler: cause she already had it once so
22  Paula: mmm-hmm
23  Tyler: that's it [+] she doesn't want to have to have
    [unclear]
24  Paula: No no no no I wouldn't either
25  Tyler: but she's holding in there
26  Paula: well good [+] good tell her I asked about her
27  Tyler: I sure will
28  Paula: cause I had breast cancer well almost 10 years ago
29  Tyler: yeah that's what you said
30  Paula: so mmm-hmm I feel her
```

In this extract, Paula asks Tyler about his wife's health. The interaction could have ended when Tyler says "I sure will" (line 27); however, at that point, Paula mentions her own personal experience with cancer. In this way, she conveys the idea that she is not asking Paul out of curiosity but out of solidarity since she went through the same experience and can sympathize with what Claire is going through. In this way, speakers can refer to their relatives' or their own experiences as anecdotes underlining that they have first-hand knowledge of a certain phenomenon, event, or fact, and that they can relate with their interlocutor in that regard.

In fact, the *I-feel-you* strategy was named after Paula's final utterance on line 30 in which she states that she can *feel* the other person's problem or experience. The *I-feel-you* strategy also works to fulfill the (re)presentation of the social identity of the speaker, who offers the interlocutor insights about his or her background or story, which may have little or greater impact on their lives (e.g., Fatima spending money for her daughter's birthday cards or Paula having breast cancer). In this sense, the strategy

does not apply only to tragic events, but also to minor experiences of people's everyday lives.

In sum, we can see how both the *I-feel-you* and the *my-relative* strategies are used by the participants to establish some level of competence with regard to the topic at hand. Both strategies fulfill the (re)presentation of self-function, but while the *my-relative* strategy also fulfills a validation function, the *I-feel-you* serves to show understanding and sympathy. In addition, both of them present recurring elements such as the presence in the narrative of relatives/acquaintances as members of their other in-groups. These people are perceived as deictically closer and more concrete through the use of the possessive adjective *my*. Interactional competence and social identity are thus demonstrated and supported by the personal or family-related events that are told as evidence.

Conclusion

In this study, the workplace is conceived as an in-group for the coworkers who, during their small talk exchanges use linguistic strategies to build their social identities and offer (re)presentations of themselves as members of multiple in-groups. In particular, the *my-relative* and the *I-feel-you* strategies are analyzed in interactions among coworkers, and the functions they fulfill are identified and discussed along with their characterizing elements.

As previously demonstrated (Di Ferrante 2013), findings based on the STW corpus reveal that the topics of small talk are not limited to weather or other safe topics; rather, among coworkers more intimate and less safe topics are addressed in everyday exchanges. The functional orientation of verbal interaction to relation-building as the ultimate goal of small talk in the workplace suggests that each speaker needs to stress his or her own standing in the relational network s/he belongs to. Thus, in order to build and/or maintain relationships within the current group (the coworkers), speakers tend to display their other memberships and in particular those that are deemed relevant for the interlocutors to build a more nuanced image

of the speaker. In other words, speakers use these strategies of reference to their lives outside the workplace as a way to increase their social capital with their coworkers.

Clearly, the extent of the information to be shared is controlled by the speaker who determines what to share and what to omit. In this sense, the (re)presentation of the social identity is one of the macrofunctions that the individual fulfills in these interactions, and the social behavior is made possible by the *my-relative* and the *I-feel-you* discourse strategies. These are widely used, more or less consciously, in everyday interactions within and outside the workplace. Identifying and codifying them serves to satisfy multiple purposes in the realms of informal interactions and workplace communication, in addition to applications to L2 communication.

For example, if we revisit one of the interactions presented above, we recall that Mitch states that he loves red hair and that his wife has red hair. A nonnative English speaker interlocutor may not know how to respond to this statement, and the interaction may stop at that point, thus inhibiting relationship-building between these coworkers that would likely have occurred between two native speakers. Describing and practicing the parallel discursive structure shown here (e.g., "I love red hair too" or "I had red hair or my ex-girlfriend has red hair") unveils linguistic strategies commonly used in interaction and contributes to the classification of linguistic, pragmatic, and communicative options for L2 learners.

Thus, human resources and leadership experts can use these strategies and their knowledge of how such strategies work to reinforce positive relationships between coworkers within the workplace. This may be particularly helpful in workplace situations where communication is not face-to-face and where the speakers are from different cultures (see for example Part II of this volume). Much work remains to be done in the direction of encoding pragmatic communication and using the findings to inform and improve the effectiveness of everyday exchanges. The present study can be developed into a larger analysis using the ANAWC and STW corpora in which additional linguistic strategies are identified and tools are developed to foster more effective and efficient communication in the workplace.

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5

Profiling Agents and Callers: A Dual Comparison Across Speaker Roles and British versus American English

Martin Weisser

Introduction

The nature of and conditions surrounding call centre language have recently become popular topics for research, leading to the publication of book-length edited collections (e.g., Forey and Lockwood 2010), monographs (e.g., Friginal 2009), or research articles in various journals (Friginal 2013; Hultgren 2011). In this context, Cameron's chapter on "Communication Factories" (Cameron 2000, pp. 91–124) provides a general overview of the language practices and policies inside call centres in the United Kingdom (UK), while Forey and Lockwood's paper (2010) does something similar, at the same time including discussions of different types of analysis approaches, and for a variety of outsourced written and spoken services where non-native call centre agents (henceforth agents) provide support for (predominantly) native speakers of English.

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Analysing the articles and chapters contained in such publications, we can see that the rules provided for, and measurements of performance of, agents are frequently at odds with genuine customer needs or the adequacy of specific performance evaluation tools. For instance, Cameron and Hultgren (2010) and Hultgren (2011) point out that there is frequently a mismatch between regulations provided for controlling the interaction with customers by the employing institution and adherence to these rules by the individual, where the agents frequently appear to feel that such strict guidelines do not allow them to respond to customer needs appropriately. To illustrate this, Cameron and Hultgren (2010) provide an example where adhering to the rule dictating that negative language should be avoided as far as possible is supposed to illustrate a specific predicament on the part of an agent constrained by the limitations of the computer system imposed on them. However, the argumentation here only revolves around one single extract analysed in some detail, something indicative of the general trend to analyse such data in a more "qualitative" way, based on relatively limited samples scrutinised very closely, and also studying limited features of interaction, such as naming/referring (Hood 2010), breakdowns in communication (Lockwood 2010), specific native and/or non-native phonological features (Cowie 2007; Cowie and Murty 2010), etc. Working with such limited quantities of data and/or features only, though, may not necessarily allow us to see the bigger picture; in other words, adopting such a methodology, it is easy to be misled into assuming that minor features identified through it may already "tell the whole story" about this type of data. This is why it is necessary to find ways of performing such highly qualitative analyses on larger bodies of data, something a corpus-linguistic approach like the one introduced here makes possible.

Perhaps the most detailed study of call centre communication so far has been carried out by Friginal (2009) in the Philippines. Friginal's book-length study adopts a multidimensional corpus-linguistic analysis, based on the original framework of Biber (1988, 2006), investigating the characteristics of call centre communication from a range of perspectives, including the lexico-grammatical, semantico-pragmatic, interactional, transactional, and intercultural. We shall return to this study in the discussion of the methodology employed here later, as it provides a useful

starting point for a discussion of the various linguistic aspects that may potentially be relevant to the evaluation of agents' performance. While Friginal (2009) is mainly concerned with a way of describing and to some extent explaining the features prevalent in the language used by agents in the Philippines, Friginal (2013) represents an attempt at operationalising some of the insights and exploiting some of this knowledge in the evaluation of agents from the two criteria of "task specific[ity]", comprising "adequacy of support and interpersonal skills", and linguistic performance, divided into "language and production", where "[t]he language category evaluate[s] discourse structure and spoken grammar as well as vocabulary use and choice of words by the agents", and "the production category measure[s] segmental and suprasegmental features, including agents' flow of speech and voice quality during the call" (Friginal 2013, p. 29). Rather than being based on any of the observable and objectively countable features from Friginal's earlier work, though, the evaluation is instead unfortunately based on the typical vaguely defined rating scales generally used in oral-language testing, where assessors need to distinguish between performances as being "highly effective", "almost always effective", "generally effective", "somewhat effective", "generally not effective", and "[n]eeds major improvement" on a holistic basis, but without any objectively countable criteria.

Other previous studies of international call centres have been carried out largely from an applied linguistics perspective, including works by Forey and Lockwood (2007) and Lockwood, Forey and Price (2008). In these two papers, Lockwood and colleagues, using a systemic-functional approach to discourse analysis, endeavour to identify and describe a "generic model" of a call centre interaction at the core of which are chains of "macro speech acts" or "stages", such as "opening", "purpose", "gathering information", "establishing purpose", "servicing the customer", "summarising", and "closing", similar to the scripting described in Cameron (2000). Elements from some of these stages will also be relevant to our discussion below.

As the brief summary of past work in the area above hopefully illustrates, there is not only a variety of different factors and perspectives that may be relevant towards the analysis of call centre interaction, there is a clearly defined need to "objectify" the evaluation of agent performance

based on the analyses and manifold criteria established through the various strands of research. In this chapter, I will attempt to demonstrate that it is indeed possible to at least achieve this objective partly by using semi-automated corpus-annotation techniques and ensuing analyses revolving around data enriched on a number of pragmatics-relevant linguistic levels. I shall attempt to do so by illustrating ways of profiling particular speaker or speaker groups through an analysis and comparison of the speech acts and other linguistic features used by agents and callers from American and British language backgrounds.

The specific research questions investigated in context are:

1) Is it possible to establish some (more or less) objective criteria for measuring the pragmatic performance of call centre agents?
2) If so, can this be accomplished through the largely automated analysis of call centre data with regard to speech-act behaviour and the use of appropriate formulaic expressions?
3) Are there any potential differences between strategies or wordings used in the two major varieties of British and American English, as well as the behaviour of callers, that require the agents to adapt their strategies for the different caller populations?

Methods

Data Selection and Preparation

Two sets of dialogue data were chosen for this project, one to represent each language variety to be compared. The British data consisted of the original Trainline materials from the Speech Act Annotated Dialogue (SPAADIA) corpus (Leech and Weisser 2013), amounting to 35 calls (25,663 words; 6,201 c-units [see below]) to one female British agent, while the American data comprised part of the SRI's Amex Travel Agent Data[1] (Kowtko and Price 1989), where the 55 files (30,756 words; 6,673 c-units) involving the agent labelled A were extracted. Apart from both

[1] Downloaded from http://www.ai.sri.com/~communic/amex/amex.html

involving single agents, the data sets are comparable because they both deal with travel enquiries and bookings, albeit for trains in Trainline and flights and possibly also car rentals or accommodation in the Amex set.

Both sets of data, though, as useful as they are, have certain limitations in that the original audio recordings were not available for verification purposes, and that the transcriptions contained either minimal or no punctuation at all in order to signal unit boundaries. The Amex data at least contained punctuation marks that made it possible to identify questioning units in declarative form.

As the original Amex data was in a format that was unsuitable for a semi-automated analysis in my Dialogue Annotation and Research Tool (DART; see Weisser 2014a, b and forthcoming), it was first necessary to convert all files into the specific XML (eXtensible Markup Language; see W3C 2010) format the annotation and analysis routines work with. The input data format used on this project represents a very simple form of XML, which essentially consists of a *dialogue* element, which holds the individual *turns* of the speakers and that again contain the individual lines corresponding to the syntactic functional units uttered by the agents and callers (see Weisser 2014b). Conversion to the required data format was done fully automatically via a Perl script, extracting the individual turns from the data and wrapping them in XML elements, removing unnecessary comments, and normalising markup for pauses, overlap, backchannelling responses, vocal phenomena, etc. However, as the documentation of the original transcription conventions was sparse and at times seemed rather inconsistent, a decision was made to carefully verify and, whenever necessary, correct the converted data in order to guarantee maximal consistency and provide an optimal high-quality basis for the later annotation in DART and the ensuing quantitative analyses. An initial verification phase, along with attempts to restructure the turns into suitable analysis units, was originally conducted by student helpers, but more in-depth reprocessing and error correction were later carried out by myself for this project.

As is unfortunately frequently the case with data collected for language engineering purposes, which are generally severely practical and therefore allow for a rather larger margin of error than is acceptable for deep linguistic analysis, the Amex data contained a number of inconsistencies and numerous spelling errors that required correction. In addition, in

later parts of the data, the transcribers had also decided to omit parts of the interaction that were deemed irrelevant for achieving the task at hand, so that the sequencing of units is not always truly consecutive. In other words, in some cases, not all units analysed may actually represent parts of adjacency pairs. In some other cases, the transcription practices and errors also introduced apparent inconsistencies that were difficult to resolve without access to the original audio materials, and it was therefore also partly impossible to decide whether these inconsistencies may have been due to potentially idiosyncratic behaviour of the speakers. Despite these issues, all the available data was used for the analyses, and if the results appeared inconsistent, they were checked more closely to eliminate potential errors arising from the automated annotation.

For the above reasons, as well as the fact that the sample data is rather limited, the present study should be seen more as a proof-of-concept study, rather than anything that should tempt us to arrive at stronger generalisations.

Data Annotation

As pointed out earlier, the linguistic annotation of the preprocessed data on multiple levels was carried out in a modified version of DART, enhanced to allow for the extraction of features used by individual speakers or groups. DART itself is a linguistic research environment that allows the user to pre-edit dialogues in XML format, automatically mark them up on the levels of syntax, semantico-pragmatics, speech acts, semantics, and polarity, as well as to post-edit/correct and analyse them in a number of different ways, including a built-in concordancing facility, options for n-gram, i.e. word-sequence, analyses, etc. (see Weisser 2014a and forthcoming). Both sets of data were automatically analysed and annotated using DART with regard to the features listed above, and then manually post-edited to ensure accuracy and add a limited number of additional annotation features that make it easier to count units incomplete due to interruption by one speaker.

Through enriching the data in this way, this annotation process already constitutes part of the actual analysis that enables us to extract descriptive statistics for the individual speakers/groups efficiently to establish part of a profile.

Data Analysis

As stated above, the most extensive study on the language used in call centre interactions and the performance of agents so far was carried out by Friginal (2009). Essentially, his research design allows Friginal to describe a range of linguistic features associated with such interactions, although the strongly lexicon-, rather than lexico-grammar, oriented approach also occasionally seems to lead him to conflate certain categories of interaction, such as apologies and signals of non-understanding that may involve the use of similar words (Friginal 2009, p. 175). At the same time, however, there is little detailed analysis of the linguistic performance of call centre agents in terms of pragmatic features of the kind envisaged here, in particular with respect to his treatment of what he refers to as "inserts", such as discourse markers (henceforth DMs), etc., following the *Longman Grammar of Spoken and Written English* (Biber et al. 1999; henceforth LGr). Here, for instance, he states that "removing discourse markers in transcriptions of conversations does not make the transcripts incomplete […]" (p. 175). However, as we shall also see below, this assumption clearly ignores the different essential and versatile pragmatic functions DMs may fulfil in structuring the dialogue and guiding—or, more importantly, even controlling—interlocutor(s) in ongoing verbal interactions (cf. Fischer 2006; Fraser 1999; Jucker and Ziv 1998), something that requires a high level of pragmatic competence, as we shall also see in our discussion later, where further reference will be made to some of the relevant pragmatics literature.

One further limitation of the Biber-style approach from an interactional perspective is that frequency norming and counting are generally conducted on the basis of the number of words or the length of turns (Friginal 2008, p. 721), which may be inappropriate in terms of the units chosen for statistical observations (cf. Ball 1994, p. 297). For words, this is at least partly due to the number of disfluencies present in spoken interaction (cf. Leech et al. 2000, pp. 33–38), where many of them should ideally be discounted because they are either repeated as part of *restarts* or *repetitions*, may form part of *false starts*, or are never realised completely. For turns, this is the case because they only represent units at the meso- or macro-level of interaction, and their length is often not even

determined by the individual speaker one might be trying to evaluate, but may be cut short by an "unruly" interlocutor at any given time. If anything, at the pragmatic level, it would make much more sense to take the c-unit (Biber et al. 1999, p. 1070), which frequently corresponds to an individual speech act on the syntactic level, as the most meaningful unit of analysis against which different features may be compared. Therefore, this is the unit the present study adopts for reporting relative and normed frequencies.

In terms of individual features that are analysed and referred to as important for characterising Biber's dimensions, there is also a series of factors that hamper or distort the identification of communicatively relevant properties, out of which I shall only provide a brief discussion of the most obvious ones here. For instance, the counts for pronouns essentially ignore object pronouns, unless these are in fact homographs of the subject forms, where essentially S + O forms are conflated by the counts, despite having rather different functions. The fact that counts of subject pronouns are in no way linked to verbs only makes it possible to state what types of pronouns are (potentially) used more frequently in different registers, but fails to actually state anything about this usage in terms of identifiable meanings or interactional functions, something a speech-act analysis can reveal much more clearly.

The converse is true for the analysis of different types of verbs, such as modals or private ones (*think*, *assume*, *believe*, etc.), which again features heavily in the Biber matrix. However, as we also shall see in the discussion of the results, knowing "who says what and in which context" is essential in determining the exact meaning of these verbs because otherwise we could end up falling prey to what Searle calls "[t]he speech act fallacy" (1969, p. 136). To illustrate this using one made-up example using the same ordinary declarative structure, but simply replacing the pronoun, it is obviously very different to say "I think this is true" from "They think this is true", where, in the latter case, one is reporting on the opinion of others, rather than expressing one's own. Similarly, when looking at modal verbs, we can see that we have a range of meanings expressed in using the same modal verb, *could*, but in different contexts, briefly summarised below using examples from the two data sets:

a) expressing opinion + possibility: *there is a possibility i could do it on on Monday i suppose* (trainline34.xml: 338)
b) expressing possibility/potential suggestion: *i could book it just now* (trainline12.xml: 754)
c) stating a condition: *if i could get a Super Advance Return* (trainline12.xml: 97)
d) stating a constraint/limitation: *the only thing i could confirm would be a middle seat* (amex_16e.xml: 504)
e) expressing a possibility + stating a reason: *because he could change his mind* (amex_09_a.xml: 145)

Here, examples (a) and (b) are essentially speaker-oriented, (b) and (c) hearer-oriented, and (e) represents a mix of the two.

Regarding the handling of markers of cohesion and coherence that may signal specific types of interaction or stages in, or the logic of, a dialogue, the word-based approach again brings with it the danger of conflating items with different contextual meanings. Thus, a little word like *so* may either act as a conjunction/linking adverb that indicates "cause and result" relations, as assumed in Friginal's study (Friginal 2009, p. 72), but quite frequently, primarily in spoken language, also acts as an *initiating* DM that signals the beginning of a new stage, especially in transactional dialogues such as call centre interactions. And even though the two usages may be difficult to distinguish at times, it is quite important to try and do so when describing the performance of agents, as the former type potentially relates to the ability of an agent to describe logical connections (i.e., coherence relations), while the latter illustrates features of signalling or controlling the flow of the dialogue (i.e., cohesive relations). In terms of Hallidayan description, we would thus probably classify the former as belonging to the *textual* or *ideational* level, while the latter functions on the *interpersonal* one.

The above are just some of the issues that affect the value of a Biber-style analysis, and illustrate that a speech-act oriented approach may be more applicable. There are further misclassifications and weaknesses in this system, but, due to a lack of space, these will not be discussed here. Instead, we shall return to a discussion of some of the other pragmatics-relevant features discussed in Friginal (2009) in later sections, in order to

see whether they may be useful in profiling particular speakers or groups. These include:

- the use of *Let's* or *Let us* as signals of particular types of interaction (p. 120),
- polite speech-act formulae (thank you, thanks, appreciate),
- Apologies (sorry, apologise, pardon),
- polite requests (please),
- respect markers (ma'am, sir, Mr, Ms, titles) (p. 72)

In contrast to many other studies, which generally only tend to norm frequencies by a fixed factor (e.g., 1,000 or 1 million words), three types of frequency norming were used in this study in order to provide a more realistic and mathematically sound overview. To illustrate the relative frequency of each feature, percentages were calculated based on the total number of units uttered by the speaker/group. In order to enable comparison of the raw frequencies directly, all raw counts for the larger Amex data were also divided by the total number of dialogues per speaker/group and then multiplied by the lowest common denominator, i.e., the number of dialogues in the SPAADIA corpus, as obviously involvement in the number of dialogues increases the chances of a particular speech act to occur. To verify whether a particular feature occurring with a high frequency is indeed characteristic of a speaker, document frequencies are also reported, where again the frequencies for the Amex data were normed as before.

To focus the discussion, I have chosen to limit the main categories for features to be investigated to four, namely:

1) general speech-act behaviour, including efficiency in initiative/information management,
2) efficiency in terms of required length and complexity of units,
3) politeness and deference,
4) directness.

As we shall see throughout the discussion, though, some of the features may be relevant to multiple categories, so that, at least to some extent, such a strict division is artificial, and the categories tend to somewhat

blend into one another, which is perhaps why it is so hard to construct any definitive list of criteria for evaluating the performances of both agents and speakers.

Results and Discussion

The following subsections will be divided into two parts, one where the behaviour of the agents is contrasted and evaluated, and one where the same is done for the callers. In some other cases, summary comparisons of agents vs callers and British vs American speakers will be carried out. As the tables tend to contain extensive information, the labels partly had to be abbreviated for reasons of space, where the abbreviations *TrA* and *AmA* denote the agents, Sandra and agent A, respectively, while *TrC* and *AmC* refer to the two groups of callers. The abbreviation *Rel. Freq.* always represents relative frequencies (expressed as percentages), and *Doc. Freq.* relates to the number of documents the particular feature has occurred in. The additional abbreviation *N.* only applies to normed frequencies for the larger Amex corpus, while *Raw Freq.* refers to the raw (unnormed) frequencies from the Trainline corpus.

Initiative and Information Management

We will begin our discussion by looking at the more general interactional features that can be extracted from the speech-act annotated data. Although the amount of information produced here by DART is sometimes staggering, as not only single speech-act frequencies are reported for all syntactic categories, but also more complex combinations of speech acts that involve information about initiation–response–feedback (IRF) patterns (Sinclair and Coulthard 1975), a simple sorting based on the highest relative frequencies, speech acts, syntactic categories, and document frequencies in a spreadsheet already reveals a remarkably useful amount of information.

One of the most important skills an agent needs to have to communicate successfully is to be able to direct and control an ongoing interaction.

This is why DMs here play a major role because they not only allow a speaker to respond appropriately to an interlocutor, but especially to signal transitions and thereby guide the flow of the interaction efficiently. Apart from using DMs for these purposes, the flow of information can also be influenced by asking questions, or requesting confirmation and confirming in the right manner. Table 5.1 presents a summary of some of the features that may potentially be relevant in indicating different degrees of initiative—or lack thereof—on the part of the agents.

As Table 5.1 indicates, the British Trainline agent, Sandra, uses a high number of sequence- or stage-initiating DMs (marked as *init*), such as *now*, *well*, and *so*, throughout all dialogues in order to control the flow of interaction. The occurrences of *so* produced by her are in almost all cases clearly initiating, and *so* used as a logical connector, as generally assumed in a Biber-style analysis, is more remarkable in its absence. An example of this predominant use of *so* as an initiating DM is provided below:

```
    <dm n="131" sp-act="init">so <punc type="level" /></dm>
<frag n="132" sp-act="thank" mode="thank-intro">thank you for
calling <punc type="stop" />
</frag> (trainline07.xml: 554–9)
```

In this example, the agent clearly indicates to the caller that the transaction part of the dialogue has been completed, and now the routine closing spiel is beginning. She first signals the beginning of a new stage

Table 5.1 Comparison of potential initiative-indicating features used by the agents

Syntax	Speech-act type	Trainline rel. freq. %	Trainline raw freq.	Trainline doc. freq.	Amex rel. freq. %	Amex N. freq.	Amex N. doc. freq.
dm	init	14.56	465	35	7.24	173.09	31.82
dm	acknowledge	3.60	115	34	13.36	319.45	33.73
yes	acknowledge	1.0	32	18	1.84	43.91	19.73
frag	echo-refer	5.6	179	26	0.48	11.45	5.73
q-wh	reqDirect	2.35	75	35	0.43	10.18	7.64
q-yn	reqDirect	1.19	38	26	0.32	7.64	6.36
frag	reqConfirm	1.75	56	25	0.64	15.27	10.82
decl	reqConfirm	1.5	48	28	1.46	35.00	19.73
	Totals	31.55	1,008		25.77	615.99	

by using the initiating DM, and then the thanking routine "confirms" the completion of the transactional part of the dialogue, thereby allowing it to move into the closing stage, where both caller and agent say their farewells before hanging up.

Conversely, the Amex agent A uses only about half as many initiating DMs, and not across all dialogues, while their use of acknowledging DMs or yes-units, which amounts to less than 5% of Sandra's, reaches slightly more than 15%. This may already lead us to assume that Sandra is more proactive in her approach, and agent A more reactive. A further supporting feature for this in the Trainline data is that Sandra uses a high number of echoing fragments, i.e., grammatically "ill-formed" units missing major syntactic components, where she repeats details provided by the caller in the form of deictic NPs, such as sequences of numbers or address details. This, however, is not her only strategy for ensuring or acknowledging receipt of such information, as she does not use this strategy in all dialogues and at all times, but sometimes also resorts to merely using acknowledging markers to indicate her understanding. Such an echoing strategy is rarely used by agent A, who seems to prefer pure acknowledgements instead.

Further corroborating evidence of Sandra's proactive behaviour is the fact that she also employs a considerably higher number of requests for directives, primarily in the form of *wh-*, but also some yes/no questions (altogether roughly 3.5% of her units), as well as more requests for confirmation, generally in the form of tag questions occurring in either declaratives or fragments. A majority of the former occur immediately after Sandra has introduced herself in the opening stage of the dialogue in the form of her "stock phrase" *for which journey do you wish to purchase a ticket.*[2] This type of question, designed to elicit directly what the customer wants, allows her to jump directly *in medias res* without any need for the exchange of further polite invitations. In contrast, agent A generally either allows the caller to state their intention first before beginning to ask any questions, or opens with the formulaic *how can/may i help you*.

[2] All words, apart from proper nouns, are lowercased in DART to facilitate the processing, and punctuation is only indicated in the form of so-called empty XML elements omitted here.

Let us now turn our attention to the groups of callers and see whether they exhibit any characteristic patterns regarding initiative. Of course, here the features we need to discuss are to some extent different from the ones used for agents, as one of the main purposes of callers is to express their requirements and confirm what is being offered.

Looking at initiating vs acknowledging features in Table 5.2, we can see that both groups tend to be relatively reactive in their behaviour, using almost an equal amount of acknowledgements, but very few initiating DMs. Regarding the latter, the Amex callers appear to be a slightly more proactive, though. Requests for confirmation are equally sparse in both data sets.

Information-seeking questions also do not feature heavily in either data set, although their number is slightly higher for the Amex callers at approximately 6%, while the Trainline callers only exhibit a little more than 4.5%. This number does not rise, either, if we still include requests for specific options (not listed in the table), which occur with negligible frequencies.

Perhaps surprisingly, statements of intent only account for 1% in the Trainline data and 2% in Amex. Also other expressions of volition, such as expressing wishes, only constitute a negligible amount of data, so that

Table 5.2 Comparison of potential initiative-indicating features used by the callers

Syntax	Speech-act type	Trainline rel. freq. %	Trainline raw freq.	Trainline doc. freq.	Amex rel. freq. %	Amex N. freq.	Amex N. doc freq.
dm	init	2.62	79	25	5.74	106.27	25.45
dm	acknowledge	10.24	308	35	14.26	264.09	35.00
yes	acknowledge	7.28	219	31	2.68	49.64	24.18
decl	reqConfirm	1.46	44	15	1.68	31.18	15.27
frag	reqConfirm	0.73	22	11	0.65	12.09	7.64
q-wh	reqInfo	1.3	39	15	1.96	36.27	15.91
q-yn	reqInfo	1.5	45	20	1.37	25.45	12.73
decl	reqInfo	0.9	27	18	1.34	24.82	15.27
frag	reqInfo	0.83	25	14	1.41	26.09	15.27
decl/frag	stateIntent	0.99	30	17	2.06	38.18	19.09
decl/frag	expressWish	0.33	10	7	0.31	5.73	3.18
*	direct	3.86	116	n/a	2.03	37.55	n/a

it appears that both the British and American callers mainly expect to have their requirements elicited from them, apart from when they need to request a hold, i.e., indicate that they need to interrupt the dialogue to look up information, etc. This is further corroborated by the relatively low frequencies of directives, whose frequencies are summarised in Table 5.2 as they occur in a number of direct and indirect forms and syntactic realisations.

Efficiency

As has hopefully already become clear from the discussion in the previous subsection, efficiency is partly also related to a speaker's—especially agent's—ability to direct and control the flow of the dialogue. Thus, based on the observations from above, we can probably assume that generally Sandra has an overall higher level of efficiency than agent A. However, to state this categorically would be problematic because, unfortunately, without access to the instructions both agents were given we cannot determine how much of their behaviour is in fact due to the prescriptive rules and regulations provided by each company. In other words, if both agents had little or no degree of independence in how they interact with customers, and were in fact adhering to all rules strictly, we would in fact have to assume that it is the individual agent's "playbook" that is efficient or inefficient.

Keeping this issue aside for the moment, one other potential way of judging the efficiency would be to investigate the syntactic complexity—or lack thereof—of the units uttered by each speaker, coupled with indications of abandoned units or hesitations and other dysfluencies. So this is what we shall turn to next.

When it comes to syntactic complexity, there seems to be common misconception underlying the Biber-style approach that "more is better". However, this is probably not justifiable because the efficiency of presenting information in spoken language, and especially transactions, does not depend on the same degree of packing, etc., as is perhaps relevant for written language analysis. If anything, we can probably often assume that, here, "less is more", as the interactive nature of such dialogues can rely heavily on context, and answers are "primed" by the content of questions,

so that, unlike in a language classroom, it would even be wrong and inefficient to always respond with a full declarative in such cases. Thus, the type of priming just referred to licenses the omission of grammatical elements in syntactic units, often to the extent that single-word answers, minimal NPs, or acknowledgements are fully sufficient, and more complex structures may only be required in elaborations or clarifications where misunderstandings have in fact occurred or may do so. The very high number of DMs we have already seen above is further proof of this.

As the exact nature of complexity is a phenomenon much too extensive to be investigated here, we will limit our discussion to some other features that may potentially be relevant towards identifying a lack of efficiency or planning ability. These are summarised in Table 5.3 where, again, each feature has been normed as before.

The first speech act, *hesitate*, is marked up in DART on filled pauses, such as *em*, *er*, etc., but only at the potential beginning of a unit/turn, as it is at this point that planning issues can be assumed to be more serious than when trying to complete a unit. In other words, at this point, the speaker needs to decide how to respond, rather than how exactly to phrase this, which is more often an issue that arises later on in the unit. When looking at the data, it becomes apparent that the agents in general, being professional communicators, exhibit far fewer such hesitations than the callers. Nevertheless, there is a rather strong discrepancy between Sandra and agent A, something that seems to support the earlier observations regarding the former's efficiency in handling the information flow. The rather large difference between the British and the American callers, however, is potentially attributable to the fact that the callers in the Amex data have more experience in such transactions, something that can also

Table 5.3 Potential features indicating (in)efficiency

Syntax	Speech-act type	Trainline agent	Trainline callers	Amex agent	Amex callers
dm	hesitate	2	227	77.64	105.64
dm/exclam/frag	exclaim	2	69	21.64	46.45
dm/decl/q-wh	pardon	4	18	3.18	5.73
*	abandon	17	68	68.09	47.73
Dysfluencies		16	45	40.09	58.55

be seen through the level of familiarity they often exhibit with agent A, while most of the Trainline callers appear to only call up agents occasionally or may even be first-time callers.

The *exclaim* speech act (generally expressed through *ah*, *oh*, *whoops*, *gee*, or single *what*) frequently signals surprise, but potentially also insecurity or the fact that the hearer has been working under the wrong assumption (as in e.g., *oh I see* or *oh no*), although this statement needs to be treated with caution, as of course some exclamations may also be signalling pleasant surprise at being offered a good deal (as in e.g., *oh ok* or *oh that sounds good*). In general, here the discrepancies are also not nearly as high as for hesitators, although, again, the callers clearly "act more surprised" than the agents who, after all, are supposed to know what they are doing. And although there are still discrepancies, both between agents and callers, they are not as pronounced as before.

A *pardon*, in the DART speech-act taxonomy, signals a request for repetition/clarification due to one speaker's inability to understand the other, and is most often realised as *sorry*, *pardon*, or even *I beg your pardon*. However, as being unable to hear an interlocutor clearly is not always the listener's fault, we again need to treat this feature with caution. At any rate, the data shows that this is not a significant issue for any of the speakers/groups, even if the callers again, and especially the Trainline ones, exhibit a comparatively higher number of occurrences.

The next feature to be evaluated here is how many units a speaker/group may leave incomplete without being interrupted by an interlocutor, thus producing what we might call an "extended false start". As before, Sandra appears to be more in control of planning her utterances, as the number of such abandoned ones is markedly lower in comparison. What is more surprising, though, is that agent A abandons units with more or less the same frequency to the inexperienced Trainline callers, while the Amex callers seem to have somewhat better planning strategies.

Dysfluencies, in the form of shorter false or restarts, represent the final category we want to discuss here. These generally cover repetitions of the same one or more words repeated multiple times, repetitions or repairs of pronoun–verb/auxiliary sequences, or repairs of single words, and are largely detected automatically in DART, and marked in the *mode* XML attribute (see Weisser 2014b, c, forthcoming), so they can later easily be

counted. Looking at the number, Sandra again comes out way on top on the presumed efficiency scale, followed by agent A and the Trainline callers closely together, with about three times as many dysfluencies, and the Amex callers exhibiting the most.

(Im)Politeness and Deference

In this subsection, we turn to the next area generally covered in the call centre literature, that of politeness and deference, where we shall also cover at least one feature of potential impoliteness, interruptions, as well as potentially debunk some existing myths. Table 5.4 summarises these features and their frequencies.

Analysing the number of vocatives, i.e., terms of address, used by the different groups, especially in terms of their relative frequencies, we can see that their overall frequency in comparison to other units uttered is quite low, with the British callers exhibiting the lowest percentage (0.33%). All other speakers/groups do get closer to 1%, with Sandra reaching the highest at 0.88%. Just to put this in contrast, data by a group of Filipino agents analysed for Weisser and Bolton (2011) revealed a relative frequency of 9.44% of such vocatives, so essentially the native speaker agents and callers appear to have relatively little interest in such "niceties" of interaction or undue formality. Looking at the individual realisations of speakers/groups more closely (as far as anonymisation allows this), we can see that the American agent and callers prefer to use first names in such vocatives in almost all cases (with only two cases of Mr + surname, and one occurrence of *Dear*), while the British callers appear to prefer not to address the agent at all, or, in the special case of one male caller, use particularly (Northern) British "terms of endearment", such as *Love*, *Darling*, or even *Good Lady*, as he does repeatedly in the same dialogue. As stated before, though, there seems to be a relatively high degree of familiarity between the Amex agent and callers, so maybe this accounts for the preferred use of first names, rather than this being a general trend in American call centre interactions. More research using a variety of different sets of data would be needed to confirm this as a more general trend.

The only exception in terms of adherence to formality in the present data seems to be Sandra's predominant use of *Sir*, or *Mr*, *Miss*, or *Mrs*

Table 5.4 Features related to (im)politeness and deference

Syntax/unit content	Speech-act type	TrA rel. freq.%	TrA raw freq.	TrA doc. freq.	TrC rel. freq.%	TrC raw freq.	TC doc. freq.	AmA rel. freq.%	AmA N. freq.	AmA N. doc freq.	AmC rel. freq.%	AmC N. freq.	AmC N. doc freq.
address	refer	0.88	28	19	0.33	10	3	0.80	19.09	14.00	0.82	15.27	14.00
frag/decl	thank	0.91	29	27	2.19	66	36	1.0	24.18	21.00	1.81	33.73	31.18
*	please	1.97	63	24	1.93	58	26	0.11	2.55	2.55	0.48	8.91	7.64

followed by surname, which may potentially indicate a higher expectation on the part of British callers for a deferential attitude in providing such services, although, of course, this could again also be motivated by a company's playbook rules and requires further confirmation using additional data sets.

When it comes to thanking, one of the most stereotypical indicators of politeness, we can again see that such acts do not occur very frequently in the data, and that the frequency of expressions of thanks on the part of both agents is roughly half that of the callers. Looking more closely at the data, we find that many of these actually represent the highly conventionalised "thank you for calling" routines that have frequently been observed in the literature to occur in either opening or closing spiels, so that they cannot count as instances of genuine politeness. Another interesting phenomenon can be observed in some of the caller data, where, for instance, we find examples like the following, taken from Trainline:

```
    <turn n="111" speaker="A">
<dm n="198" sp-act="init">now <punct type="level" /></dm>
<decl n="199" sp-act="state" polarity="positive"
topic="booking-number-journey" mode="decl">
this is the reference number that your tickets have been
booked <overlap type="start" /> under <punc type="stop" /></
decl>
</turn>
<turn n="112" speaker="B">
<dm n="200" sp-act="acknowledge">right <overlap type="end" />
<punc type="stop" /></dm>
<frag n="201" sp-act="thank" polarity="positive" mode="thank-
decl">thank you <punc type="stop" /></frag>
</turn>
<turn n="113" speaker="A"><decl n="202" sp-act="state-refer"
polarity="positive" topic="enum" mode="frag">and it's 8 4 2
<punc type="level" />
</decl>
```

In the above example, the agent (labelled speaker A) initiates or prefaces a sequence where she will later provide sequences of numbers and letters that form part of the booking reference. Speaker B, the caller, first

acknowledges this in unit 200 using the discourse marker *right*, but then immediately goes on to thank Sandra for something she has not even done yet, i.e., to provide the reference. This, as well as other examples where callers thank the agent when she prefaces information or tells them that she needs to put them "on hold", confirms that such acts of thanking are mere politeness formulae that serve the interaction management at the interpersonal or task level, rather than representing genuine expressions of politeness or gratitude.

Something similar applies to uses of the word *please*, which is often assumed to be a mitigator that allows speakers to soften the force of a directive. However, the original historical meaning of the full form *if it please you* appears to long have been lost and thus *please* has taken on the primary function of indicating a directive or, in rarer cases, requests for permissions or options. This semantico-pragmatic change also allows it to occur in various syntactic constellations apart from the prototypical imperative or yes/no questions, such as declaratives, fragments, and yes responses. As a matter of fact, in the two data sets investigated here, the overwhelming majority occurs in declarative or fragment form, most often as a response towards requests for directives by the callers or when agents are asking full declarative and elliptical, fragmentary, i.e., deictic, questions. However, when we look at the data in Table 5.4, we can see that *please* is used much more frequently by the British speakers, and that agent A hardly ever uses it at all, which would, if *please* were really a feature of genuine politeness, indicate a strong lack of deference for the customers, an impression that is not confirmed by the friendly interaction between that agent and the callers.

In very rare cases, such as the example below, *please* appears to automatically be used when acknowledging requests for confirmation:

```
    <decl n="11" sp-act="reqConfirm" polarity="positive"
mode="report-query">
you said you had a second reservation <punc type="query" /></
decl>
</turn>
<turn n="7" speaker="caller">
<yes n="12" sp-act="confirm" mode="request">yes please</yes>
```

In the above, the caller uses a response form that, under normal conditions, signals an acceptance, but in a case where this is not the correct response, which would be a simple acknowledging *yes*. In addition to the features of *please* discussed above, this again confirms the formulaic "surface politeness", as well as the directive force of *please*, as the confirming response indirectly functions as a request to the agent to continue with an additional booking.

(In)Directness

As the final category of features to be discussed here, we shall now turn to that of directness or, perhaps more interestingly, indirectness. As we have already seen in our discussion of initiative-oriented characteristics, the Trainline agent, Sandra, uses more requests for directives, formally interrogatives that "pretend" to inquire after the wishes or preferences of the caller, at the same time often providing initial options/alternatives, as in e.g., *would you like smoking or non-smoking* or *do you want me to book this ticket*. These allow the caller to respond to the options available immediately, and permit the agent to efficiently elicit and check off the items required for completing the list of booking details. At the same time, this makes it possible for the agent to avoid using the straightforward imperative equivalents, e.g., *(please) tell me if/whether…*, which would sound rather impolite, especially as the agent is supposed to be performing a service to the customer. Agent A, however, uses this strategy much less frequently, so we can probably assume that (s)he relies more on the direct option to gather such information and receive instructions from the callers. To verify this, let us take a look at the distribution of imperatives used by all speakers/groups, including abandoned ones, and their associated functions.

In the total in the final row of Table 5.5, we can see that agent A indeed does use a relatively high number of imperative structures (4.04%), with the major type, *hold*, amounting to 2.63%. However, this particular type is only formally an imperative, as its function is in fact to inform the interlocutor that the agent needs to undertake an action, usually to their benefit, and where the flow of the verbal interaction may be interrupted since the agent generally needs to retrieve some information from the

Table 5.5 Distribution of imperatives for all speakers/groups by function

Syntax/ Unit content	Speech-act type	TrA rel. freq.%	TrA raw freq.	TrA doc. freq.	TrC rel. freq.%	TrC raw freq.	TC doc. freq.	AmA rel. freq.%	AmA N. freq.	AmA N. doc freq.	AmC rel. freq.%	AmC N. freq.	AmC N. doc freq.
imp	hold	0.06	2	2	0.47	14	8	2.63	63.00	24.82	0.31	5.73	4.45
imp	direct	0.81	26	21	0.20	6	5	0.16	3.82	3.18	0.76	14.00	10.18
imp	apologise	NA	NA	NA	0.03	1	1	0.05	1.27	1.27	0.03	0.64	0.64
imp	suggest	NA	NA	NA	0.17	5	4	0.77	18.45	11.45	0.82	15.27	9.55
imp	offer	NA	NA	NA	NA	NA	NA	0.21	5.09	4.45	NA	NA	NA
imp	reqconfirm	NA	NA	NA	NA	NA	NA	0.03	0.64	0.64	NA	NA	NA
imp	init	NA	NA	NA	NA	NA	NA	0.16	3.82	2.55	0.03	0.64	0.64
imp	*	0.88	28	24	0.86	26	18	4.04	96.73	49.00	1.99	36.91	26.09

system. Instead of having the directive force commonly associated with imperatives, holds are thus more like indirect requests for permission, especially when they begin with the typical *let me…* structure agent A predominantly uses, e.g., *let me pull up your profile*, *let me check on that flight*, etc., although (s)he also uses other short units like *hold on a second* or *see*, where the latter may also frequently function as an initiating DM.

None of the other speakers/groups use this feature extensively, although Sandra uses some abbreviated, verbless, forms of holds like *just a second*. To "compensate" for this, she employs non-imperative declaratives or fragments that exhibit no directive force, but instead represent statements of intention on her part, such as *i'm just going to check to see what's your cheapest fare available to you*, amounting to 1.69%. In addition, she also uses conditional statements (0.85%), such as *if you just bear with me*. Both types are frequently "softened" by the "minimising adverb" *just*. Other than as holds, she also strategically employs conditional statements as a form of indirect directives starting with *if i…*, e.g., *if i ask you to be there for half an hour before departure time of the train*, etc., in situations where she needs to provide a series of instructions to the caller regarding modes of picking up booked tickets. The use of both conditionals and *just* has also been commented on in Brown and Crawford (2009, p. 80) as an indicator of enhanced politeness and indirectness in conjunctions with calls to the UK NHS Direct helpline that offers advice on health issues over the telephone. Thus, this feature may in fact be a particularly British one.

Apologising imperatives are rare in the data and generally take the form *excuse me* for the American speakers, while *excuse a moment* is used once by a Trainline caller before coughing. All other apologies are mainly realised in the form of the DM *sorry*, although this of course doubles as an indicator of misunderstanding and is then labelled *pardon* in the DART scheme.

Suggestions and offers in imperative form are very similar to one another. In general, they take the form of *let's* vs *let me* imperatives, i.e., the main difference is in the subject number, with the singular/offer version also indicating a benefit to the hearer, which distinguishes them from the holds discussed above, e.g., *and let me give you all the flight information too*, where the verb *give* signals the benefit. As Table 5.5 shows, Sandra actually uses none of these features, although she does use a few declarative structures that refer to available offers, which is yet another of her indirect strategies.

The offer and the request for confirmation in imperative form are exclusively employed by agent A, where the latter in fact only appears to be an imperative, as its realisation, *go ahead with that*, is more likely an elliptical version of the yes/no question *should I go ahead with that*. The common use of the suggest imperative, involving the first person plural pronoun, between the American speakers and the British callers seems to imply that they see, or at least try to frame, the task as a collaborative effort, rather than expressing a strong hierarchy between clients and "server".

The final imperative form, the *init*, is in fact similar to the initiating DMs we saw above, as it normally takes the form of *see* or occasionally *let's see*, prefacing the beginning of an additional necessary step to accomplish the task. It is only used by the American speakers.

A final feature to be discussed under this heading is that of suggestions and requests for information as expressed through specific *wh*-questions, namely those starting with *what about* vs *how about*. While the former do appear in the British data, too, the latter are notably absent there. In addition, the *what about* type in the Trainline data always clearly marks a suggestion related to potential options, rather than a request for information, while in the Amex data, this is variable.

Conclusion

In the preceding discussion, I have tried to evaluate certain pragmatics-related features on different levels that may be indicative of a speaker's or speaker group's performance. This discussion has demonstrated that it is in fact possible to profile individual speakers or groups in specific ways, as well as to judge their efficiency as communicators, at least to some extent. At the same time, we have also seen that the behaviour of the different agents and callers potentially points towards certain preferences in the two varieties of English investigated here. As I have repeatedly pointed out, though, these preferences, as well as the performance, may need to be evaluated based on particular policies of the companies employing the agents, and also require further in-depth investigation using additional and extensive data sets before we should actually try to arrive at any generalisations.

Nevertheless, what I have hopefully succeeded in demonstrating here is that (a) an approach towards the analysis of speaker performance and ensuing profiling is in fact already to some extent possible using the pragmatic annotation format developed for DART and (b) that it is necessary to dispel a few common myths about how to "measure" politeness in, and other features of, interaction in order to be able to do so.

What has hopefully also become clear through the discussion of the different features involved, is that any more or less word-based approach to this type of profiling, such as the Biber-style approach, is likely to miss out on some highly important features that can only be seen or investigated if a detailed contextual pragmatic analysis is carried out on the data. In addition, I also hope to have demonstrated that, to be able to compare different speakers or populations, it is essential to apply the right kind of frequency norming, based on more sensible units than simply the relative frequency of words uttered, as is unfortunately still the norm in many projects in corpus linguistics.

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6

A Corpus-Assisted Investigation of Nonunderstanding in Outsourced Call Center Discourse

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Introduction

Instances of misunderstanding between interlocutors with differing linguistic and cultural backgrounds have been attributed to various causes. Research in intercultural communication (e.g., Canagarajah 2007; Gumperz 1982), pragmatics (e.g., Weigand 1999), and English as a lingua franca (e.g., Jenkins 2007; Kaur 2011) all provide potential reasons for what causes communication breakdown in conversations with higher miscommunication potential. Studying miscommunication between interlocutors remains an important area of research as the world continues to globalize and more and more people with different linguistic backgrounds interact with one another for different purposes.

One type of intercultural communication that is rapidly growing, especially in the United States (USA), is business interactions in

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outsourced call centers. These customer contact call centers typically provide technical, troubleshooting, or customer support to consumers for a variety of products and services. In the USA in particular, companies have been outsourcing this type of telephone-based support to other countries due to the relatively cheap cost of hiring workers in those countries. Among these, the Philippines and India are the two most popular destinations (Friginal 2009; Mirchandani 2004). Conversations occur in English, requiring Filipino and Indian call center representatives (heretofore "agents") to communicate to callers representing various American English dialects (King 2009). Clearly, the varieties of English spoken by call center agents and Americans differ in important ways, most notably in the divide between native and nonnative speaker varieties, raising the potential for instances of miscommunication to occur.

This chapter analyzes a corpus of call center interactions between Filipino call center agents and American callers engaged in a range of communicative tasks during a typical workday. Our primary focus is to contribute to the knowledge base surrounding miscommunication between Filipino and American interlocutors. Specifically, this study explores how instances of nonunderstanding are initiated and repaired in these interactions. As corpus-assisted research, we analyze a large number of interactions in order to identify linguistic and communicative patterns and draw conclusions from a variety of examples. Qualitative coding of the interactions is utilized to identify how instances of miscommunication occur, while quantitative analysis of these instances is conducted to visualize patterns and to provide suggestions as to what may be causing or resolving miscommunication between these interlocutors.

Misunderstanding in Intercultural Communication

The field of intercultural communication has demonstrated the various ways that communication breaks down between interlocutors. Gumperz (1982) emphasized the importance that cultural background plays when recognizing the *contextualization cues* of interlocutors. Contextualization cues are the signs (both verbal and nonverbal) interlocutors employ based on previous experiences; these cues work to "retrieve the presuppositions"

necessary for maintaining conversational relevance and understanding (Gumperz 1992, p. 230). Drawing on a wide variety of examples between British English and nonnative English-speaking interlocutors, Gumperz repeatedly argued that speakers contextualize their phonological and lexical communication in ways that are automatic and culturally specific. If one speaker is unable to properly interpret another's contextualization cues, miscommunication may result.

From the perspective of pragmatics, Weigand (1999) attempted to define a "standard case" for misunderstanding by first reviewing four varieties of misunderstanding. The "cross-cultural case" attributes misunderstanding in communication due to cultural differences between speakers and was seen in the above explanation of Gumperz. The second variety is the "deviant" style, where speakers are purposefully deceptive in order to achieve pragmatic conversational goals. The third is "communication as miscommunication" and argues that miscommunication is a normal and in fact *necessary* aspect of communication; meaning is made through the resolution of miscommunication. Finally, a "harmonious" view of communication sees miscommunication as problems due to external factors (societal and linguistic features) or internal factors (incorrect interpretation or inference). Weigand's own "standard case" argues that miscommunication occurs from these potential sources: linguistic means, cognitive means, ambiguity, lack of shared reference, and competence.

Researchers working in English as a lingua franca (ELF) settings argue that cultural differences are not typically responsible for communication breakdowns between interlocutors. ELF communication is communication that occurs between two or more interlocutors in a shared nonnative language (i.e., the language is not the L1 for any of the participants). These interactions are markedly different from native-speaker interactions (Jenkins 2007). Watterson (2008) described how ELF discourse differs from native-speaker discourse in the way that pauses and topic changes are used to signal the end of a conversation and that laughter may be used as a backchannel strategy. In a study of communication between speakers in a Korean ELF setting (i.e., Korean was not the L1 for all participants), Watterson highlighted the role that repetition plays in both signaling and repairing instances of nonunderstanding. He noted that instances of nonunderstanding did not negatively affect the flow of

the conversation, as interlocutors used repetition and other conversational strategies to allow the resolution of nonunderstanding to occur naturally and smoothly within the ongoing conversation.

Kaur (2011) analyzed 15 hours of recorded ELF data in order to challenge assumptions that ELF communication is even more susceptible to miscommunication than intercultural communication. Kaur found that ambiguity in communication was the main source of misunderstanding and *not* differences in cultural background. Furthermore, Kaur noted that ambiguity is common to all conversations, suggesting that the ELF instances of miscommunication are representative of miscommunication in non-ELF settings. Another shared feature of ELF and non-ELF communication seen in this data was how the participants also collaborated to repair instances of misunderstanding. All said, Kaur concluded that none of the instances of misunderstanding could be attributed to differences in cultural background, arguing that the shared differences (i.e., that all participants possessed different backgrounds and L1s) actually worked to facilitate successful conversation between interlocutors.

Another important variable present in native and nonnative speaker interaction is the attitude(s) that one group may hold towards the other. Lindemann (2002) tested whether or not preconceived attitudes towards nonnative speakers influence the successful outcome of communication tasks between native and nonnative English speakers. She paired native English-speaking students with either positive or negative preconceptions about nonnative speakers with Korean L1 students and asked them to work together to complete a map task. She found that while, for the most part, each pair of students was able to successfully complete the map task, those who held negative preconceptions about nonnative speaker's abilities with English *perceived* the communication and task to have failed. In other words, native speakers' attitudes played an important role in the perceived success or failure of communication.

These negative perceptions can also be exacerbated if spoken by a nonprivileged L2 speaker. Lindemann (2011) summarized several studies that demonstrated how native-speaker perceptions of pronunciation were strongly influenced by perceptions of the speaker. In other words, negative or positive perceptions of a particular group of people and their

proficiency with English tend to lead some people towards a conclusion regarding that group's production of English, regardless of their *true* proficiency level. For example, Hu and Lindemann (2009) found that study participants were more likely to rate recorded utterances higher when they were told the speaker was an American, whereas they rated the recorded utterances lower when they were told the speaker was Cantonese. This was true even though all participants heard the same recording from the same speaker. Thus, perceptions of proficiency play a strong role in the reception of language production.

To summarize, research in pragmatics and ELF settings disagrees with arguments from intercultural communication that differences in culture are a primary contributor to misunderstanding in nonnative interactions. It may then be the case that the same holds true for intercultural communication and that misunderstanding in these conversations may be attributed to different sources. As research in language attitude and perceptions have shown, miscommunication may be attributed to native-speaker perceptions of nonnative speakers and not to proficiency *or* differences in cultural backgrounds. In a conversational setting such as call center interactions, where the native speaker is also the customer, power differentials between the interlocutors may be further exacerbated when combined with negative perceptions of L2 language production.

Miscommunication and Nonunderstanding

As Kaur (2011) notes, one issue with the previous research into misunderstanding in communication is the lack of a unified definition of terms. An important feature of any study of communication breakdown is to clearly define the terms of miscommunication and nonunderstanding. The important difference between misunderstanding and nonunderstanding boils down to a difference in awareness between interlocutors. Miscommunication occurs when one or both interlocutors are unaware that something has been miscommunicated; the conversation initially proceeds with the assumption that there are no problems in understanding meaning. Nonunderstanding occurs when an interlocutor recognizes that a meaning has been missed and makes an immediate recognition of

the nonunderstanding. Because nonunderstanding typically pauses the conversational flow and prompts repair (Watterson 2008), instances of nonunderstanding are the primary focus of this study.

Outsourced Call Centers

Outsourced call centers have been a rich source of research in native and nonnative speaking interactions and studied from a variety of perspectives. Specifically, the language of Filipino and Indian call center agents has been studied in detail based on multiple approaches, including the use of corpora, similar to the structure and design we pursue in this chapter. For example, using multidimensional analysis, Friginal (2008) studied the linguistic variation in call center discourse based on differences in roles (callers vs. agents), communicative tasks (e.g., troubleshooting, customer inquiry, order placement) and agents' gender. He found statistical differences in language production between callers and agents, where agents used language that was polite and procedurally planned, compared to callers' language, which was less procedural and more personal than the agents.

Friginal (2009) looked at the same data from the perspective of language planning and policy, voicing concerns as to the sustainability of the outsourced Filipino call center practice. Friginal described how Filipino English language policy is influenced by the hiring of Filipino call center agents, which causes a large emphasis to be placed on fluency and American-like proficiency. Friginal (2011) also pointed to examples of language miscommunication and negative American perceptions of call centers to argue that language policy in the Philippines would benefit from focusing on more cross-cultural training in additional to language proficiency, as language-related issues may pose one of the greatest threats to the sustainability of Filipino call centers.

The oral performance of call center agents is perhaps the most important measure of an agent's ability to perform well as a call center agent. However, Friginal (2013) argued assessments of call center oral performance might be limited, as call center companies perform their own in-house assessments that view language proficiency separately from customer

service performance. Friginal (2013) designed a performance-based assessment that incorporated both task and linguistic criteria in order to provide a more accurate assessment of a call center agent's overall customer service quality. He concluded that assessment of agents that examines more than just English proficiency, but rather, how English is used by agents in performance-specific customer service-related tasks, is ideal. The implication from this study is that if agents are not properly assessed and trained in their customer service or interpersonal skills, but only in language proficiency, their overall quality may not improve, which may result in lower satisfaction among callers.

Friginal and Cullom (2014) investigated this same phenomenon from another perspective: how call center agents handle having to say "no" to American callers. Because saying "no" or being otherwise unable to complete a request for an American caller requires the nonnative speaking person in a customer service role to respond negatively to the native-speaking customer, call center agents need to be especially careful in how they do so. Friginal and Cullom found that agents received training in how to say "no" and used a variety of strategies for this purpose. Most importantly for this study, they found that any miscommunication that arose due to an agent having to deny a request or otherwise say "no" was quickly negotiated and that "agent and customer are able to find a common ground and understand each other's messages and reasons" (p. 14).

As previously noted, there have also been investigations of call centers located in other countries, especially India. Mirchandi (2004) investigated how Indian call center workers negotiated the transnational practices of scripting, synchronicity, and local masking, casting doubts on typical assumptions that outsourced call centers are beneficial to the economic and social livelihood of the countries they are outsourced to. Cowie (2007) conducted an ethnographic study of the accent training practices used by a call center in India, finding that despite efforts to promote a "neutral" accent among Indian call center workers, a preference from both agents and trainers still remained for achieving British or American like pronunciation. Cowie argued that accent training is ineffective unless the call center agent is personally willing to adopt a new linguistic identity, but this issue is complicated due to differences in accent training programs and the desire to create a neutral, global English accent.

From a related context, Alarcón and Heyman (2013) examined the views of a Spanish–English bilingual call center in Texas in an attempt to see how the language resources of the employees were being valued. Unlike most call centers, where nonnative English linguistic features of employees are tightly controlled, Alarcón and Heyman found that in their call center setting, the company was more concerned with hiring bilinguals who required no linguistic training, ultimately viewing bilingualism as a cheap resource to be exploited, rather than as a valuable resource in the increasing multilingual world.

The previous studies of call center interactions highlight several important themes. As the world continues to globalize, the language background of interlocutors grows more diverse. Although many call centers train their agents with the goal of native-like proficiency in English, this is a goal that is difficult (and perhaps impossible) to attain. As Friginal (2013) demonstrated, linguistic training is also not enough if call centers wish to train competent customer service employees, and that more cross-cultural competence may benefit communication (Friginal 2011). Power issues between callers, companies, and agents also play an important role, with linguistic competence now being directly related to the economic well-being of companies or countries (Friginal 2011; King 2009).

The current study does not take up an argument about the relative political, economic, or cultural good that call centers may or may not provide to the countries and agents involved. Instead, we aim to demonstrate whether call center interactions, which are potentially fraught with variables that make them susceptible to miscommunication, actually result in a high amount of miscommunication or nonunderstanding. If it is found that miscommunication is still avoided or repaired, despite the variables that make these conversations fragile, this study may help to assuage arguments that communication between native and nonnative speakers is inherently prone to problems of understanding.

Method

This chapter seeks to quantitatively and qualitatively analyze instances of nonunderstanding as they occur in a corpus of transcribed telephone conversations between Filipino call center agents and American callers. Using a

coding taxonomy initially based on previous studies of miscommunication in the field of ELF (e.g., Watterson 2008), our coding scheme focused on: (1) the source of the nonunderstanding, (2) whether the nonunderstanding was repaired, and if so, (3) how that nonunderstanding was repaired. Additionally, the gender of agents and callers were considered to see if related sociolinguistic variables play a role in the frequency of nonunderstanding.

Corpus

The corpus used in this study has over 400 transcribed telephone conversations (number of words = 346,789) provided by an outsourced call center company located in the Philippines, serving callers based in the USA. This corpus has, in part, been used in a variety of other research and has appeared in publications such as Friginal (2008, 2009, 2013) and Friginal and Cullom (2014). Transcription details include agent and caller turns, markers of dysfluencies, and some minor pausing and overlapping indicators. Details about the agents, including gender, length of experience with the company, and an overall in-house quality rating for each agent were included with the corpus.

Coding

Our qualitative coding of texts focused on the selection of a subsection of the corpus ($N = 100$) to look for potential instances of nonunderstanding or miscommunication using the following definitions:

Nonunderstanding: interlocutor A apparently is unable to fully understand interlocutor B's utterance or is not fully confident in the interpretation and appears aware of this.

Miscommunication: interlocutor A understands the utterance of interlocutor B to have meant something other than what interlocutor B apparently intended and behaves as if unaware of this.

Even though the primary focus of this chapter is nonunderstanding, we also chose to initially identify instances of miscommunication because of its potential relevance to a larger study on intercultural communication. During the coding process, we cross-checked codes and observations in order to ensure consistency and help refine criteria for identifying

these features. After the initial identification of each instance, the texts were transferred to a data analysis program, Dedoose (2013), in order to facilitate a more detailed coding scheme for all the identified instances of nonunderstanding. Dedoose is a web-based qualitative and quantitative research program designed to help researchers better organize, identify, and analyze patterns and themes in large amounts of data. The program is well-suited for a study such as this one because it allows for an explicit coding scheme to be applied to texts; this scheme can then be visually and quantitatively analyzed using Dedoose's built-in analytic tools.

The coding taxonomy was based initially on Watterson (2008), with four possible sources or triggers of nonunderstanding: gaps in world knowledge, performance related, language related, and ambiguity. Gaps in world knowledge occur when there is something about the world that an interlocutor simply does not know, which may be based on cultural background or otherwise. Performance-related sources are based on the speaking or listening skill of the interlocutors—this could be related to issues of pronunciation or cadence, speed, and technical factors (e.g., telephony, noise). Language-related sources include potential errors in language production such as grammar, phrasing, and vocabulary use. Problems related to ambiguity arise when a participant is unable to properly infer meaning from another participant's utterance due to lack of information or clear referents. One additional trigger for nonunderstanding was located in this data: *checks*. Checks were used to confirm if a participant had clearly understood the previous utterance (in a way, mitigating nonunderstanding).

Along with the triggers, the types of repair identified by Watterson (2008) were also used. These include repetition, reformulation, and contextual reference. Repetition repairs involve simply repeating the target utterance again. Reformulation involves transforming the target utterance either syntactically or lexically (this could also involve some repetition) or adding information. Contextual repair happens when a participant refers to parts of the previous conversation in order to make connections between what has been said and what is actually being said. Along with these repair strategies, two more strategies were identified: confirmation and avoidance. Confirmation repairs were affirmations that resolved any potential misunderstanding (typically used with checks). Avoidance was

a strategy that did not work to repair the target utterance, but instead moved the conversation to a different topic or focus.

Focal texts ($N = 100$) from the call center corpus uploaded into Dedoose were fully coded for these trigger and repair strategies. Additionally, the source of the trigger (agent or caller) was noted along with the gender differences between the two. Finally, each instance was coded for success or failure; instances where the meaning of the target utterance was resolved were deemed to be successful, and those where it was left nonunderstood as failure. This data was then compiled and analyzed to produce descriptive statistics for discussion and interpretation.

Results

In this section, we first provide descriptive statistics for the following features: (1) the total number of instances of nonunderstanding from our specialized corpus, (2) how often callers and agents initiate turns that cause nonunderstanding, (3) the triggers of the nonunderstanding, (4) the repair strategies of the nonunderstanding, and (5) the overall success rate in negotiating instances of nonunderstanding. Additionally, we consider the role that agent and caller gender may play in these interactions. Chi-square calculations are provided along with each variable in an attempt to demonstrate statistical significance. However, for measures such as triggers and repairs, one interaction may contribute more than once to each variable, causing a loss of independence of data. As such, the chi-square statistic presented here should be interpreted with caution in instances where independence of data is not achieved.

Instances of Nonunderstanding

Of the selected calls analyzed, a total of 44 calls contained at least one instance of nonunderstanding. Out of these 44 calls, a total of 143 separate instances of nonunderstanding occurred. For the 143 instances, there were no significant differences between agent and caller in causing an instance of nonunderstanding (agent = 76, caller = 67, $\chi 2 = 0.566$,

df = 1, p = .452). Furthermore, 138 of the 143 instances of nonunderstanding were repaired successfully, with the meaning of the target utterance arrived at through a repair strategy, a significant result ($\chi 2$ = 123.699, df = 1, p < .001).

As these initial results argue, both agents and callers are equally responsible for causing instances of nonunderstanding, and that in the vast majority of instances the nonunderstanding was repaired. This suggests that while seemingly frequent and pervasive for most call center interactions, instances of nonunderstanding do not have an overall detrimental effect on the conversations. This result mirrored those reported in Friginal (2009) about instances of caller clarification analyzed as potentially causing miscommunication. Friginal noted that there was successful negotiation for meaning in many caller clarification sequences. The typical trigger for caller clarification was "information packaging" from the agents—often involving technical terms and jargon.

The next section studies the trigger and repair strategies of the agents and callers in more detail in order to better understand how these instances of nonunderstanding are repaired.

Triggers of Nonunderstanding

Table 6.1 displays the frequency of triggers and repairs as they were coded in the corpus. As can be seen from the table, performance-related triggers of nonunderstanding were the most frequent in the sampled texts, followed by checks (comprehension checks and clarifications). Ambiguity, world knowledge, and language-related triggers only represented a

Table 6.1 Frequency of triggers and repair in customer service calls

Triggers of nonunderstanding (N = 143)		
	Observed N	Expected N
Performance	69	28.6
Check	59	28.6
Ambiguity	11	28.6
World knowledge	2	28.6
Language	2	28.6

$\chi 2$ = 149.692, df = 4, p < .001

small amount of the triggers in this sampling of outsourced call center interactions.

Performance-related triggers were the most common in the dataset and were typically identified by an utterance that suggested one interlocutor was unable to correctly interpret the previous utterance (e.g., "pardon me," "what was that") as shown in Text Sample 1.

Text Sample 1

1 Agent: oh ok do you have the bowl with you Dan? [trigger, performance]
2 Caller: pardon me?
3 Agent: do you have the bowl with you?
4 Caller: hold on just a minute

The caller's utterance in line 2 ("pardon me?") does not directly indicate that there was a problem with the agent's pronunciation or enunciation; it could also be related to the caller's hearing of the quality of the telephone transmission. Furthermore, based on the transcription and also an examination of the actual sound file, there was no evidence that the agent was ungrammatical or that the agent used nonstandard vocabulary to cause misunderstanding.

Checks were a very common trigger of nonunderstanding, and typically, they worked more as a form of nonunderstanding mitigation than actual instances of nonunderstanding. Nonetheless, because they indicated that an interlocutor might *potentially* have misunderstood some information, they were coded as nonunderstanding in this study. Due to the transactional nature of many of the phone calls, customers needed to provide information such as telephone numbers, addresses, account or order numbers etc. Many call center agents often, but not always, repeat this information back to the caller in order to ensure understanding and accuracy in logging in necessary data provided by the customer (Text Sample 2).

Text Sample 2

1 Caller: 99999 Main Town Road
2 Agent: Main Town Road? [trigger, check]

3 Caller: uh huh two different words
4 Agent: uh huh and the city or town is?

In Text Sample 2 (as well as all the excerpts provided in this section), the actual number and address were changed to ensure anonymity and confidentiality of customer information. The agent's utterance in line 2 is framed as a question, even though it is an accurate repetition of the caller's address, signaling that the agent did properly interpret the caller's utterance. However, the potential for nonunderstanding is not extinguished or completely eliminated until the caller confirms that the agent's question is indeed accurate (line 3). The caller, also recognizing the potential for alternative constructions of the address, provides additional information ("two different words") for the agent, who in turn acknowledges the information in line 4.

Ambiguity arose in 11 of the instances of nonunderstanding in the dataset. These instances occurred when a participant was unable to draw out the intended inference from a statement made by the other interlocutor, as shown in Text Sample 3.

Text Sample 3

1 Agent: OK it's not yet registered here, hmm. [trigger, ambiguity]
2 Caller: It wasn't on the uhh sales order that the site-link got pulled up or you
3 couldn't see that either?
4 Agent: No, not yet listed here.
5 Caller: Alright.

In this example, the agent states that the caller's product is not registered "here," using an unclear reference to a place or location. In line 2, the caller offers two possible entities to fill the slot: the sales order or the agent's own computer system. The agent confirms that it was the latter by using the same construction "not listed here," making it clear that the agent is referring to the local computer system he is using to pull up the customer's information. The caller's utterance in line 5 indicates that the caller correctly interpreted the agent's response to his query.

Gaps in world knowledge were only responsible for two instances of nonunderstanding (Text Sample 4).

Text Sample 4

1 Caller: but she said she had talked to him on the 29th about what time was that
2 about 9:30 dinner time [trigger, world knowledge]
3 Agent: 9:30 in the morning or in the evening?
4 Caller: 9:30 in the evening
5 Agent: ok

In Text Sample 4, the caller indicates if 9:30 refers to 9:30 a.m. or 9:30 p.m. by using the phrase "dinner time." However, in line 3, the agent asks if the customer is referring to a.m. or p.m., potentially indicating that the agent did not recognize the time orientation of "dinner time" to mean p.m. The phrase "dinner time" may be more recognizable to most Americans as a normal feature of American life. It is possible that the call center agent did not immediately connect this phrase correctly to time references or may not have possessed the world or cultural knowledge of what "dinner time" meant in this exchange to manage the information as the caller intended.

Text Sample 5 is a more explicit manifestation of how a lack of world knowledge contributes to nonunderstanding, particularly in a very specific, nominal context (e.g., references to proper nouns).

Text Sample 5

1 Caller: ok it's [address]
2 Agent: ok
3 Caller: W E N A T C H E E
4 Agent: ok
5 Caller: that's in Washington it's 98801 [trigger, world knowledge]
6 Agent: ok that's [address] and the city is Washington?
7 Caller: Wenatchee
8 Agent: ok may I please have the correct spelling of the city Pauline?

In the excerpt above, the caller provides their address, which is from the city of Wenatchee in Washington state, spelled beforehand by the caller in line 3. Nevertheless, the agent asks if Washington is the city in line 6, suggesting an orientation towards the city of Washington, DC (admittedly a mistake made by many Americans as well). However, with

the contextual information of city (Wenatchee) provided before the state (Washington), most Americans would possess the world knowledge of the USA (i.e., geography) and be able to recognize that Washington is not the city being described. The agent here needed clarification that a more familiar knowledge of the geography of the USA would have provided. This repeated sequence in the interaction did not cause a conflict or noticeable frustration in how the caller carried on with the transaction.

Language-related instances of nonunderstanding were also very rare in this subsection of the corpus, with only two examples identified. Interestingly, an agent caused one instance of language-related nonunderstanding, whereas a caller caused the other. First, Text Sample 6 illustrates the example caused by the agent.

Text Sample 6

1 Agent: OK so uhm and uhh may I know the what the customer's urgency for
2 this one? [trigger, language]
3 Caller: Pardon?
4 Agent: Uhh the the customer's urgency, is this uhh high, medium or low?
5 Caller: High.

In this excerpt, the agent produces the relatively awkward phrase in lines 1 and 2 "may I know the, what the customer's urgency for this one?" The phrase is awkward primarily because of the way "urgency" is used. A search of the spoken section of the Corpus of Contemporary American English (COCA: Davies 2008–2014) reveals that *urgency* is typically used as a prepositional object (e.g., sense of urgency) or a determined noun phrase (e.g., the urgency of the situation) and *not* as a possessive object, which is how the agent uses it. In addition, *urgency* is also not a very common collocate of "customer" in spoken English interactions. Therefore, this language-related nonunderstanding might be attributed to the call center agent's less colloquial production of English-based collocations common in most American interactions.

The caller's turn was responsible for the only other example of language-related nonunderstanding as shown in Text Sample 7.

Text Sample 7

1 Caller: I don't have nothing new [trigger, language]
2 Agent: I'm sorry?
3 Caller: I said I don't have nothing new
4 Agent: ok so let me check in here uhm I'll look for a 26 cup bowl for you one
5 moment please how do you usually use this bowl?

In Text Sample 7, the nonunderstanding is prompted by the caller's utterance in line 1, which is delivered in the form of a double negative statement. The agent, in line 2, voices her nonunderstanding, to which the caller repeats the same line. While ungrammatical based on "standard English" norms, double negatives are a commonly used construction in American English. However, the call center agent, not living in America or using everyday American English, may not have easily interpreted the double negative construction in a native-like way, prompting the nonunderstanding in this segment of the call.

While the examples of ambiguity, world knowledge, and language-related nonunderstanding may at first appear problematic, they occurred very rarely and were all successfully resolved. Negotiations of these triggers were easily facilitated and resolved by both speakers and it did not appear that these instances immediately resulted in customer dissatisfaction. However, some of the language-related nonunderstandings, especially those pertaining to nominal contexts, may directly require repeated clarifications and extend call times. In many settings, agents are coached to resolve calls or complete call transactions as soon as possible (often, this relates to saving expenses in telephony), which means that accuracy checks and repeated turns should be avoided whenever possible. In the following section, an examination of the repair strategies used by interlocutors details how instances of nonunderstanding were typically resolved.

Repairs of Nonunderstanding

Table 6.2 displays the frequency of repair strategies identified in the corpus. As can be seen, confirmation was the most frequently used repair strategy, followed by repetition and reformulation. In comparison, avoidance and contextual repairs were relatively infrequent.

Table 6.2 Frequency of repair strategies

Repair strategies of nonunderstanding		
	Observed *N*	Expected *N*
Repetition	46	28.6
Reformulate	30	28.6
Confirm	57	28.6
Avoid	5	28.6
Context	5	28.6

$\chi 2 = 77.804$, df = 4, $p < .001$

Confirmation repairs were simple acknowledgments that confirmed or disconfirmed if an interlocutor's interpretation of a previous utterance was correct or not. Not surprisingly, confirmations typically occurred alongside checks as shown in the two excerpts below.

Text Sample 8

1 Agent: for the other one and how many cup does the other one can hold?
2 Caller: how many cups? [check, trigger]
3 Agent: uh huh [confirmation, repair]

Text Sample 9

1 Caller: caller_name@hotmail.com
2 Agent: OK again it's uhh caller_name@hotmail.com [check, trigger]
3 Caller: Yes. [confirm, repair]
4 Caller: oh gosh I don't know [sh pause] it's pretty good size I guess about [inter]

As Text Samples 8 and 9 demonstrate, both agents and callers used confirmation to repair instances of nonunderstanding. Confirmations typically occurred with checks, but were also used to repair ambiguity and performance-related triggers. Repetition was the second most common repair strategy and involved simply repeating the utterance that was causing the difficulty (Text Sample 10).

Text Sample 10

1 Caller: uhh yes [name] [company] did I talk to you earlier?
2 Agent: uhm sorry?

3 Caller: did I talk to you earlier? [repetition, repair]
4 Agent: no I don't think so

The caller's repetition in line 3 ("did I talk to you earlier?") is a shortened version of the utterance that contained the main information behind the caller's question. The agent's response in line 4 indicates that the repetition was sufficient to repair this case of nonunderstanding. Reformulation is a repair strategy very similar to repetition, but involves either adding supplementary information to the target utterance while repeating it, or transforming the syntactic or lexical features of the utterance to rephrase it. Text Sample 11 demonstrates how the agent's original utterance in line 1 was transformed to include additional information in line 3, clarifying that the agent was referring to a button and that the caller should push the button gently.

Text Sample 11

1 Agent: yeah and gently please
2 Caller: what was that?
3 Agent: and uhh please press the button gently [reformulate, repair]
4 Caller: I'll press it gently will I hold it for a certain uhh amount of time
5 or will I just press it?

Avoidance and referral to previous context repair strategies were used much less frequently than the previous three. Avoidance involved shifting the conversation away from the point of nonunderstanding (Text Sample 12).

Text Sample 12

1 Caller: I have the order confirmation numbers.
2 Agent: Pardon me?
3 Caller: Do you want me to fax it to you? [avoid, repair]
4 Agent: No uhh send it to us via email.

Text Sample 12 is interesting because the agent appears to not understand the caller's utterance in line 1, as seen by the agent's utterance in line 2 ("pardon me?"). However, the caller avoids repairing the nonunderstanding by asking a related, but different question (so differ-

ent that it cannot count as reformulation). Surprisingly, even though the original point of nonunderstanding is not repaired, the caller's strategy of avoiding repair for one specific utterance by shifting to a different question works to successfully move the conversation along, managing to repair the overall communication purpose of the call center interaction. Because the agent takes up the caller's new questioning in line 4, it appears that repair of the utterance in line 1 was not absolutely necessary in order to maintain coherence in the conversation.

Contextual repair was achieved through referring to a previous point in the conversation to help explain the point of nonunderstanding, as shown in Text Sample 13.

Text Sample 13

1 Caller: ok what's the router host name?
2 Agent: are you referring about the AR?
3 Caller: well tell me that you connect to the router so what the name of the router
4 like any router that you command what's the name of the router? [repair, context]
5 Agent: yeah I can see here the AR where the customer is connected

In Text Sample 13, the agent tries to reconcile the caller's use of "host name" in line 1. The caller, in line 3, refers to a previous point in the conversation, where the agent had mentioned they had connected to a router. This reference to the prior point in the conversation helps the agent understand that in line 1, the caller was referring to what the agent called "the AR," working to repair the nonunderstanding.

This examination of the triggers and repairs has revealed that callers and agents use a variety of strategies to repair nonunderstanding that is caused by different triggers. While the descriptive statistics report that there are no significant differences between whether an agent or caller initiates the nonunderstanding, an examination of preferred strategies for agents and callers may reveal preferences among these groups for different repair strategies.

Interaction Between Variables

In this section, we show interactions between variables such as agent/caller and trigger and which repairs were used with which triggers. We then consider the role that gender may play in these interactions. Figure 6.1 displays which triggers callers and agents typically caused. As this figure shows, agents caused more performance triggers than callers, whereas callers caused more ambiguity than agents. The check statistic needs to be interpreted in reverse, because checks were actually triggers based on a prior utterance. Therefore, agents were also more responsible than callers for causing checks.

These differences were found to be statistically significant with a moderate effect size ($\chi 2 = 13.5$, df = 4, $p = .009$, Cramer's $V = .307$). Another interaction of interest is between trigger and repair strategy. Figure 6.2 illustrates the relationship between these two variables. As can be seen, repetition and reformulation repairs were used more often with performance-related triggers, confirmations were used more often with checks and ambiguity, and avoid only occurred with performance. These differences were found to be significant with a moderate effect size ($\chi 2 = 96.215$, df = 16, $p = <.001$, Cramer's $V = .410$). However, this statistical significance is most likely due to the nature of the confirmation–check trigger and repair strategy, which again worked more as a mitigation or prevention of nonunderstanding and not as a true repair, like the other strategies.

Finally, the gender of the agents and callers was considered in relation to the triggers that emerged. Four possible configurations of agent and caller were coded for: male agent and male caller, male agent and female caller, female agent and male caller, and female agent and female caller. Figure 6.3 displays the relationship between these dyads and the triggers.

The trends seen in Fig. 6.3 suggest that performance-related nonunderstanding is triggered more commonly in male agent and female caller dyads, which is also where the only instances of world knowledge and ambiguity appear. However, this difference is not significant ($\chi 2 = 18.559$, df = 12, $p = .100$, Cramer's $V = .208$). As such, the perceived differences seen in Fig. 6.3 are not yet strong enough to be considered an influential factor in causing nonunderstanding.

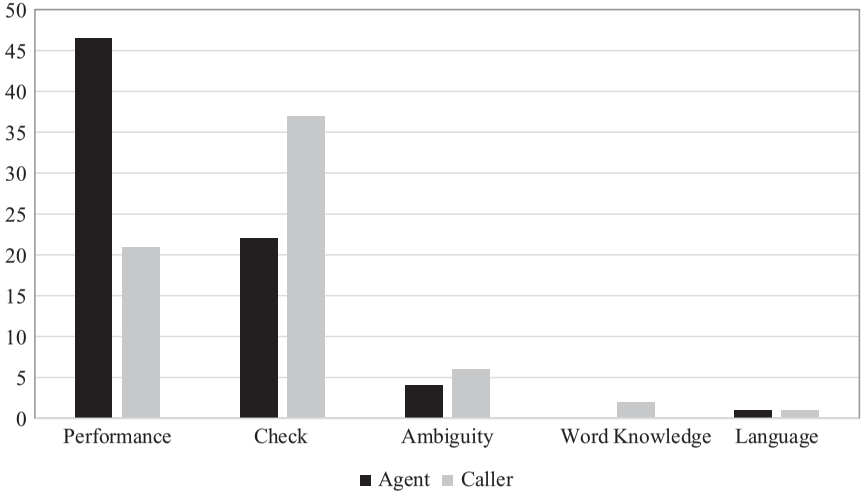

Fig. 6.1 Triggers caused by agents and callers

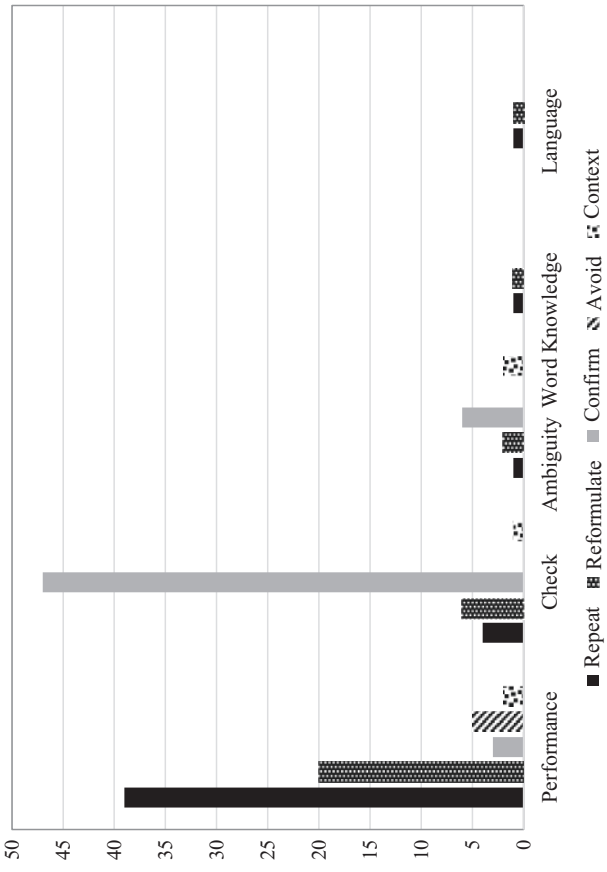

Fig. 6.2 Relationship between trigger and repair strategy ($\chi 2 = 96.215$, df = 16, $p = .001$, Cramer's $V = .410$)

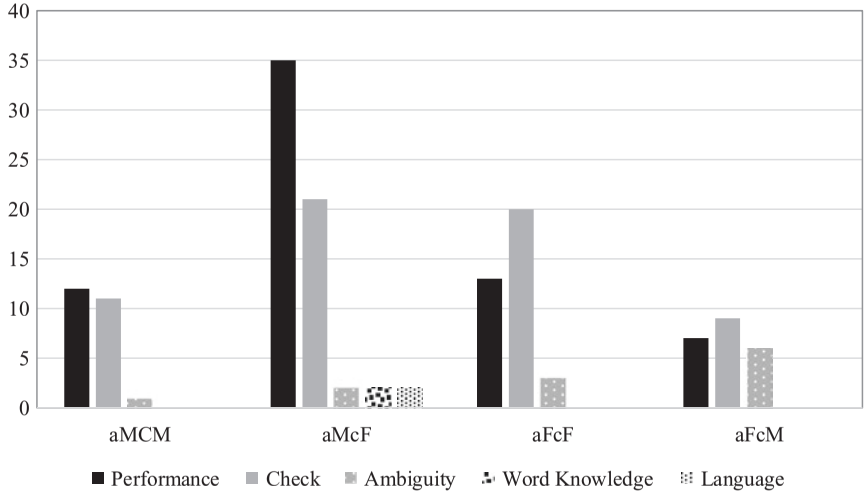

Fig. 6.3 Relationship between speaker dyads and triggers ($\chi 2 = 18.559$, df = 12, $p = 100$, Cramer's $V = .208$)

Conclusion

This study focused on a preliminary examination of the occurrence of nonunderstanding in a corpus of call center interactions between Filipino call center agents and American callers. An analysis of the triggers of nonunderstanding suggests that the majority of nonunderstanding is triggered by issues related to language performance. This could mean that pronunciation or hearing is playing a major role in the interactions, but because those features were not captured during transcription, it is difficult to draw definite conclusions. Furthermore, because these interactions are also telephone conversations, interlocutors lacked a variety of paralinguistic cues that may aid in comprehension, introducing a complicating factor in relation to what may be causing nonunderstanding.

Despite the relative frequency of occurrence of nonunderstanding in almost all of the interactions examined thus far, the vast majority of them were successfully repaired. It appears that the different cultural backgrounds of the interlocutors did not play any role in almost all of the instances of nonunderstanding, supporting arguments from ELF research that suggest nonunderstanding and miscommunication are attributable to other sources. The primary cause of nonunderstanding in this study so far is related to performance, similar to what Watterson (2008) found but not Kaur (2011). Unlike Kaur (2011), ambiguity was not a frequent trigger of nonunderstanding.

The different repair strategies demonstrate that interlocutors relied on repetition and confirmation the most, again similar to Watterson's (2008) study. One unique finding in this data is related to the check trigger and confirmation repairs, which are probably present due to the transactional nature of the telephone calls. Both agents and callers, when providing important information, use checks in order to *prevent* nonunderstanding. This demonstrates that interlocutors in these supposedly fragile conversations are actively working to avoid nonunderstanding. While negative perceptions from Americans related to either the practice of outsourcing or the accents of the callers may have been present, no evidence yet exists that nonunderstanding was created due to these perceptions.

Results here are primarily exploratory at this point and there are clear limitations that will have to be addressed when more randomized texts are added

into our coding scheme. Caution when interpreting these results is necessary, but the overall patterns we observed are promising and contribute to further describing the nature of interactions in outsourced call centers. Our initial findings are encouraging and they provide a theoretical and methodological framework from which future work can further identify the nature of non-understanding in Filipino and American call center interactions.

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7

Dealing with Angry Western Customers in Asian Call Centres: A Cultural Divide?

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Introduction

New customer services representatives (CSRs) recruited to work in Asian call centres often express great anxiety as they prepare to take their first calls from native speaker customers, and dread, in particular, the angry and sometimes abusive native-speaker calls. The biggest challenge for trainers and coaches in the call centres is assisting CSRs to recognize such anger and deal with it appropriately and with professional confidence. Customer anger on calls is not only expressed by raising the voice, but is also reflected in the complex use of certain prosodic features of English (see for example Wan 2010), such as deliberately slowing down

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the rate of speech, and repeating if necessary, as if talking to a child, the use of particular intonation and word stress patterns, and in the judicious choice of lexico-grammatical resources. It was also found to be reflected in the use of sarcasm, interruptions and rhetorical threats as evidenced in the calls analysed for this chapter. Such nuances in anger expression are culturally and linguistically based; they are hard to detect and they commonly appear to cause communication failure.

We argue that even though CSRs have good levels of spoken English, there is a noticeable variability of norms in intercultural communication, which may lead to some of the communication breakdowns. By applying linguistic and intercultural theories such as pragmatics to a small sample of authentic exchanges from a specialized corpus of call centre interactions, we may uncover some of the possible explanations as to why these breakdowns occur. We also argue that a better understanding of the strategies used by both parties in these exchanges will assist businesses in training and coaching their CSR workforce.

Background

The business processing outsourcing (BPO) industry in India and the Philippines has been growing rapidly over the last decade, with the call centre sector now claiming to employ over a million CSRs in these two countries alone (Trestle Consulting Group 2010). CSRs are employed by offshored multinational companies (MNCs) who recruit locally and these local worksites are called 'shared services'; alternatively, local employees are recruited by a 'third party' to MNCs who are responsible for the 'outsourced' service. Justifying the deployment of MNC call centres to developing countries such as India and the Philippines has put great pressure on MNCs to demonstrate the good quality of customer service at a vastly reduced cost. Onshore business management often complain, however, about communication breakdown and low customer satisfaction scores (CSATs) in these outsourced Asian destinations.

Teams of CSRs work on specific accounts and generally provide their telephone service to native-speaking customers onshore in the UK, USA, Australia and New Zealand. Typically, CSRs work in teams of 12 and

have specific goals to meet on a daily and monthly basis. For example, a CSR working in the collections account of a credit card company may need to make 50 calls a day with a certain monetary collection goal each month. Currently, the call centre industry invests heavily in recruiting the right people, in training them not only in the account product and processes before they start work; once on the floor, they also invest in regular coaching sessions using the CSR's own recorded calls for diagnosis and feedback. However, despite this investment, communication problems on the phone persist, particularly in the difficult situation where the customer becomes angry and frustrated.

In this chapter we explore how anger and frustration are expressed by customers who use Asian call centres and how we found a small sample of CSRs respond. By better understanding this type of exchange, improved communications and intercultural training and coaching in call centres may mitigate failure in this context.

Literature Review

In general, there has been a growing literature over the last decade on the nature of global call centre communication both onshore and offshore. Most of these studies have been done looking at the use of English communication, although some notable exceptions have looked at other language call centres (see for example Alferoff and Knights 2002; Heller 2003) as well as multilingual call centres (see for example Woydack 2014). Within the studies recently completed, most relate to offshored/outsourced call centres, although Cameron (2000) and Hultgren and Cameron (2010) have also explored the nature of the exchange onshore from a sociolinguistic perspective, looking specifically at issues to do with power and gender. Others have also explored how call centre work, both on and offshore, is closely monitored and routinized, resulting, they claim, in workplace stress and discontent (e.g., Bain et al. 2001; Taylor and Bain 2005).

This review will first explore studies already completed in call exchanges showing linguistic and intercultural causes of communication breakdown in Asian call centres. Whilst this literature is growing, little has

been done on a specific analysis of how anger and frustration are dealt with in the communication exchange on the phone. A number of studies have used different linguistic frameworks and approaches to reveal the nature of communication breakdown in the exchange. These approaches have ranged from corpus linguistic analysis and the use of specialized corpora (e.g., Friginal 2008, 2009); conversational analysis (e.g., Clark et al. 2008) to systemic functional linguistic analyses (e.g., Hood and Forey 2008; Forey and Lam 2013; Forey and Lockwood 2007; Hood 2010; Lockwood et al. 2008). Outcomes of these different analyses have commonly shown that where the CSRs are second language speakers, the lexico-grammatical resources chosen within this unfamiliar cultural milieu become very challenging.

> The research demonstrated significant problems in both the transactional as well as the interactional skills of the non-native English speaker customer services representatives. The caller interactions which appear to cause most difficulties are the complaints themselves that result in frustration, reiteration, vagueness, silence, demands and requests for a third party's assistance. (Forey and Lockwood 2007, p. 318)

Further and specific studies on pronunciation and prosodic challenges in Asian call centres (Wan 2010; Cowie and Murty 2010) have also revealed the problems in employing appropriate meaning-making resources on the phone when building customer relationships. Wan (2010) reported on a number of features which emerged from her data as key resources used by the customer to construe particular meaning including breathiness, neutral or plain tone, loudness of voice and rhythm. Misunderstanding the underlying meaning of these was seen to cause communication breakdown. Additionally and in relation to the pronunciation training needs of the CSRs, Friginal (2007) concludes:

> Additional training on prosody could possibly improve the quality of support by Filipino CSRs. Non-native intonation, pitch and volume, and rate of speech can negatively affect perceptions and impressions of customers as to how a transaction is being handled by the CSR. Effective prosody carries with it the service-oriented personality of the CSR, which connects very

> well with a customer in need of support. The influence of L1 in intonation could sometimes create an unintended message that might be misinterpreted by American customers. (p. 344)

Because many of these studies have taken a broad sociolinguistic approach where the situational and cultural contexts are critical to meaning making, this body of literature positions culture in a linguistic framework where language and culture are integrated and equally important elements in communication (Halliday 1985; Martin and White 2005; Norton and Toohey 2002). Intercultural theorists (Byram 1997; Early and Ang 2003), however, have also explored how intercultural communication success is grounded in sociolinguistic communicative competence.

Additionally, many pragmatic studies may have implications for intercultural communication breakdown. For example, the variability of pragmatic norms makes it difficult to determine and evaluate 'cultural appropriacy' (Blum-Kulka and Olshtain 1984) due to non-universal acceptability of pragmatic norms. Their study on cross-cultural speech-act realization patterns, especially in requests and apologies, states that:

> One of the basic challenges for research in pragmatics is the issue of universality: to what extent is it possible to determine the degree to which the rules that govern the use of language in context vary from culture to culture and from language to language? (p. 196)

This statement has possible implications for the causes of intercultural breakdown between CSRs and customers in cross-cultural telephone service encounters where they go on to say:

> … second language speaker's pragmatic failures have been shown to be traceable to cross-linguistic differences in speech act realization rules, indicating in Widdowson's terms (Widdowson 1978) that learners are just as liable to transfer 'rules of use' (having to do with contextual appropriacy) as those of 'usage' (related to grammatical accuracy). (p. 196)

This perhaps sheds light on the fact that CSRs, who are L2 speakers of English and who are communicating to native-speakers customers, will

not necessarily share nor accept the same sociolinguistic competencies. The method by which Asian call centres measure and train English communication skills needs to consider this carefully in order to improve performance through well-thought-out training and coaching. The underlying causes of intercultural breakdowns could possibly stem from theoretical claims made in studies such as the one conducted by Blum-Kulka and Olshtain (1984), which look at the cultural assumptions occurring when making requests or apologies. They further report:

> … the realization of speech acts in context may stem from at least three different types of variability: (a) intra-cultural, situational variability; (b) cross-cultural variability; (c) individual variability. Thus, these might be systematic differences in the realization patterns of speech acts, depending on social constraints embedded in the situation. For example, requests addressed to superiors might tend, in a given culture, to be phrased in less direct terms than requests addressed to social inferiors, or vice versa. On another dimension, within the same set of social constraints, members of one culture might tend to express a request more or less directly than members of another culture. Finally, individuals within the same society might differ in their speech act realization patterns, depending on personal variables such as sex, age, or level of education. (p. 197)

This study provides a useful methodology for uncovering the variability in pragmatic norms that could be applied to call centre interactions in order to determine possible reasons behind intercultural communication breakdowns. Other studies, such as one carried out by Ogiermann (2009), looks at politeness and indirectness strategies across cultures (notably English, German, Polish and Russian) and reveals how culture impacts communication; this is also highly relevant to this chapter where her study was:

> … to show that the relationship between indirectness and politeness is interpreted differently across cultures. Hence, the analysis focuses on the difference between direct requests, which have been said to play a central role in Polish and Russian, and conventionally indirect requests, which are the most frequent request type in English and German. It further shows that the examined languages exhibit culture-specific preferences for

> syntactic and lexical downgraders modifying the illocutionary force of the request and, thus, reducing the threat to the hearer's face (p. 189).

Managing threats to the hearer's face, as we will see in the findings of this chapter, tends to be culturally specific, and this is no exception in a call centre context particularly since CSRs need to mitigate their way through telephone interactions by using a number of rapport-managing strategies which are not necessarily universal. Ogiermann goes on to state that:

> The culture-specific meanings and politeness functions conventionally associated with certain expressions and grammatical constructions in a given language become apparent through comparison with other languages (2009, p. 190)

Building on studies completed to date, this chapter explores specifically how CRSs respond in the service encounter on the phone where the customer becomes angry; we describe the response and evaluate it in terms of linguistics and /or intercultural competency.

Research Questions and Methodology

The research questions therefore specifically addressed in this chapter relate to the following:

(i) How do native speakers express anger and frustration in the call centre exchanges?
(ii) How do non-native speaker CSRs respond to angry and frustrated native speaker calls?
(iii) How might the responses be accounted for in terms of intercultural and linguistic listening and speaking competence?

After reviewing over a hundred call centre exchanges from a corpus of customer service interactions recorded in Philippine call centres, five angry and frustrated calls were transcribed for further analysis and two have been selected for detailed reporting. This corpus has been provided

by FuturePerfect, Manila, a communications consultancy company in the Philippines specializing in call centre communication improvement. This particular corpus contains inbound retailing, insurance and banking, telecommunications, information technology and the oil industry call exchanges. All corporate and personal information has typically been deleted before the release of the data and further checks have been carried out to ensure the confidentiality of the companies and customers, in line with the requirements of the non-disclosure agreement (NDA). Whilst the call exchange lengths differ according to the account type and customer need, the average call length of a routine enquiry is around 2–3 minutes and average handling time (AHT) is a common quality measure. It was of interest that the two calls selected for analysis exceeded the AHT norm.

The identification of the communication strategies used by customers and CSRs in highly stressful and angry call centre exchange situations was revealed in an earlier study analysing 500 calls (see Forey and Lockwood 2007). It was found that contrary to perceptions in the industry, the causes of communication breakdown resided in an inability of the CSR to properly understand the anger strategies being used by frustrated customers, nor make appropriate language choices to respond. Interestingly, apart from the lexico-grammatical choices made in the language, it was also found in this study that both customers and CSRs employ a range of prosodic strategies for meaning making, including slowing down in an exaggerated way, increasing the volume of voice, use of intonation and word stress and even the use of silence as a resource. Other strategies including repetition and asking for repetition, rhetorical threat, sarcasm, interrupting and highly formulaic responses. We therefore build on these previous findings and categories for our own analysis, and coded and counted these categories together; this was done manually.

The two examples discussed in this chapter reveal a range of customer strategies to express anger and frustration and also reveal a range of CSR responses. In order to answer our first two research questions, we read the transcripts as we listened to the recordings of the calls. The communication strategies denoting customer anger and communication strategies denoting CSR response to this anger have been counted and tabulated manually; these tables included the findings for each of the calls below,

with each call lasting for approximately 7 minutes. In the next section, the two calls are first contextualized and the customer problem explained in full in order to better understand customer and CSR exchanges.

Results

Two calls have been transcribed and analysed for both quantitative and qualitative evidence of customer anger and frustration and problematic CSR responses in two Philippine call centres situated within two separate accounts (or particular type of service support); one an American book distributor and the other a British petroleum company with outlets throughout the UK. The customer anger and frustration appear to be manifested in a range of behaviours from shouting, to exaggerated word stress and to sarcasm—some of which are well understood by the CSR and some which are not. The CSR response behaviours range from silence to the use of rehearsed formulaic and other inappropriate retorts. We argue that such response behaviours are very prevalent in the Philippine call centres where CSRs are second-language speakers of English and are not well acculturated to UK and US transactional and interactional norms. They therefore appear to rely heavily on formulaic responses taught to them in call centre communications training sessions before they start work; some of these responses are even scripted (e.g., "*I apologize for the inconvenience, sir, I will make sure to help you with that*"). Alternatively, they naturally resort to their own intercultural norms when in a threatening encounter and remain silent, some CSRs report even putting their calls on 'mute' when customers start shouting. Just as problematically, the CSRs sometime agree to unreasonable and truculent requests in order to exit the call as soon as possible.

The First Call: ReadUS

For the purposes of this chapter, this first call takes place within an account called ReadUS, which is a pseudonym for a well-known American book distributor. ReadUS uses a third party customer service provider in Manila,

Philippines. This means that the CSRs do not work directly for ReadUS but report directly to the third party Filipino employer that manages the ReadUS account. CSRs are provided with product training, typically from account trainers, before they start taking calls, but this is often limited to training them in the kinds of resolutions they are permitted to offer and in the routine types of exchange problems. Unusual types of service problems are not extensively covered in the initial training, although unusual calls may be used later for coaching on the floor to improve performance.

In this example, the CSR is a young Filipina (Connie); she is in her early twenties with approximately one year's experience on the phones, but not with this account. The customer is a middle-aged African American woman (Veronica), who is calling from an unknown location in the USA. Pseudonyms are used for privacy purposes. The circumstance of this call is a common one that often results in anger; the customer has been offered a 30-day ReadUS trial subscription but rather than expiring at the end of this period, it has automatically started billing. In this situation, it is the customer who is technically at fault, because if she had read the terms and conditions, she would have understood that it was her responsibility to cancel the subscription with the company. The customer claims she had originally thought that the cost of the newspaper was USD 19.00 **a year** including the purchase of the electronic reader, nook (which is USD 69.00). However, when she went online she discovered, before she purchased it, that the combined deal was USD 19 **per month**, obviously a much higher annual expense than a normal purchase of the newspaper and the nook device. She therefore claims that she took the combined offer out of the shopping cart because this deal did not represent value for money. Somehow however, the deal went through, and the CSR suggests Veronica may have accidentally 'clicked on the offer'. From the start of the call the customer is noticeably angry and confused as to why this deal went through when she had decided not to purchase it.

Table 7.1 shows the distribution levels of the communication strategies of each party, most of which have been discussed previously. The 'other inappropriate responses' as a CSR strategy relates for example to misunderstanding and answering the wrong question, responding literally to remarks made by the customer and not providing empathy when cued by the customer.

Table 7.1 ReadUS customer and CSR communication strategies

ReadUS: Customer strategies	Number	ReadUS: CSR strategies	Number
Slowing down	4	Silence	5
Increasing volume—shouting	5	Asking for repetition	2
Sarcasm	1	Formulaic response	8
Intonation and word stress	12	Other inappropriate responses	3
Lexico-grammatical choice	8		
Repetition	1		
Rhetorical threat	3		
Interrupting	3		

Throughout the call the customer speaks at a slow pace, putting stress on key words and using a loud voice denoting anger; furthermore, there is in her voice and lexico-grammatical choices, a suggestion that she has been tricked into this purchase. The CSR, in contrast, speaks quickly with a high pitch, suggesting that she is anxious to resolve the issue (being the cancellation) and finish the call; she therefore does not listen well and does not appear to fully understand the nuances communicated by this upset customer and therefore fails to provide sufficient empathy and understanding. The call starts:

CSR: Thank you for calling ReadUS. My name is Connie. How can I help you?
Customer: (slow, deliberate and angry voice; equal stress on all the words) I need to cancel this order. It was never meant to go through.
CSR: Alright, I do apologise for the inconvenience caused. Let me go ahead and check that for you.

Connie to some extent picks up on the immediate anger, which is made in Veronica's two strong introductory declarative statements; however, Connie responds in a formulaic manner which may be inappropriate because the customer is obviously angry and upset. Veronica therefore immediately reiterates her anger, this time in a raised and angry voice:

Customer: I wanna cancel this order. It was never meant to go through. I was cancelling it and it went through anyway!

Again, Connie does not respond to the anger evident in Veronica's statement. Typically on these calls, the CSR has to verify the identity of the caller and in this case as Connie elicits the customer's details, Veronica interleaves her responses with anger, finally requesting again a cancellation of the subscription:

CSR: Do you have an order number?
Customer: 36596926. It's for the Chicago Times. Please cancel it. That's too much money.

Connie then continues with the process of cancellation but she still does not acknowledge the upset; Veronica then says very explicitly:

Customer: I'm mad at ReadUS.

This utterance again is not acknowledged by Connie who perhaps feels she does not have the skills to deal with this more overtly expressed anger and responds:

CSR: Allright so, ummm, let me just verify as well, was this subscription coupled with the device combo?
Customer: Yeah I took it out of the shopping cart … so I don't know how it ordered.

Connie then cancels the subscription and suggests that perhaps Veronica *'accidentally clicked on it'* which she denies and again complains about the poor value of what ReadUS was offering:

Customer: I don't understand this (the fact that she thought she had taken the deal out of the shopping cart) I took it out of the shopping cart coz I saw it wasn't worth the money!

Veronica strongly implies that she was tricked into purchasing this expensive combined deal at USD 19 per month for the nook and the newspaper.

Customer: And the nook is USD 69. So what was I doing? I wasn't helping myself. I don't understand how this could have happened!

Connie continues to cancel the combined subscription, however as she is doing this, Veronica shouts very loudly:

Customer: I didn't purchase no nook

Connie has difficulty in acknowledging and defusing this overt anger and suggests in a flat and rather formulaic tone, that they ask for the assistance of the 'technical team':

CSR: Oh OK, so, ummm, I'm sorry to hear that but let me go ahead and give you or make a report about that, so our technical team can take a look further with regards to this concern. Is that alright?

However, Veronica clearly felt 'fobbed off' and this finally triggered her to make the following rhetorical threat:

Customer: I don't even know what card it went to, this is the crazy part! I'm gonna cancel my membership too with ReadUS, in a minute. … I'm gonna cancel that too.

To which Connie responds literally:

CSR: Oh I'm very sorry to hear that but do you have your membership number? So that I can cancel it for you?

Connie has misinterpreted the subtler underlying meaning behind the caller's words and this provides a good example of how the meaning behind what is said in a cross-cultural interaction may not be shared. The rhetorical threat is completely misunderstood by Connie. The call finally ends with the customer reiterating her complaint that she was somehow tricked into purchasing the combined deal and says:

Customer: … that bothers me, I mean they (ReadUS) did it, and I didn't OK it, I didn't even keep going, I took it out of the shopping cart. How do you order something after somebody takes it out of the shopping cart?

Again the CSR does not respond to her emotional upset and puzzlement over the charges and says in a formulaic way:

CSR: So anything else I can help you with today?

The customer then makes a final effort to elicit empathy and reassurance:

Customer: No I'm really disturbed, OK?

And without even waiting for a response, Veronica finally closes sarcastically by saying:

Customer: Thanks so much, have a good day.

The CSR again responds inappropriately, not wanting to open up any further exchange by saying,

CSR: Oh I'm sorry to hear that. Thank you---see you as well. Thank you for calling read US and have a good day.

This call provides a rich example of how the native speaker customer ultimately felt 'unserviced' by the Filipino CSR, not because the transactional nature of what occurred as the cancellation was affected, but because of the interactional failure. The CSR consistently failed to engage empathetically with the upset the customer was feeling. This is very common in this call centre context in the Philippines and is surprising as Filipino CSRs appear very willing and eager to assist. The cause of this failure seems to have an intercultural component, in Connie being unable to deal with this particular kind of anger and frustration that manifests itself in sarcasm, shouting and rhetorical threats. As the call proceeded the anger strategies became stronger and the service increasingly ineffectual.

The Second Call: TankUS

Unlike the example above, this call is taken from a shared services account, which means that the CSR handling this account is directly employed by the company, although the service is based in Manila. This exchange takes place in a major petroleum company referred to under the pseudonym, TankUS. Typically the customers using TankUS are heavy vehicle drivers and the Filipino call centre mostly deals with enquiries and complaints from mostly middle-aged male customers based in the UK. The CSR is again a young Filipino female (Anna), probably in her mid to late twenties with over two years of experience in this account. Whilst she has more call centre experience, she is unable to understand and deal with this particular

concern. The customer (Harry) is from the north of England and is a manager of a trucking company that has a TankUS account for diesel purchases. Harry is upset because one of his drivers filled up with fuel costing GBP 50 at the same time as another customer filled his vehicle with GBP 120, but the cards got accidentally swapped. This customer is not as overtly angry as the previous example but he is very insistent that the quality of professional care shown by the sales assistant is poor.

The problem of 'card swapping' is a common occurrence and would be a familiar part of the initial product training; therefore, Anna would know how to resolve this complaint. However, the main concern for Harry is that the swapped card was a temporary one and the TankUS shop assistant announced, in a crowded filling station, that therefore account (Harry's company) was 'on stop'. This would imply, although Harry did not make this explicit to Anna, that his trucking company was not paying its bills. This was humiliating to Harry and, therefore, he felt that the shop assistant had not behaved in a professional manner. He also said he was concerned, but to a lesser extent, about the actual amounts credited to the cards (it would appear his company is GBP 70 out of pocket); he knew however that this would get sorted out eventually with the presentation of the relevant receipts which he had kept. Table 7.2 shows the distribution strategies of the two parties.
Harry presents the problem at the beginning of the call:

Customer: Um I've got quite a serious problem … .my uh, one of my drivers has been to one of your franchise service stations in South West London to fill up his vehicle. He's put GBP 50 worth of diesel in it. Now the sales assistant has mixed up the two cards and debited our fuel off someone else's fuel card and then they took GBP 120 off our card, but looks like it's been done with a temporary card … now the sales assistant then told the owner of this card that our account is 'on stop' … the sales assistant has told them in the shop that our account is 'on stop', is that true?

Anna then responds to what she understood to be the main concern:

CSR: Ah well as of the moment, the account is already active but let me check if there's a list here of the accounts being put on stop. Pause. I don't see any problem with the account.

Table 7.2 TankUS customer and CSR communication strategies

TankUS: Customer strategies	Number	TankUS: CSR strategies	Number
Slowing down	2	Silence	0
Increasing volume—shouting	1	Asking for repetition	2
Sarcasm	1	Formulaic response	2
Intonation and word stress	9	Other inappropriate responses[a]	5
Lexico-grammatical choice	7		
Repetition	12		
Rhetorical threat	1		
Interrupting	8		

[a]e.g., not addressing the main customer concern

Customer: No, well, I've just had, I've just had … the person whose fuel whose whose I paid for their fuel has just been in here and told me that my account is on stop, told to him by a customer at a TankUS garage by an assistant at a TankUS garage that my account is on stop. That's why they used this temporary card machine card won't go through 'cause it's on stop. (umm hmm). I'm obviously £70 out of pocket for fuel
CSR: Okay, well …

Customer: (interrupts agent) I don't understand how this can happen.
CSR: Well, I'm sorry if you were told that the account has been put on stop but I don't see any problem with the account, Mr. Smith. So …

Anna is not proactive in being able to suggest how Harry would like this to be dealt with, so it is Harry who suggests:

Customer: (interrupts CSR) May be you could ring you could ring your franchise or sales whatever you call them and explain to me why I've just been, you know, had one of my accounts just got told in a in a shop full of people that my account is 'on stop' with TankUS because we haven't paid the bill. And then I need to understand and someone needs to tell me how I'm going to get the £70 back off this person for the fuel that they put on my card.
CSR: Okay, so you saying, Mr. Smith that there's been a mix up for … May I have the card number in this transaction?

It then transpired that Anna was not able to check this transaction as the system needs 24 hours to show what has happened. Harry then explains again that the main issue for him is how the shop staff announced that his card was blocked as follows:

CSR: Okay. Would you be able to provide us with a copy of those receipts so we could verify this with the site?
Customer: Yeah, the uh, the other receipt is uh very uh faded but I'm not particularly concerned about the money 'cause I understand that that can be dealt with but what I am seriously concerned with is that your sales representative, telling customers in the shop that my account is on stop (umm hmm) which I' m really not happy about.

Again Anna fails to deal with the main cause of Harry's upset and focuses on an issue of less importance, being the process of establishing whether the account was blocked or not:

CSR: Um, did you notice that they called customer service at that time, because they don't have means of checking if the account is on stop if they have not called the customer service …
Customer: No, I don't know how they are doing it but that's what they told, that's what they told the person who … with the card mix up.

Harry is very embarrassed about this situation, but Anna, despite the number of times Harry mentions this, does not address his embarrassment nor take responsibility to follow up this issue with the offending party. He then reiterates his key concern in the ensuing exchange:

CSR: (okay) so we just need to confirm this with the site and we need documentation as well to support the …
Customer: (interrupts agent) yeah, yeah, I mean my main concern is is uh is them telling people that my account is 'on stop' when it isn't
CSR: Alright … can

Customer: (interrupts agent) That's my main concern.
CSR: Yeah, most likely what …
Customer: (interrupts agent) I mean if you can speak to them and get to the bottom of that, that would be helpful.

Anna persistently fails to address this major concern and does not commit to dealing with this in any specific way. She speculates, however, on why the accidental swap may have happened, again avoiding the cause of the upset and the desired action:

CSR: Okay, what I'm guessing Mr. Smith I'm not yet sure, most likely what happened was when they tried swiping the card, um, it was actually declined by the system and then they only guess that um that the card is on stop. That's why they put the transaction on the manual voucher but I'll have …

Harry finally responds by dismissing this explanation, interrupting her and saying yet again that the sales assistant's behaviour was unacceptable.

Customer: (customer interrupts) Yeah yeah, that is not good enough though, is it? It's not fair you know, that' actually not good enough.
CSR: Yeah, I will have to verify it …
Customer: Okay! Thank you.
CSR: … to be sure.
Customer: Cheers for that. (sarcastic tone)

In these last few seconds of the call, Harry feels this issue will not be addressed and ends the call in an angry and sarcastic dismissive tone, cutting off the CSR when she begins to give another formulaic and non-committal response.

In this call, the agent has followed processes correctly and resolved the customer's surface needs which was for the card swap to be rectified and the money reimbursed, and she has even established that the sales assistant could not know for sure that the card would have been put 'on stop'. However, Harry ended the call as dissatisfied as when it started, and appeared in the last exchange to be a great deal angrier. Anna ultimately did not appear to understand Harry's concern about the unprofessionalism of the sales assistant saying publicly that his truck company's account

was 'on stop' and she consistently failed to address this concern. In the call, Harry reiterated this concern 11 times. This is perhaps an unusual situation, but one nonetheless that Anna should have recognized and addressed. Her responses were formulaic and evasive, and there was a notable lack of empathy about the humiliating experience.

Harry wanted Anna to truly empathize with him in a genuine and sincere manner and go out of her way to compensate him for the embarrassment caused to him by perhaps saying that she would file a specific complaint about how this transaction appears to have been handled by the sales assistant. The miscommunication on this call may be related to intercultural issues in how Harry expressed his concern and how Anna failed to recognize the upset, even though he became increasingly more explicit about this as the call progressed.

Similar to the first call, as this exchange progressed and the native speaker customer strategies for expressing anger were not acknowledged and dealt with, he resorted to different strategies. In both calls sarcasm came towards the end of the call and this was coupled with a rhetorical threat in the first call. These later strategies, however, had no impact on the CSR response, which remained limited to safe formulaic retorts and dealing with less important side issues. Businesses and quality managers have named this common type of response behaviour as 'robotic' in the Asian call centre context. Such behaviour, however, may well mask intercultural and linguistic inadequacies in the way CSRs approach their work.

Discussion

Previous studies (see for example Forey and Lockwood 2007; Lockwood et al. 2008) have highlighted business concerns in the UK and USA, that whilst Filipino agents have good attitudes regarding customer care and good levels of spoken English, communication breakdown and poor quality service are common. Previous studies have shown that sociolinguistic competence and intercultural understanding of the nuances of the exchange between the native speaker customer and the Filipino CSR are often lacking. This becomes particularly acute, as illustrated in the two exchanges above, where unfamiliar and threatening native speaker

behaviour such as the raising and slowing down of the voice, the use of sarcasm and rhetorical threats are enacted. However, such strategies for expressing anger and frustration are not well understood by the Filipino CSR where the typical responses are formulaic retorts, invoking help from somewhere else (e.g., technical team or another department), dealing with secondary issues of importance, silence, lack of empathy and concern and an overall concern to exit the call as soon as possible to escape the situation that is unfamiliar and uncomfortable.

When dealing with angry callers, many Asian CSRs are not accustomed to addressing directness. What was interesting in both these calls was that the customer, despite complaining throughout the call, did not explicitly tell the CSR what s/he wants done about it. Rather the customers were expecting the CSR to pick this up and provide them with a proper and tailored resolution. The CSRs seemed to be bound by a number of factors including limitations on their intercultural and linguistic capability to both understand and respond to the distress that the customer has faced; consequently the resolutions provided were not adequate. Furthermore, the CSRs may also feel bound by the cultural variability of customer expectations. For many Western businesses, 'the customer is always right' and this is heavily promoted in many Asian call centres where keeping the customer happy is a business mantra. Throughout the call, the customer continues to complain, but the CSR stalls; the customer is hedging for something more without explicitly saying it, and this exacerbates the situation and the caller gets increasingly frustrated. However, this expectation of customer service is not universally shared, which could impede the CSR's ability to recognize this. The idea that 'the customer is always right' is so embedded in the Western customer's mind that it sometimes becomes an automatic assumption that the CSRs are going to go above and beyond the process to accommodate customer needs.

The illocutionary force behind the words of an L1 speaker of English in these two calls was not interpreted accurately by the L2 CSRs from the Philippines. It can be argued here that this is caused by the variability in language norms. Specifically, variability in how different cultures use the language. Sarcasm and rhetorical threats such as the ones made by the customers are often misinterpreted by CSRs in Asian call centres mainly due to the fact the CSRs themselves are not accustomed to expressing

these meanings in the same way. What is happening on both of these calls may be closely related to the Ogiermann study (2009) on politeness strategies in different cultures. The fact that such breakdowns are common in Philippine call centres could also be related to underlying cultural implications and the interpretation of roles in a customer service interaction such as this where the roles between the customer and the CSR are always going to be asymmetrical with greater power given to the caller.

Additionally, the distance between the interlocutors is great, as they are strangers. Linguistically, this imbalance of power and vast distance between the interlocutors tends to create a gap in communication and understanding. Furthermore, the language choices we make are greatly affected by this as well, and the different cultures will adopt various different communication strategies in order to mitigate this imbalance of power and vast distance. Asian cultures are more hierarchical than most Western societies and therefore will make different language choices when talking to someone who is perceived as being in a higher position of importance in society. This often translates into diminished confidence and robotic responses from Asian CSRs speaking to angry Western callers rather than sounding accountable, assertive and reassuring. The issue of gender differences in this Asian offshored context may also offer further explanation and may be an area for further research, although little has been done to date.

This very small-scale study shows the distribution across the two calls were distributed in different ways, and it would be of further research interest to do a much larger-scale distribution study to see what patterns may emerge.

Conclusion

It is often the case when call centres are migrated to Asian destinations, the training and coaching support packages are not adapted by the onshore company to meet the needs of the second-language English-speaking CSRs. Huge assumptions are made by onshore management in the recruitment of Filipino CSRs about their Asian CSRs' intercultural understanding and abilities to deal with native speaker customer

concerns, particularly where the customer becomes angry and frustrated. High levels of spoken English language proficiency at recruitment do not equate with high levels of intercultural awareness nor an ability to deal with unusually angry calls with native speaker customers. Both CSRs in this study appeared to understand the surface concerns of these customers, but not the underlying and more important concerns that made them so angry. For Veronica, she felt 'tricked' by a deal that was not good value for money and could not believe that when she thought she had cancelled the deal, it was unsuccessful. Her concern about this should have been addressed right at the beginning of the call by offering an immediate cancellation; this action would have perhaps defused the situation. For Harry, he felt humiliated on behalf of his company because of the public announcement of his company's account being 'on stop'. Again, picking up on this as his priority concern and framing it back to the customer with some kind of a solution would have defused the situation early on in the call.

Such a study as this provides an agenda for both training and coaching support on the floor where listening for key customer concerns and strategies for dealing with these, even though it may mean confronting anger early on in the call, may improve quality performance. This study strongly suggests that onshore management has much to gain from applied linguistics studies such as this, which reveal not just the symptom of the communication problems, but perhaps also the cause. Adapting communications and soft skills training and coaching packages used on shore to the particular linguistic and intercultural requirements of the Filipino CSRs may ultimately lead to better quality business performance in the call centres.

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8

Identifying Linguistic Features of Medical Interactions: A Register Analysis

Shelley Staples

Introduction

Since the 1970s, Western medical cultures (particularly those in the U.S. and Britain) have emphasized the importance of taking into account patient's needs and interests, reflected in a patient-centered approach to health care (Harvey and Koteyko 2013). However, even today, researchers and clinicians continue to discuss what it means to be patient-centered and how to achieve patient-centered care (see, e.g., Epstein and Street 2011). Studies of the language used to provide patient-centered care have tended to be qualitative, focused on microanalyses of individual interactions, employing conversation analysis, ethnography, grounded theory, and critical discourse analysis to expose both the context of the interaction and provide a fine-grained understanding of how communication is facilitated or impeded (Frankel 1984; Mischler

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1984). Quantitative analyses of medical discourse, on the other hand, have primarily focused on process analyses that categorize portions of the interactions by their functional categories, the most influential method of which is the Roter Interaction Analysis Framework (Roter 1977; Roter et al. 1988).

More recently, there has been a call for using qualitative and quantitative corpus methods to study medical discourse (Adolphs et al. 2004; Skelton et al. 1999). Such investigations have revealed important patterns in the linguistic features used by medical providers, particularly in developing rapport and mitigating the asymmetry of their encounters with patients. These studies focus on the pragmalinguistic aspects of effective medical interactions, in other words the specific linguistic devices used to convey the pragmatic functions associated with patient-centered care.

In order to more clearly identify distinctive characteristics of a particular speech situation, such as medical discourse, it is useful to contrast the speech situation with another. This sociolinguistic approach is referred to as register analysis, which focuses on characterizing a register (e.g., medical discourse) through examining its distinctive linguistic characteristics (see Biber and Conrad 2009). Corpus linguistics is a particularly well-suited method for register analysis, because it allows researchers to quantitatively investigate frequencies of linguistic features. After quantitative analysis, a detailed qualitative analysis of the linguistic features is necessary to understand them in relation to the register in which they are used. Starting with Biber (1988), quantitative analysis of a wide range of registers (speech and writing) revealed a number of linguistic features that were more frequent in casual face-to-face conversation than in writing. These include pronouns, stance devices (e.g., *maybe, certainly*), conditionals (***If*** *you are in pain*), and questions. Biber (2006a) focused on university registers and also revealed the same patterns across speech and writing. Friginal (2009) showed that important differences exist across specialized spoken registers with respect to these and other features characteristic of casual face-to-face conversation.

This study is the first to investigate a wide range of linguistic features in provider-patient discourse in comparison with casual conversation. It uses a corpus-based approach in order to understand how providers use language to convey information to patients, use mitigating devices

(such as *maybe* or *might*) to soften statements, and finally how they display and encourage involvement in the interaction. Linguistic features that are important within medical discourse and interactive spoken discourse more generally are investigated in relation to the situational characteristics of three registers: nurse-patient interaction, doctor-patient interaction, and casual conversation. First, the paper describes and contrasts the three situational contexts and reviews the linguistic features under investigation. Next, the corpus and methods of analysis will be explained. After reporting quantitative findings, the interactions will then be qualitatively examined to determine the functions of the linguistic features identified and to connect the linguistic findings to the situational context. The results are expected to be of interest to applied linguists as well as ESP practitioners working on the training of medical professionals, both native speakers of English and speakers of English as a second or foreign language.

Situational Contexts of Casual Conversation and Medical Discourse

This study uses a register and corpus-based approach to the analysis of conversation and medical discourse based on the definition of Biber and Conrad (2009): A register is a language variety characterized by its situation of use. A register approach indicates that the functions of the linguistic features found within a particular situation of use are related to the situational context. Situational features include the speaker's role in a communicative event (e.g., nurse, doctor, or patient), the setting (e.g., hospital or doctor's office), the purpose of the event (e.g., to assess the patient's current condition or to diagnosis the patient), and the personal relationship between participants (e.g., whether the nurse or doctor has met the patient before). All of these situational characteristics impact the linguistic forms used by speakers, due to the functional needs of the communicative event.

The situational characteristics of casual face-to-face conversation, described in Biber and Conrad (2009), include at least two participants who take turns interacting to build the discourse. They share the same

physical and temporal context, and the discourse is produced in real time. These same characteristics can describe the two medical contexts in this study, a nurse-patient interaction in a hospital setting and a doctor-patient interaction in a primary care clinic. Key differences between conversation and medical encounters include the topics and purposes of the interaction, the social roles of the participants, the relationships between participants, and the settings. Casual conversation is characterized by a wide range of topics while medical discourse has a much more restricted range of topics. Purposes of medical discourse are also much more specific, including (1) gathering information; (2) giving information; (3) conducting a medical exam; (4) providing counseling; and (5) establishing patient rapport. One contrast between doctor and nurse-patient interactions is the different nature of diagnoses. While doctors focus on medical diagnoses, a nursing diagnosis would be given if the problem requires a nursing intervention rather than a medical intervention. As Uys (1999) points out, a patient generally would have one medical diagnosis but might have more than one nursing diagnosis, based on the management of symptoms, complications, and lifestyle issues (p. 27).

In addition, researchers have emphasized the power differential and asymmetry between providers and patients in medical discourse (Ainsworth-Vaughn 2005). Of course, asymmetry may occur in face-to-face conversations, but the power differences are not clearly tied to the speaker's role. Western medical cultures (particularly those in the U.S. and Britain) have since the 1970s tried to balance some of this asymmetry by encouraging communication that takes into account patient's needs and interests, reflected in a "patient-centered" approach to health care (Harvey and Koteyko 2013). Another related aspect of medical interactions is the development of a relationship between the provider and patient, reflected in provider efforts toward building rapport with patients. While the shift towards patient-centered care is promoted for both doctors and nurses, it seems to be even more pronounced within the nursing field (Harvey and Koteyko 2013, pp. 47–48).

The setting of the conversations and the two medical encounters is different as well. The doctor-patient encounters included here are conducted in various clinics in the National Health Service system in the UK in the mid-1990s. The nurse-patient interactions take place in a hospital

setting in the U.S. in 2012. The face-to-face conversations were recorded across the U.S. and the UK in the mid-1990s, and were designed to sample from a range of settings.

The relationship between the provider and patient also varies across the registers explored here. In the nurse-patient interactions in the hospital setting, the nurses and patients are strangers at the beginning of the encounter. This is different than the doctor-patient setting of a primary care clinic, where the doctor has developed an ongoing relationship with patients. However, there is still an expectation that the nurse will build a relationship with the patient during the patient's stay in the hospital. The relationships between the participants in the conversations vary from friends to family, but generally the speakers have a prior history.

Linguistic Investigations of Conversation and Medical Discourse

Conversation has been studied extensively from a corpus-based perspective, most notably in the Longman Corpus of Spoken and Written English (Biber et al. 1999). When compared with writing, conversation uses higher frequencies of linguistic features such as pronouns, questions, and conditionals. These features have been associated with registers that have higher interactional involvement (Biber 1988). In addition, conversation has more expressions of stance (opinions, attitudes, and evaluations), including modals, semi-modals, and stance adverbials (e.g., *kind of*) (Biber et al. 1999).

Although most analysis of medical discourse has not focused on specific linguistic features, questions have been a major focus, and research findings have largely been used to support the asymmetrical nature of doctor-patient interactions, given that doctors ask the majority of questions (Ainsworth-Vaughn 2005). However, situational factors, such as the setting of the interaction, seem to play a role in the amount of questions asked by patients (Ainsworth-Vaughn 2005). Other features of involvement, including 1st and 2nd person pronouns and conditionals, have been explored in a few quantitative studies of medical interactions. Thomas and Wilson (1996) compared two doctors' use of 1st

and 2nd person pronouns, and found that both features were used more by the doctor that was considered patient-centered (based on patient evaluations). Skelton and Hobbs (1999), Holmes and Major (2002), and Adolphs et al. (2004) also found that greater use of personal pronouns by health care providers (e.g., *I* and *you*) reflected greater patient-centeredness in the interaction. The importance of conditionals (e.g., ***if you are in pain in the morning***, *see Dr. Carl or whoever*) in medical encounters has also been noted (Adolphs et al. 2004; Ferguson 2001; Holmes and Major 2002; Skelton and Hobbs 1999; Skelton et al. 1999). In particular, Ferguson (2001) outlined six key functions of conditionals in medical interactions.

Stance features, specifically grammatical devices that express the speaker's attitudes, opinions, and evaluations about degree of certainty, have been shown to be an important element of spoken interactive discourse (Biber 1988, 2006b). Stance devices have been explored in a number of spoken contexts, including classroom teaching, office hours, call center interactions, and interviews (Biber 2006b; Biber and Staples 2014; Friginal 2009; Lindemann and Mauranen 2001; Swales and Burke 2003). All of these studies have revealed ways that stance features are used for important functions specific to the particular register being investigated.

In contrast, only a few studies have quantitatively examined stance features in medical discourse. These have focused mostly on interactions between doctors and patients. Skelton and Hobbs (1999) showed that British doctors often use lexical softeners such as *little* or *wee* when they ask permission to examine a patient: for example, *May I just have a* ***little*** *look* (p. 110). Such lexical devices serve to mitigate the directive nature of these requests. Malthus et al. (2005) examined the speech of nurses in New Zealand and also found that they used stance devices to soften directives. In particular, stance adverbs (e.g., *maybe*) and possibility modals (e.g., *could*) were cited in the examples of softening devices. Skelton et al. (1999) compared the speech of doctors and patients and found that doctors use more expressions of possibility/likelihood than patients. For example, *maybe*, *may*, *might*, and *probably* were all used more frequently by doctors. Recently, Staples and Biber (2014) investigated the use of a range of stance devices in nurse-patient interactions in comparison with conversation. A subset

of those features are included here, with an additional comparison with doctor-patient interactions.

Finally, narratives have been identified from qualitative studies as an important aspect of clinical encounters, especially patient narratives (Ainsworth-Vaughn 2005). Although specific linguistic features signaling narratives have not been examined much in medical discourse, narrative features such as past tense and 3rd person pronouns have been identified in other quantitative analyses of discourse (Biber 1988, 2006a). Friginal (2009) also found that past tense was associated with personal accounts of past situations in call center discourse. The nurse-patient corpus used in this study was examined for narrative features, which revealed that both 3rd person pronouns and past tense were used more frequently by patients than nurses (Staples 2015).

This study is the only known analysis that quantitatively compares linguistic features used in different types of medical discourse with conversation. By doing so, it allows us to examine the distinctive features of medical interactions, as well as those characteristic of the two health care settings. It is hypothesized that the two types of medical interactions will use linguistic features at a more similar rate when compared to conversation due to their similar situational contexts. In particular, features associated with patient-centered care are expected to be found in the nurse-patient and doctor-patient interactions. However, variation across the health care contexts is also expected based on the different speaker roles (doctor vs. nurse) and medical settings (hospital vs. primary care clinic). The results are expected to be of interest to applied linguists as well as ESP practitioners working on the training of medical professionals, both native speakers of English and speakers of English as a second or foreign language.

Method

Corpora

Three corpora were used for this study. First, the doctor-patient corpus comprises a subset of the British National Corpus (BNC), recorded and transcribed in Britain in the 1990s. The 87 interactions take place in

various clinics in the National Health Service system. The American Nurse Standardized Patient (ANSP) corpus contains 50 interactions between U.S. registered nurses and standardized patients. Standardized patients are actors trained to present the same case to all the nurses in the corpus. They are commonly used in medical assessment, and allow for more control over the topics and types of discussions across the interactions. The interaction was a simulation of an in-patient hospital setting, and the data was gathered in a naturalistic setting. The corpus was collected and transcribed in 2012 by the author.

Finally, the conversation corpus is composed of a random sample of 100 conversations from the American and British English conversation sub-corpus from the Longman Corpus of Spoken and Written English, compiled in the mid-1990s. The full sub-corpus contains 874 conversations from across the U.S and Britain. The corpus was sampled to establish a similar number of texts from this corpus and the other two medical corpora. The medical interactions were divided by speaker and analyzed to investigate differences across speaker roles (doctors and patients; nurses and patients). The conversation corpus was not divided by speaker since there was no reason to assume differences across speakers in the conversations.

Table 8.1 displays more information about the three corpora and the five speaker groups under investigation. It should be noted that while the number of texts is similar across the three sub-corpora, the number of words is not. Notably, the conversations averaged about 3,200 words each while the medical interactions contained about 700–1300 words per

Table 8.1 Corpora used in the study

Speaker group	Number of texts	Number of words	Average words per text
Conversation	100	324,345	3,243.45
Nurses	50	46,282	925.64
Patients w/Nurses	50	18,135	362.70
Combined Nurse-patient	50	64,417	1288.34
Doctors	87	35,712	410.48
Patients w/Doctors	87	28,356	325.93
Combined Doctor-patient	87	64,068	736.41

Table 8.2 Linguistic variables included in the study

Features of involvement
1st person pronouns
2nd person pronouns
Conditionals (e.g., ***If you are in pain,*** *see Dr. Carl*)
WH-questions (e.g. *How are you doing today?*)
Narrative features
3rd person pronouns
Past tense
Stance features
Modals of possibility (e.g., *can*)
Modals of necessity (e.g., *should*)
Modals of prediction (e.g., *will*)
Likelihood adverbs (e.g., *maybe*)
Certainty adverbs (e.g., *certainly, of course*)

interaction. This reflects the fact that the medical interactions were much shorter and more focused than the conversations, which tended to be longer and more varied. These differences in word count were accounted for by norming the linguistic variables per 1000 words.

Linguistic Variables

The linguistic variables examined across the five speaker groups include features that have been shown to express involvement, including 1st and 2nd person pronouns, WH-questions, and conditionals. A second category focuses on narrative features (past tense and 3rd person pronouns). Finally, the last category focuses on different types of stance: a) features expressing possibilities/abilities/permission b) features expressing necessity and obligation c) features expressing prediction and volition. Table 8.2 lists the features investigated in this study.

Data Analysis

The linguistic variables were identified using the Biber Tagger, a computational tool that automatically annotates texts.[1] The tagger has an

[1] The Biber Tagger was originally developed by Biber (1988) and has undergone numerous revisions since then. It currently is based on both probabilistic and rule-based components. This tagger has been used for many large-scale corpus analyses (e.g., Biber 1988, 2006a; Biber et al. 1999).

approximately 90–95% accuracy (Biber et al. 1999). Most of the linguistic features examined in this study are unproblematic, but lexical items known to be problematic (e.g., *kind of, sort of*) were examined manually through interactive programs developed for the Longman Grammar of Spoken and Written English (Biber et al. 1999) and a larger study of L2 speech and writing (Biber and Gray 2013).

Rates of occurrence were computed for the linguistic features in each text for the five speaker groups. For the conversation corpus, each conversation was considered as one observation. However, in the nurse-patient corpus, the speech produced by the nurses and the speech produced by the patients were analyzed separately. A similar procedure was used for the doctor-patient corpus. The rates of occurrence for each of the variables investigated were normed per 1,000 words so that mean frequencies of each linguistic feature could be compared across the different speaker groups.

The mean rates of occurrence were then compared statistically across the five speaker groups using ANOVA and T-test post-hocs. The omnibus alpha level was adjusted to $p < .005$ ($.05/11 = .005$) to account for the multiple linguistic variables (11 total). A Bonferroni adjusted alpha was also applied to the post-hoc tests, for those variables for which there was a significant difference in the omnibus statistic.

Results and Discussion

Overall, the results show that while almost all of the variables examined were used significantly differently across the speaker groups, most of the differences were found between conversation and the medical encounters (see Table 8.3). In addition, many significant differences were found between the patient and provider groups. Taken together, there are a remarkable number of similarities in the two medical encounters when compared with conversation. Nurses and doctors used most of the linguistic features at a similar rate when compared with use by patients and speakers in conversation (almost no significant differences were found). However, the few differences that were found can be attributed to the situational factors of the two medical interactions. For example, more

past tense was used by nurses than by doctors. This difference can be attributed to the fact that the nurse does not know the past history of the patient, and also wants to report results of tests taken while the patient has been in the hospital, as well as to discuss psychosocial issues the patient may be experiencing (e.g., grief) (Table 8.3).

Table 8.3 Overall results of ANOVA and post-hoc significance tests across speaker groups

Linguistic variable	Conversation M (SD)	Nurses M (SD)	Patients (w/Nurses) M (SD)	Doctors M (SD)	Patients (w/Doctors) M (SD)	F	η^2
Features of involvement							
1st person pronouns	61.22 $(13.92)_{bcde}$	42.34 $(13.15)_{ace}$	104.62 $(16.26)_{abd}$	38.37 $(17.77)_{ace}$	95.00 $(35.79)_{abd}$	126.51***	.58
2nd person pronouns	35.85 $(7.66)_{bcde}$	92.10 $(15.66)_{acde}$	10.91 $(6.58)_{abde}$	61.90 $(23.16)_{abce}$	27.30 $(21.61)_{abcd}$	199.06***	.68
Conditionals	4.35 $(1.95)_{c}$	5.96 $(3.46)_{c}$	.77 $(1.55)_{abde}$	5.66 $(5.55)_{c}$	4.46 $(4.92)_{c}$	14.57***	.14
WH-questions	3.53 $(3.25)_{ce}$	3.06 $(1.89)_{ce}$	.43 $(.96)_{abd}$	4.34 $(5.83)_{ce}$	.95 $(2.17)_{abd}$	16.70***	.15
Narrative features							
3rd person pronouns	35.04 $(11.79)_{bcde}$	12.50 $(5.85)_{ace}$	24.99 $(11.02)_{ab}$	18.68 $(16.82)_{ae}$	27.56 $(25.74)_{abd}$	19.69***	.18
Past tense	38.77 $(11.01)_{bcd}$	24.46 $(9.33)_{acde}$	49.50 $(12.86)_{abde}$	14.67 $(10.23)_{abce}$	35.10 $(20.20)_{bcd}$	66.97***	.42
Stance features							
Possibility modals	8.87 $(3.31)_{c}$	10.44 $(5.26)_{c}$	3.54 $(3.06)_{abde}$	11.16 $(6.25)_{ce}$	7.46 $(8.90)_{cd}$	15.06***	.14
Necessity modals	4.98 $(2.35)_{bcde}$	1.88 $(2.01)_{a}$	1.14 $(1.99)_{ad}$	2.97 $(4.05)_{ac}$	2.18 $(3.25)_{a}$	19.46***	.17
Prediction modals	11.55 $(3.70)_{bcd}$	16.92 $(6.59)_{ace}$	5.31 $(3.90)_{abde}$	18.37 $(1.13)_{ace}$	11.17 $(8.73)_{bcd}$	29.00***	.24
Likelihood adverbs	2.35 $(1.41)_{b}$	4.82 $(3.22)_{ad}$	4.02 $(4.32)_{d}$	1.39 $(2.71)_{bce}$	3.21 $(5.26)_{d}$	9.65***	.10
Certainty adverbs	4.84 (2.31)	3.52 (2.41)	4.13 (3.29)	5.26 (7.49)	6.02 (6.30)	2.35	

Note: *** = $p < .001$. Means with differing subscripts within rows are significantly different at the $p < .05$ based on Bonferroni post-hoc paired comparisons.

Features of Involvement

First and 2nd person pronouns, WH-questions, and conditionals were compared across the three corpora and five speaker groups. These features have been identified as important characteristics of involvement in spoken interactions in general as well as medical interactions in particular (Adolphs et al. 2004; Biber et al. 1999; Ferguson 2001; Holmes and Major 2002; Skelton and Hobbs 1999; Skelton et al. 1999).

As Figure 8.1 shows, 2nd person pronouns were used most by nurses and doctors while 1st person pronouns were used most by patients from both groups. The frequency of 2nd person pronouns in conversations is less than that used by providers but more than for patients, and the use of 1st person pronouns in conversation is greater than providers' use but less than by patients. In other words, participants in conversations use both 1st and 2nd person pronouns at a mid-level range between the more extreme frequencies for providers and patients. While 1st person pronouns were used at approximately the same rate by doctors and nurses,

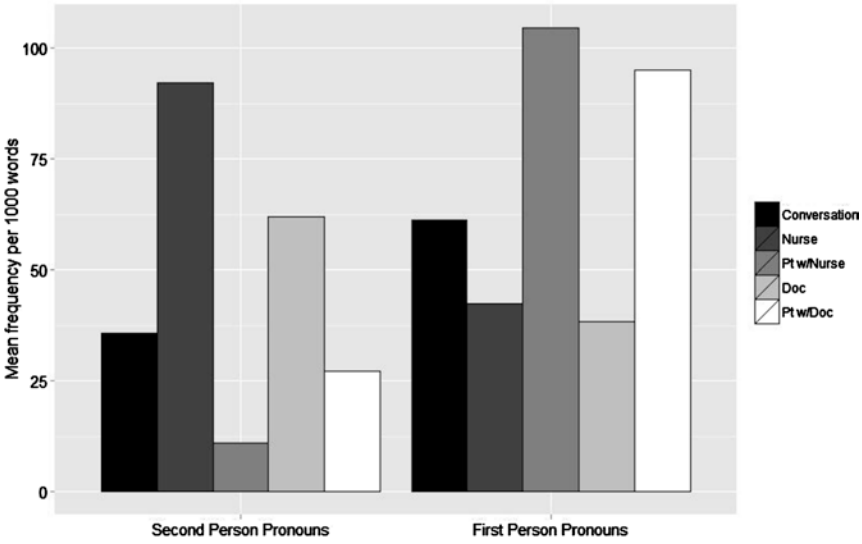

Fig. 8.1 1st and 2nd person pronouns across conversation and medical interactions

significant differences were found in the use of 2nd person pronouns across the two medical interactions. Nurses used 2nd person pronouns with a much greater frequency than doctors. In particular, nurses used the phrase *you know*:

(1) N: Mmm. So maybe this is just your little wake up call. ***You know***.
P: Uh huh.
N: This is like ***you*** need a little time to just recoup, figure out what's going on make sure this isn't your heart and uh
P: Uh huh.
N: ***You know*** start fresh again. Okay?
P: Okay.

In the example above, *you know* is used to indicate shared or common knowledge, similar to its function in conversation (Aijmer 2002; Brown and Levinson 1987). This phrase is also used to encourage patient involvement in interactions, again, similar to the function in conversations (Aijmer 2002). Aijmer (2002) also discusses the function of *you know* to express intimacy and rapport. Nurses thus seem to be using *you know* to encourage patient centeredness and patient rapport. Although the function in the nurse-patient interactions is the same as in conversation, it is notable here because it is being used to mitigate the imbalance of power in the interaction.

Interestingly, patients in the doctor-patient interactions used significantly more 2nd person pronouns than those in nurse-patient interactions. They also used *you know* frequently in their interactions, for similar purposes as the nurses: to show shared knowledge and to encourage feedback from their interlocutor, in this case the doctor.

(2) P: And it's starting to get, ***you know***, annoy me.
D: Right, let us get it cleared for you.

While the overall proportions of pronoun use by providers and patients are similar across the two medical corpora, the greater use of 2nd person pronouns by nurses may indicate an increased focus on patient rapport when compared with doctors. On the other hand, the variation in two patient groups may be related to the fact that the patients know the

doctor and are thus more comfortable with him while the patients in the nurse-patient interactions are strangers to the nurse.

As Fig. 8.2 shows, WH-questions were used more by providers than patients. This is consistent with previous research that shows that providers ask many more questions than patients (Ainsworth-Vaughn 2005). WH-questions were used at approximately the same rate by nurses and speakers in conversations. Doctors used more WH-questions than either group, although there was not a significant difference. The overwhelming function of WH-questions in doctors' interactions with patients was to identify the patient's chief complaint:

(3) D: Well Suzanne ***what can I do for you tonight?***
P: I've been taking this pain under my armpit and it's kind of under back.

While nurses also identify the chief complaint of the patient in their interactions, they do not always use WH-questions to do so. As reported

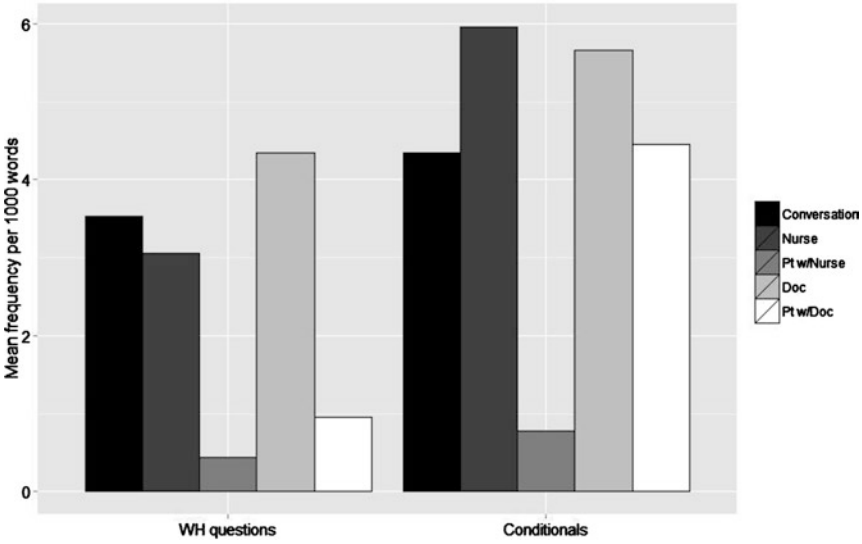

Fig. 8.2 WH-questions and conditionals across conversation and medical interactions

in Staples (2015), nurses were almost as likely to use a yes/no question as they were a WH question:

(4) N: And I see that you came in for some chest pain yesterday? Or last night I should say?
Has that subsided or is that still there?

The variation in approaches for eliciting the patient's chief complaint is related to the situational context of the two medical interactions. In a primary care visit, the patient comes to the doctor's office and thus the complaint is not known or not assumed by the doctor. In an in-patient setting in a hospital, the nurse is required to monitor the progress of the patient but the chief complaint has been identified upon admission to the hospital. Thus, the nurse may focus the question on the specific complaint previously stated by the patient and listed on the patients' chart.

Patients in the doctor-patient setting used slightly more WH questions than those in the nurse-patient setting. Specifically, they focus most of their questions on the plan of care:

(5) P: ***When do you want to see me again?***
(6) P: ***Where will I go for the scan?***

This difference may be due to the fact that patients in the hospital setting were being monitored at the time of the interaction and would not need to take action in order for the plan of care to be carried out. On the other hand, patients in the out-patient setting needed to be clear about the follow-up instructions. However, future research needs to investigate the overall use of questions by patients, not just WH questions, to understand this finding.

Overall, the use of different question patterns to elicit the chief complaint aligns with previous research that indicates there are different strategies for opening up the interaction depending on the medical setting (see Robinson 2006). However, the current study shows that yes/no questions may be used in follow-up contexts rather than the more expected

WH-question. While more patient questions are certainly a sign of more patient-centered care, they may also be dependent on the medical setting, and thus it is important to compare patient discourse across the same types of settings.

Conditionals have also been identified as an important feature of patient-centered discourse in medical interactions (Ferguson 2001). In this study, nurses and doctors used conditionals at a similar rate, and both providers used conditionals more than patients and speakers in conversation. However, only patients interacting with nurses used significantly less than the other four groups. Ferguson (2001) found that doctors used conditionals most frequently for polite directives near the end of the patient interview (e.g., *If you ask them at the desk to give you an appointment for three months*).

In the current study, doctors used conditionals for polite directives, particularly those related to the plan of care:

(7) D: You can take it with food, after food, between meals, makes no odds. Y = you can take
P: Yeah.
D: paracetamol, ***if you're getting hot and achy***.
P: Yeah. xxx
D: You can erm yeah. You can still drink alcohol ***if you want to***, it doesn't interfere with anything, okay.

This example also shows how conditionals can be used by providers to offer patients choices about how to approach their care.

Similarly, in Excerpts 8 and 9 below, the nurse directs the patient to use the call light in her hospital room. These utterances were also found at the end of the nurse-patient encounter:

(8) N: I want you to call me ***if you're having any pain***

(9) N: Alright so ***if you need anything***, the call light is there for you to call me for anything you need. ***If you need help with going to the bathroom*** please call don't be afraid to call. And I don't read minds so ***if you need something for pain or anything else***, please let me know.

Patients who interacted with doctors used conditionals with about the same frequency as in conversation, and much more than patients interacting with nurses. As Ferguson indicates, one function of conditionals by patients is to describe symptoms for diagnosis:

(10) P: It doesn't look bruised, mind, but it feels, sore to touch or anything?... I, I really don't know what I've done. I know times I get it, like... maybe just at one side, ***if I've been sitting in a hard seat***
D: Mhm.
P: at a, a particular wee bit ***if I've been leaning back,***

Discussions of diagnoses were rare in the nurse-patient interactions, and while patients were asked to describe symptoms, they were not prompted to give as many details as those in (10). While conditionals are a key feature of both nurse and doctor-patient interactions that distinguish them from casual conversation, the functions of conditionals seem more varied in interactions with doctors than with nurses. This may be an important difference to apply to training situations.

Narrative Features

Narrative features in this study included past tense and 3rd person pronouns. Narratives are considered an important part of medical interactions, and patients' narratives are seen as a key feature of this situational context (Ainsworth-Vaughn 2005). As seen in Fig. 8.3, narrative features showed parallel distributions for providers and patients, indicating an overall trend of greater use of narrative features by patients than providers. However, there was also more use of narrative features in conversation than by providers (significantly greater for 3rd person pronouns). The exception to this was the use of past tense by patients interacting with nurses in a hospital setting.

The nurse-patient interactions showed a higher use of past tense than the doctor-patient interactions, with patients providing information about their past health history, both leading up to their admission to the hospital and since they entered the hospital:

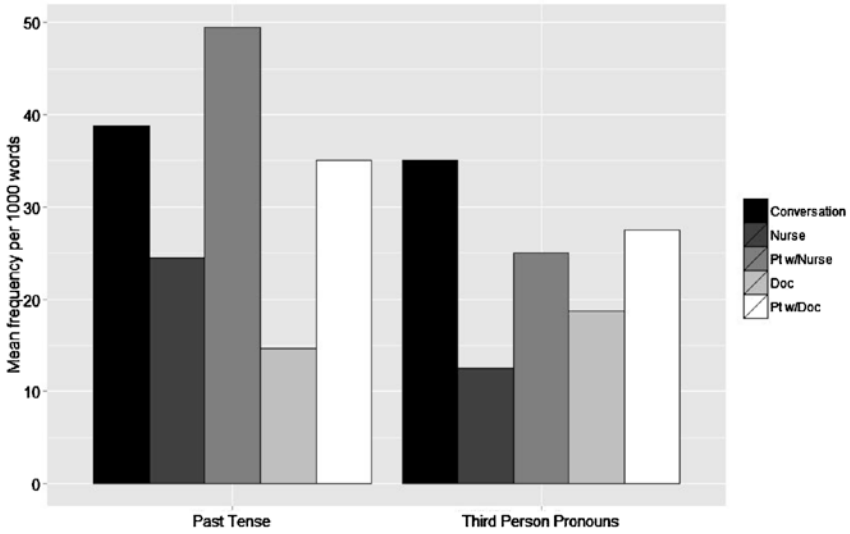

Fig. 8.3 Narrative features across medical encounters and conversation

(11) N: Okay. When ***did*** that start?
P: Uh it ***started*** actually it ***started*** a few weeks ago but it it's just unbearable the past few days so my friend ***brought*** me in.

(12) N: And how is the chest pain feeling for you?
P: Uh it's well uh they ***gave*** me a purple pill last night.
N: Uh huh.
P: It ***helped*** a little. But it's still there.
N: So on a scale of one to ten, how was it after the purple pill?
P: It ***was*** like a somewhere between a five and seven.

Patients in interactions with doctors in the primary care clinic also used past tense for discussing their symptoms, but they were more likely to use present tense. This is probably because their problems are not acute issues that would lead a patient to visit the hospital but rather ongoing issues:

(13) P: Oh, it's a nightmare.... I ***do***, I ***think*** that's really finished me off.... It ***sounds*** terrible, so depressing, but I really ***feel***, I cann't get a spark in me. I ***feel*** I'm... I ***don't*** even ***want*** to talk to people.

Nurses also used past tense to communicate about procedures that had been carried out since the patient entered the hospital:

(14) N: Um your EKG ***was*** normal. Your glucose ***was*** normal.
P: Uh huh.
N: Okay it doesn't look like you have any infection going on right now you have your
CBC ***was*** normal your urine analysis ***was*** normal.

This function of the past tense is not relevant to the primary care clinic interactions between the doctors and patients. Finally, nurses used past tense to discuss psychosocial issues that the patient was having:

(15) USN: Is ***she*** blaming you at all?
P: Pretty much. I mean even though my father ***stated*** that's what ***he*** would want in that situation and the doctor ***said*** there was no hope my aunt's pretty much accused us of killing ***him***.
USN: Oh my gosh. Are you feeling how are you feeling about that?
P: Well it hurts. Um. And it's tough to think about I mean how ***she***'s treating me during this time.
USN: It's hard enough for all of you. Um I sounds to me like you and your mom
Shouldn't feel so much guilt it's not your fault. Especially if the doctor ***said*** there was nothing else that could be done and your dad ***said*** that's what he ***believed*** in right?
P: Yeah. ***He*** wouldn't want to live that way and the doctor ***said*** there was no hope anyways.

In this part of the interaction, while the patient uses more past tense (and 3rd person pronouns), the nurse notably uses both as well in order to respond to the patient and to encourage the patient to discuss these issues. This type of narrative is relevant to cases where psychosocial issues play a role in the patient's condition. Staples (2015) suggests that in such cases the nurse's use of past tense and 3rd person pronouns may be correlated with patient satisfaction.

On the other hand, 3rd person pronouns were used with greater frequency in the doctor-patient interactions than the nurse-patient

interactions. This greater use of 3rd person pronouns seems to be due to the fact that the doctors and patients more frequently discussed the actions taken by other providers, generally specialists that the patient has visited:

(16) D: xxx nothing to worry about. Good. I'm delighted to hear that.
P: But ***he did*** say that er it'll take three weeks before ***he*** can get back to me about sending me to the Law xxx
D: Mhm.
P: So ***he, he***'s still to decide about that.

As can be seen, while some of the information provided by the patient focused on past discussions, other information is part of the future plan of care, thus explaining why less past tense was used in these interactions.

Doctors and patients also discussed the health problems of other family members in their interactions:

(17) D: Aye. We'll stop it going to that.... How's Mrs. jones doing? Is ***she***
P: Oh is sh =
D: just the same?
P: See the hands ***she had***? Well the nurse has been coming in every second day. ***She***'s ***got them*** pretty well ***cleared*** up. But oh my my

Interestingly, the conversation corpus showed a greater use of narrative features than the medical interactions. While not all conversation contains narrative elements, talking about past events is common, as can be seen here in this conversation about football:

(18) Speaker A: You get lost once you kind of start paying attention to the road. We ***got*** lost coming out of here yesterday but of course I ***was*** paying more attention to the football game.
Speaker B: One of those little college teams?
Speaker A: Mm, hmm. No and then I ***had*** it on this morning. I ***had*** <unclear> on this morning and I never ***heard*** it ***mentioned***.
Speaker B: <unclear>
Speaker A: ***They were*** going down all the scores and ***they did***n't uh,

Both past tense and 3rd person (plural) pronouns are used frequently in this conversation. As Ainsworth-Vaughn (2005) indicates, narratives are often considered "archetypal conversational speech activities" (p. 457). As such, while they connect medical encounters to the patterns of conversation, they may be less of a distinctive feature of medical discourse than is perhaps sometimes emphasized. The results above, however, also illustrate the different kinds of narratives that occur in medical interactions. Although a great deal of the narrative in medical encounters centers on medical history and care conducted by a medical team, narratives that move beyond the patient's immediate health concerns may be equally or more important, as they allow for an examination of the patient holistically and may also serve as a rapport builder.

Stance Features

Two forms of stance features were investigated: modals and adverbials. The overall patterns for providers and patients were similar for the modal forms investigated. Possibility/ability/permission modals, prediction/volition modals, and necessity/obligation modals were all used more by nurses and doctors in comparison with the two groups of patients. In addition, prediction modals and possibility modals were used less in conversation than by nurses and doctors but more in conversation when compared with the patient groups (except for prediction modals, which were used with similar frequency in conversations and by the patients interacting with doctors). Necessity modals were used more frequently in conversation than in the discourse of either patients or providers (see Fig. 8.4).

Nurses and doctors used prediction/volition modals especially frequently, to foreshadow behavior within the course of the examination:

(19) N: Okay thank you I'***m going to*** go ahead and snap your gown. I'***m going to*** feel your pulses on both sides.

(20) D: What I'***m going to*** do is to examine now I'***m going to*** go up the collar bone first... over the shoulder pad, T-shirt with a shoulder pad.

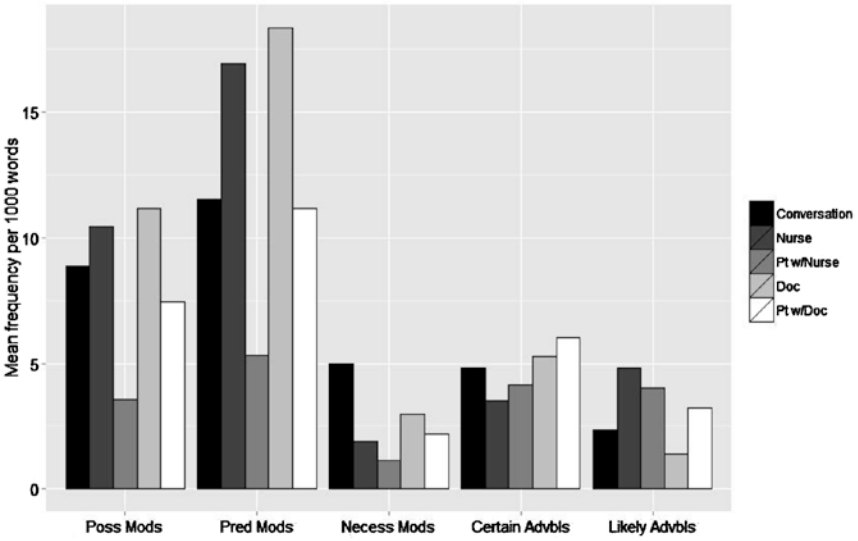

Fig. 8.4 Stance features across conversation and medical interactions

Such foreshadowing can be seen as a form of patient-centered care, since it acknowledges that patients may be uncomfortable with their bodies being touched by the provider—it shows respect for the patient. This behavior, called providing indications, has been identified as an important part of patient-centered care (van Zanten et al. 2007). Prediction/volition modals were also used by the nurse and doctor to discuss what would happen after the initial assessment has been completed:

(21) N: And I ***'ll*** also have a dietician come and speak to you.

(22) D: We'***re going to*** treat you somewhat differently.... Now we'***ll*** probably need to repeat some of these in about ten to fourteen days. The lab really want two samples. I'***m going to*** ask them to run them today. To, well to run them now, they'***ll*** still take a week to come back, even if they do run them today, xxx

Such explanations and summaries of the plan of care can also be seen as important parts of patient-centered care (West 2006).

The most common use of possibility modals by nurses was to indicate options for further treatment:

(23) N: Maybe when once the cardiologist comes in here um and clears you with your heart maybe we ***can*** get the psychiatrist to come and talk to you.

(24) N: And then for the pain I ***can*** get you I see on your uh medication list I ***can*** get you morphine or I ***can*** get you uh Percaset, something like that.

Doctors also used possibility modals for this purpose:

(25) D: I ***can*** put it in, in a bottle or I ***can*** give you tablets.

(26) D: There's two ways of doing this, you ***can*** either put some local anaesthetic in and actually burn them off, but that often leaves a bit of a scar. Or you ***can*** actually try freezing them to kill them and then they just drop off on their own.

By providing patients with options, doctors and nurses involve patients in the decision-making process.

During the exam portion of the encounter, nurses and doctors also used possibility/permission modals to make requests to the patient:

(27) N: ***Can*** you describe the pain for me?

(28) D: Okay, ***can*** you point to where you get most discomfort?

(29) D: ***Could*** you just turn?

These examples illustrate the use of *can/could* as a politeness marker, and act as softening devices used to mitigate asymmetry within the encounter.

Could and *might* were also used by nurses to indicate possible reasons for the symptoms the patient is having:

(30) N: You never know you ***could could*** be anxiety or you ***could*** really be having uh some problem going on with your heart.

(31) N: So it is possible you ***might*** have a little virus.

Doctors used *could* and *might* for this purpose as well, but much less frequently. Since their role includes a diagnosis of the patient, they express less uncertainty about the diagnosis. This is an important distinction between nurse and doctor-patient interactions.

When doctors used possibility modals in diagnosis discussions they were more likely to use them to indicate ability rather than possibility:

(32) D: ***Can*** you turn it round and get it behind your back? ***Can*** you put your hand behind your back like that? Turn it round. Good okay. ***Can*** you, ***can*** you actually do that? ***Can*** you swing it right round so you ***can*** do that?

Patients interacting with doctors used more prediction and possibility modals than patients interacting with nurses. As discussed above, the former also asked more questions about the future plan of care, and these questions were often accompanied by prediction modals:

(33) P: Where ***will*** I go for the scan?

Patients who interacted with doctors described their symptoms in more detail than those interacting with nurses (see the discussion above under conditionals). Similar to doctors, patients used possibility modals in diagnosis discussions to explain abilities rather than possibilities:

(34) P: I ***can***, I ***can*** actually get it to there, but see when I
D: Aye, well, if you had a frozen shoulder you wouldn't get it past there.
P: Well, I ***can*** get it past there but I ***could***n't lift it up.
D: That's right.
P: There's no way I ***can*** lift it up.

Necessity modals, while less frequent in all three registers than other modal types, occurred more often in conversation than in medical discourse.

(35) Speaker A: I ***have to*** drop a class today or I won't get all my tuition back.
Speaker B: What class?
Speaker A: Can I xxx or do I ***have to*** do it by phone?
Speaker B: You ***have to*** do it by phone.

Fewer necessity modals may be used in medical encounters to avoid direct reference to obligations. One could imagine nurses and doctors indicating personal obligation to patients (e.g., *You* ***have to*** *take this five times a day*), but providers likely want to avoid such overt directives to patients. Speakers in less authoritative roles, such as those in conversation, have been shown to use this semi-modal frequently for personal obligation (Biber et al. 1999). Patients may simply have less need to refer to personal obligations.

While modals illustrated somewhat parallel patterns across medical encounters, likelihood and certainty adverbials showed interesting differences across the two medical contexts as well as conversation. Although patients in both medical contexts used more certainty adverbials (e.g., *certainly*) than providers, both doctors and their patients used more than nurses or their patients. In addition, while doctors and patients used certainty adverbials at a similar or slightly higher rate than conversation, nurses and their patients used them with less frequency.

Certainty adverbials should also be examined in relation to likelihood adverbials. Nurses and their patients used more likelihood adverbials than doctors or their patients, or speakers in conversation. Thus, overall, nurses and their patients used more hedges and fewer markers of certainty than speakers in either of the other two contexts. For nurses, likelihood adverbials were used in a similar fashion to possibility modals, to discuss possible solutions to problems:

(36) N: Well, I would say ***maybe*** talk to a counselor and take it from there and if it doesn't resolve ***maybe*** then you can get something from your doctor.

This use of likelihood adverbs can be seen as working in conjunction with possibility modals (*you* ***can*** *get something*) and conditionals (*if it doesn't resolve*) to involve patients in the decision making process about the plan of care.

However, nurses also used likelihood adverbs to hedge about causes of patients' symptoms:

(37) N: So when uh you you have a low grade temperature which could ***kind of*** be from inflammation so we're not going to be real worried about that.

As with possibility modals, nurses used more likelihood adverbs than doctors for this function since medical diagnosis is not the focus of the nurse-patient interaction.

Doctors have less reason to hedge about diagnoses. In fact, using certainty adverbials can help clarify the diagnosis and reassure the patient:

(38) D: xxx wait and see would be the right approach for that. Cos it ***certainly*** isn't anything ***obviously*** serious, so I think we'll just see how things go, xxx
P: Yeah, xxx prescription?
D: No, not unless you want one.
P: xxx
D: I think that's the answer to that one isn't it? You don't ***really*** want I'm ***certainly*** not going to give you something you don't want,

(39) D: If you're weeks pregnant, that would have shown.
P: Aye. Oh aye.
D: ***Definitely*** not pregnant. Xxx

Since there is less need for hedging in conversation, adverbs that express more certainty about an event or action are used more commonly in conversation:

(40) ***Of course***, I used to draw plans like that. You know and I can see ***exactly*** what he's doing.

Overall, the hedging expressed by nurses in diagnosis is more particular to their interactions than those of doctor-patient interactions or conversation.

Conclusion

This study has explored the linguistic characteristics of two medical contexts in comparison with casual conversation. The results indicate that in many ways, the two medical contexts are more similar to each other than to casual conversation. This finding provides evidence for distinctive linguistic characteristics of medical interactions and points to important pragma linguistic patterns that are shared in the discourse of doctors and nurses. These include the use of 2nd person pronouns to involve the patient in the interaction, the use of conditionals and possibility modals to soften directives, the use of prediction modals to provide indications during physical exams, and the use of possibility modals to include patients in the decisions about plans of care. This information could be used in the training of various types of medical professionals, where discussions could involve the specific language that is used to provide more patient-centered care.

However, the differences across the medical contexts are important to note as well, and are equally important to take into consideration when training medical professionals. First, WH-questions are often considered a more "open" question form. However, they are not the only way to elicit information from patients and yes/no questions may be preferable in some contexts. The two patterns could be presented as alternatives that can be used strategically by providers depending on whether they are working with patients with ongoing issues or in acute care/follow-up situations. Second, while both doctors and nurses used possibility modals and adverbials in discussions of diagnoses, their functions were different. Nurses used modals like *could* or *might* to indicate uncertainty about diagnoses, whereas doctors used modals such as *can* to ask patients questions about their capabilities. Nurses also used likelihood adverbials (e.g., *maybe*) to hedge about diagnoses, while doctors used more certainty adverbials (e.g., *of course*) to provide reassurance to patients. These features are reflective of the different roles that nurses and doctors have in providing diagnosis, but also could be useful to indicate greater or lesser levels of certainty in specific situations (e.g., the need for more certainty/clarity in prognosis discussions).

Finally, the results confirm the importance of narratives in medical discourse, but also show that there may be different types of narratives used by patients (and providers) that are more associated with patient-centered care. While patient narratives about physical issues are clearly important to gather information for the patient's medical diagnosis, narratives about psychosocial issues seem to be equally important, not only for understanding the patient's condition holistically, but also for patient rapport. More generally, narratives that expand outside of the patient's immediate medical concerns are important for developing relationships with patients. While these findings on narratives are not particularly new (see, e.g., Young 1989), this study both quantifies these factors and identifies particular circumstances in which these narratives might play an important role.

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9

Examining the Discourse of Mental Illness in a Corpus of Online Advice-Seeking Messages

Gavin Brookes and Kevin Harvey

Introduction

In this chapter we explore the utility of corpus methods for examining health-care communication. We describe two studies that have employed corpus methods to this end, both of which share the common theme of psychological distress, more specifically the issues of depression and self-harm. Language plays a significant role in constituting practices that take place within a wide range of clinical communicative settings (Brown et al. 2006), and the clinical website we investigate here demonstrates how corpus methods can be utilized to analyse communication in a practitioner-led health advice website dedicated to adolescent health. This chapter focuses primarily on the ways adolescent patients formulate their psychological distress, but it also provides some insight

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into the linguistic strategies used by the practitioners when responding to the adolescents' concerns. Language is a central activity within this and other health-care contexts, an activity that not only reflects but also shapes the ways we think about and experience health and illness (Fox 1993). Our main argument in this chapter is that the combination of quantitative corpus methods and qualitative discourse analysis can powerfully elucidate linguistic patterns and commonalities in this communicative context, generating insights which can greatly enrich our understanding of the ways both patients and practitioners communicate about mental health.

Corpus Linguistics and Health Communication

Early discourse-based research into health communication relied heavily on relatively small data sets more suited to fine-grained, qualitative analyses, such as samples of language taken from face-to-face clinical encounters or research interviews. A criticism often directed at such research was that the findings presented were based on limited data sets that were not necessarily representative of wider communication within the particular domain under examination (e.g., practitioner–patient encounters) (Harvey and Adolphs 2012). However, since the late 1990s, a growing number of health communication scholars have harnessed the opportunities afforded by corpus linguistic approaches in their research (Adolphs et al. 2004), allowing them to gauge a much more reliable picture of the common ways language is used in various clinical contexts (Brown et al. 2006).

In recent years, researchers employing corpus methods to examine health-related communication have increasingly demonstrated the awareness that, since meaning cannot be completely quantified (for words are unlike numbers), health communication cannot, by extension, simply be reduced to the counting of behaviours. Accordingly, quantitative linguistic analyses now regularly take place in a qualitative context (Skelton and Hobbs 1999), with recent corpus-assisted studies of health discourse routinely utilizing quantitative means not as ends in themselves, but as a means to more fine-grained contextual analyses. Such research takes,

for example, word frequency counts and keyword lists merely as a point of departure—"tak[ing] the pulse" of the data (Adolphs et al. 2004, p. 25)—from which to undertake theory-informed, fine-grained qualitative analysis of extended samples of the corpus, usually through the prisms of collocation and concordance (Harvey 2013).

Such an approach has most notably been employed by Skelton and colleagues, who, in a series of studies, synthesized corpus-based quantitative methods with a manual qualitative discourse analytic approach in order to examine the interactional dynamics of patient–practitioner consultations in face-to-face clinical settings. Using corpus methods, these researchers identified a tendency for patients to formulate their health-related concerns in non-standard, colloquial forms and idiomatic language, including metaphor, pronominal usage and linguistic imprecision (Skelton and Hobbs 1999; Skelton et al. 2002a, b). Adolphs et al. (2004) also combined quantitative and qualitative corpus tools to examine the discourse of practitioner–patient interactions. These researchers constructed a corpus of NHS Direct exchanges between nurse practitioners and patient callers, which they analysed by supplementing a quantitative corpus-based approach with qualitative conversation analysis. This study reported how practitioners adopted politeness and convergence strategies to facilitate positive health-related outcomes for the patient callers. Crucially, the interactional strategies highlighted by these studies were not observable through the quantitative measures of frequency and keywords alone, but were instead discovered when such measures were utilized as a starting point, to pinpoint areas for more qualitative, fine-grained examination of extended samples of the corpus data (Atkins and Harvey 2010).

Depression and Self-Harm

Depression

Depression is an umbrella term used to refer to a range of mental disorders characterized by low mood. The latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), published in 2013 by

the American Psychiatric Association (APA), states the common feature of all depressive disorders to be "the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual's capacity to function" (APA 2013, p. 155). Depression is a global issue that affects over 350 million people worldwide and as of 2015, is projected to be the second leading contributor to the global burden of disease by the year 2020 (WHO 2015); it is particularly prominent among young people (Green et al. 2005). Depression can have quite profound consequences for its sufferers and their families, including self-harm and suicide (Pilling et al. 2009).

Research into depression, as with many other mental disorders, is largely dominated by studies from within the tradition of clinical psychiatry (Rogers and Pilgrim 2005), which tend to regard such conditions in strictly biomedical terms and aim at better understanding their epidemiology (Andrews et al. 2005) as well as improving their diagnosis (Zimmerman et al. 2006) and treatment (Drevets and Furey 2010). A surprisingly small amount of research has considered the ways in which sufferers actually talk about depression (Lewis 1995) or attempted to learn about depression through individuals' subjective experiences of the condition (Karp 1996, p. 10).

More recently, however, a (still relatively) small but growing number of researchers (mainly from within fields such as sociology, anthropology and linguistics) have endeavoured to redress this imbalance by exploring depression from the perspectives of its sufferers by analysing their subjective illness accounts (Stoppard 2000; Galasiński 2008). Such anthropological and sociologically inflected studies can be seen as a reaction to naturalistic accounts of illness that treat disease as an objective and objectifying entity, something that can be described in neutral, third-personal terms (Carel 2013, p. 10). According to the naturalistic perspective (the predominant philosophy underpinning biomedical-based psychiatry), depression is a discrete, unitary condition, which can be (and in actual practice is) identified and diagnosed through the use of a checklist of symptoms (such as "depressed mood", "change in appetite", and "loss of energy or fatigue"). However, such objectifying and impersonal diagnostic criteria fail to take into account the variability of the disease, let alone the unique and myriad ways in which individuals actually experience it.

There is, therefore, much value in exploring the actual lived experience of depression and how people make sense of and communicate their psychological distress to others, as they inevitably and with great difficulty try to do. Anthropological-based studies of depression recognize the significance of discourse in accounts of illness and thus pay careful attention to the discursive repertoires through which people encode their depressive experiences, acknowledging that sufferers are likely to draw on a range of socially and culturally sanctioned ways of speaking about emotional turmoil. The studies we report on in this chapter are very much situated in this anthropological and medical sociological tradition, and thus aim to provide a broader description of what mental illness is, outside of the dominant and narrow naturalistic perspective of illness.

Self-Harm

Deliberate self-harm involves a broad continuum of self-injurious behaviours, including (among others) cutting, burning, biting, head banging, and the pulling out of hair. Self-harm is sometimes associated with attempted suicide (people who self-harm may experience suicidal ideation). Self-harm and attempted suicide therefore can be described as existing along a continuum (O'Connor and Sheehy 2000). However, they nevertheless remain separate behaviours motivated by distinct intentions. As Favazza (1998, p. 262) points out, "whereas a person who truly attempts suicide seeks to end all feelings, a person who self-harms seeks to feel better".

Self-harm is more common in young people than other demographics, and the relatively elevated rate of self-harm among teenagers constitutes a major concern for adolescent mental health experts and practitioners (both in the UK and USA). In the UK, for instance, rates of self-harm are reported to be higher than in the rest of Europe, with one in five adolescents believed to have engaged in self-harming behaviour (Mental Health Foundation 2006). However, adolescent self-harm is an international concern, with studies reporting it to be an acute problem, for example, in Scandinavia (Franzén and Gottzén 2011), Europe and Australasia (Madge et al. 2008), and the USA (Lang and Sharma-Patel 2011).

Moreover, given that only 10% of self-harming adolescents are estimated to present at hospital following a self-harming episode (Hawton et al. 2002), it is likely that these already high prevalence figures are, in reality, significantly higher still (Ystgaard et al. 2009).

Despite being a common clinical concern, self-harm is, somewhat surprisingly, an under-researched problem (Mental Health Foundation 2006). Because of this, adolescent self-harm is poorly understood by health professionals (Skegg 2005), who have a rather limited understanding of the personal perspectives and situated communicative routines of adolescents who practise self-injurious behaviours (Nicolson 1995, p. 339). As with depression, detailed examination of how adolescents communicate their subjective experiences of self-harm can potentially improve the treatment of the psychological disturbances from which such behaviours might result (Manley and Leichner 2003). By examining the linguistic features of sufferers' communication regarding depression and self-harm, it is possible to achieve a better understanding of the negotiation of illness-related identities and the meanings that individuals ascribe to their illness experiences (Conrad and Barker 2010). The benefits of such an analysis are brought into even sharper relief when considering mental, non-physical illnesses, such as depression, which sufferers find notoriously difficult to lexicalize (Harvey 2012). Since diagnoses of emotional disorders are influenced largely by the ways in which people conceptualize psychological distress and present their symptoms to practitioners (Kessler et al. 1999), it is essential for us to be aware of the discourses on which young people draw when communicating about their depression to others (Bennett et al. 2003). This is particularly relevant in the context of adolescent self-harm, since a common concern shared among this young population is that other people's failure to understand their self-injurious behaviour invalidates their experiences (Adams et al. 2005).

Online Health Communication: Adolescent Health Advice-Seeking

In line with the rise of the internet and the wider availability of domestic computers in the 1990s, the number of online health-related websites has increased, and continues to increase, at an exponential rate

(Harvey et al. 2007, pp. 772–773). Despite the potential of online health information to be unreliable, misleading and unscrupulous (ten Have 2002), the internet still constitutes a popular, and indeed powerful, source of health-related information. Online resources of health advice are particularly popular amongst adolescents (Paul and Bryant 2005), perhaps due to a reluctance to share certain health problems through established institutional routes, such as face-to-face encounters with practitioners or even with parents (McPherson 2005). Adolescents may also fear breaches in confidence by service providers (Churchill et al. 2000) and feel dissatisfied with the brevity of face-to-face encounters with practitioners (Harvey et al. 2008). As an anonymous, asynchronous form of communication unbounded by restraints of time or location (Car and Sheikh 2004), electronic communication therefore affords young people a secure platform from which to ask awkward, sensitive or detailed questions without fear of being judged or stigmatized (Cotton and Gupta 2004).

The analysis presented and discussed in this chapter focuses on the adolescent health website, the Teenage Health Freak (THF), a non-commercial website created in 2000 by two doctors specializing in adolescent health, Drs Ann McPherson and Aidan Macfarlane. The website is a popular resource for young people seeking health advice and information, receiving, on average, 52,864 visits daily (see Fig. 9.1). The THF is a user-friendly, interactive resource for adolescents, allowing them to email their questions and health-related concerns to the health professionals who operate the website. The professionals respond to the problem messages in the guise of the persona of Dr Ann, the virtual doctor to whom users of the website directly submit their problems. The responses to the messages that are answered appear on the website and are thus designed to be read not only by the original help seeker but also by a much wider audience. In this sense, the doctors are writing not only for an individual advice seeker but also for a more general adolescent audience. All direct correspondence between Dr Ann and the advice seeker is anonymous. The website possesses a privacy policy which informs potential contributors that their questions to Dr Ann might be used for the purposes of research.

When the THF website was devised, young people were actively involved in its creation, suggesting the inclusion of design features that they would like to see in a professional online advice-giving context that

Fig. 9.1. The THF website homepage

could supplement more traditional face-to-face practitioner–patient contexts. Accordingly, the website features evidence-based advice presented in non-technical language, and an alphabetized list of health-related problems where users can access detailed information concerning specific medical issues. However, the most prominent and enduring feature of the website is Dr Ann's virtual surgery, an interactive webpage to which users can post any concern that they like, and in their own terms (see Fig. 9.2).

The virtual surgery reproduces the layout of a doctor's office, using cartoon graphics to situate the advice seeker in the virtual world of the consultation room. The figure of Dr Ann appears in the middle of the screen, both visually and verbally addressing the website user as though they were on the brink of taking part in an actual consultation. Although this is, of course, a synthetic routine, the simulation helps not only to

Fig. 9.2. Dr Ann's virtual surgery

convey to the would-be contributor some sense, no matter how artificial, of authenticity, but perhaps more importantly, helps to bring into being the online persona of Dr Ann. Indeed, as Locher and Hoffman (2006) observe, one of the major challenges for online advice givers who do not interact with advice seekers face to face directly is to construct a distinct and plausible expert voice—a persona that is credible and trustworthy and hence appears able to deliver meaningful advice (DeCapua and Dunham 1993). In other words, it is not only a matter of providing advice seekers with reliable and relevant facts and information, but being sensitive to the "relational and interpersonal level that accompanies it" (Locher and Hoffman 2006, p. 75). Through the use of praise, humour, empathy and support, for example, fictional advice givers (such as Dr Ann) are able to develop and maintain a specific, unitary voice—a persona that, in reality, is a conglomeration of different voices.

A Sample of, and Commentary on, Online Health Communication

To illustrate the discursive mechanisms through which Dr Ann linguistically provides solicited advice to adolescents and, in the process, constructs a specific voice or virtual persona for "herself", consider the exchange below. In keeping with the theme of mental health, this example features a problem message relating to the theme of depression, followed by Dr Ann's response.

(1) Hi. . i dnt knw wt to do with my life anymore , im sick of it and dnt enjoy anything i have a feeling im depresed and im also scared of getting old as i knw this sounds silly but i never thought of getting old if you undstnd me ? and thn my GCSES are this year and i want to do really wel if i dont i knw il be ever so disapointed, plz help x
(2) Dear 'I dnt knw wt do do with my life anymore' I am so, so sorry that you are feeling down in this way. It is pretty common that young people feel down from time to time especially when faced with GCSEs.... but, but, but don't worry too much about the exams. You can look on this site about what to do about depression and anxiety but the main thing is that if you really feel down—do please tell someone else about it. Someone that you trust. You can always tell a teacher or your parents or someone like that. Otherwise will you please go and see your doctor.

The first point to make is that, whereas the advice seeker's message uses non-standard forms (note, for instance, the typographical compression (*dnt knw wt*), lower-case lettering (*i*), and run-on sentences and lack of punctuation (*im sick of it and dnt enjoy anything i have a feeling im depressed*)), Dr Ann's reply is formulated almost entirely in Standard English. Moreover, despite the occasional sprinkling of official diagnostic language (*depression*, *anxiety*), the advice is clearly and accessibly articulated. The response opens with a conventional greeting, *Dear*, a common element in traditional letter writing. Dr Ann then addresses the advice seeker pseudonymously *[Dear] "I dnt knw wt do do with my life anymore",* recycling certain of the addressee's words which, for Dr Ann, presumably

encapsulate the essence of the problem under discussion. Such metalinguistic use of language functions, therefore, not only as a convenient term of address, but, in selecting certain words over others, also as a formulation (Heritage and Watson 1979), an assessment and summing up of the advice seeker's preceding statements. After this opening move, Dr Ann shows sympathetic awareness of the problems facing the young person (*I am so, so sorry that you are feeling down in this way*), relational work which helps present Dr Ann as an understanding and empathetic advice giver. Dr Ann immediately follows this with a statement most certainly calculated to reassure the advice seeker, emphasizing the fact that emotional turmoil is commonly, if transiently, experienced by young people, and that the advice seeker is not alone in experiencing psychological distress.

The actual delivery of the advice supplied by Dr Ann is heralded by the rather striking use of the disjunction *but*, repeated several times in direct succession as if to underscore the significance of the counsel that immediately follows: *don't worry too much about the exams*. In keeping with many counselling and psychotherapy approaches, Dr Ann's advice at times realizes the ideal of non-directiveness (Locher and Hoffman 2006). Rather than directly adjuring clients to pursue a specific course of action, non-directiveness supplies advice and information with which advisees can make their own autonomous decisions. Note, for example, the use of the modal verb *can*, which communicates a sense of possibility and optionality rather than one of unmitigated enjoinment: *You can look on this site about what to do about depression. You can always tell a teacher or your parents or someone like that*.

However, this non-directive realization of advice is blended with a more directive approach. For example, Dr Ann counsels the problem poster to *do please tell someone else about it*; the imperative verb *do* functions here as an unmitigated injunction, a directive rather than a suggestion. The blending of these two approaches to advice giving is almost certainly due to, we suggest, the nature of the potentially serious emotional problem under discussion and the target teenage audience (not only the individual advice seeker who submitted the problem message but the wider audience). Since Dr Ann is speaking to a young audience, many of whom will not have attained the age of adulthood and legal responsibility, it is perhaps not surprising that

certain elements of the advice are articulated in a more directive fashion, delivered in a more strident voice that closes down optionality. Of course, being directive runs the risk of Dr Ann coming over as too authoritative, too coercive, but in embedding such directive moves in a broader non-directive sequence of advice, Dr Ann is arguably able to strike a balance somewhere between a more counselling-person-centred approach and a more authoritative doctor-knows-best approach.

Data and Methodology

This chapter presents two corpus-based studies of mental health-related communication—specifically relating to the topics of depression (Harvey 2012) and self-harm (Harvey and Brown 2012)—both based on the Adolescent Health Email Corpus (AHEC), a 1.6 million-word corpus containing advice-seeking emails sent to the THF website. The corpus comprises 62,794 messages, posted to the website between January 2004 and December 2005 (the data made available to the researchers at the time). The content and form of the messages were not edited in any way, meaning that the corpus reflects the original word choices and syntactic constructions in the adolescents' messages. Data transmitted to the site are received in confidence and any information supplied that contains personal information (potentially identifying users) is automatically removed.

Inductive keyword analysis was used to identify salient themes in the corpus. These themes, specifically of depression and self-harm, were then inspected and unpacked in greater depth through examination of the collocates and close reading of the concordance lines surrounding the corresponding keywords. Corpus procedures were undertaken using the *WordSmith Tools* concordancing software (Scott 2012). Collocation was calculated using the mutual information (MI) statistical measure, which calculates the strength of collocation or the extent to which words appear together compared with chance (Hunston 2002).

Study 1: Talking about Depression Online

The THF website provides a rich resource for examining subjective accounts of depression. In a recent corpus-assisted study of emotional turmoil, Harvey (2012) examined the various ways young people linguistically formulated their depression-related concerns when requesting advice in this online clinical context. The first part of the analysis involved generating a list of keywords (Scott 2012) to provide a thematic characterization of the adolescents' health messages (Adolphs et al. 2004; Baker 2006), comparing the AHEC with the 10 million-word spoken section of the British National Corpus (BNC). The keywords generated included a number of terms relating to the topics of depression, deliberate self-harm and suicide, which we reproduce in Table 9.1.

The distribution of keywords in Table 9.1 suggests, at least at this initial, decontextualized level of analysis, that depression is described in a variety of ways by the adolescents, who adopt diction that directly and lexically describes the theme of depression (including *depressed* and *depression*) in biomedical terms (such as (*anti*)*depressants*), as well as using more general, everyday vocabulary (*sad*, *unhappy*, *upset*). However, given their substantially higher frequency and salience in the corpus, for the purposes of this chapter we will confine our discussion to the ways the terms *depressed* and *depression* are used by the adolescents.

In corpus-aided discourse studies, the generation of keywords is typically followed by a collocation analysis. The collocation tool allows

Table 9.1 Keywords relating to the theme of depression (ranked in order of keyness) in the AHEC

	Word	AHEC frequency (per million words)	BNC frequency (per million words)	Keyness
1	*depressed*	240.00	12.60	1,256.52
2	*harm*	126.88	16.50	498.32
3	*depression*	86.88	11.00	345.47
4	*upset*	130.00	35.40	323.86
5	*suicidal*	20.00	1.10	106.58
6	*depressants*	10.63	0.60	56.23
7	*sad*	53.13	36.60	40.72
8	*unhappy*	20.63	8.60	34.08

researchers to view those words (and larger units) that occur frequently alongside words of interest—or "nodes"—and therefore affords a useful means to scrutinize key lexical items, in this case *depressed* and *depression*, in greater contextual detail, potentially indicating patterns and discourses which keywords alone, appearing out of context, do not reveal. Examination of the collocates surrounding the keywords *depressed* and *depression* revealed these lexical items to share a high-frequency collocate: the first person singular form *I*. This pattern attests the proclivity of the website contributors to talk about depression in self-featuring messages, most commonly realized in the formulations: *I am depressed* and *I have depression*, wherein low mood is constructed as something that one can either *be* or *have* (Fromm 1979). Intriguingly, these two syntactic patterns have distinct functions: *I am* [*depressed*] and *I have* [*depression*] indicate how individuals situate themselves in relation to their illnesses, while also providing potential explanations for the illness experiences constructed (Estroff et al. 1991, p. 339). However, the precise nature of the differences between these constructions only becomes fully appreciable when they are considered in context through a concordance analysis, a procedure that affords the corpus analyst the greatest amount of contextual detail.

First, as reported in Harvey (2012), the term *depressed* is often used by the adolescent advice seekers as a way to encode negative personal and social circumstances, as the following examples illustrate:

(3) I'm really **depressed** about splitting up with my boyfriend. I still like him and its getting me down.
(4) i am not happy with myself i am fat i get bullied and i am **depressed**
(5) im **depressed**, im very worried about my gcse [school examination] and always feel like a failure and letting my parents down. i feel guilty and miss my sister very much. what can i do to help all this

This small set of examples reveals how the adolescents' messages fix just as firmly on problems encountered in day-to-day life (e.g., relationships, bullying and exams) as on the subject of depression itself. The questions posed by the adolescents in this online clinical context are not so much concerned with attaining medical advice as seeking practical,

social instruction in order to respond to everyday concerns, such as dealing with problems with relationships, family, physical appearance and so on. Moreover, the adolescents attributed their depressed states largely to circumstances over which they had little influence, such as the culpable behaviour of others, or the intractable nature of their bodies, situating themselves within a "victim discourse" (Drew et al. 1999), according to which they themselves are not personally responsible for their mental distress.

Through further examination of concordance lines, this time featuring the keyword *depression*, it was observed that, when using this particular term, the adolescents were liable to adopt a medical discourse, viewing their condition through a medical lens, a perspective quite different from that in the preceding messages:

(6) i have severe clinical **depression**. i feel so bad i dont know what to do anymore. i took an overdose but my friend found out and told someone so now i'm alive. i wish she never found out, i'd much rather be dead than living a life that i hate. why do i feel like this? why do i have these terrible thoughts?
(7) dear Dr. Ann, i have had depression since the age of 11/12 but have never spoken to anyone about it. recently this **depression** has got to me more and I have started cuttin my wrist … with some intent to kill myself. At good times i don't want to do this so is there anything i can do to prevent it happening next time i have another long spell of **depression**?
(8) dear Dr.ann i have got **depression** and i self-harm! am i weird? and have you got any advice on what to do when i feel like self-harming?

In these examples, depression takes on an objectified, ontological status, not unlike other disease entities popularly conceived of as objects that intrude on the self (Cassell 1976). These corpus extracts demonstrate how the adolescents variously described depression as an *it* (7), as something that is *got* (8), qualified it with the determiner *this* (7), and construed the condition in precisely and clinically refined terms, thus becoming ever more discrete: *i have severe clinical depression* (6). These objectifying descriptions convey the sense of depression as something of

a fixed, continuous lived experience, with little prospect of resolution, adopting what Kessler et al. (1999) refer to as a "psychologising" style of symptom presentation which, rather than normalizing the experiences described, actually heightens their pathological significance. Such a discourse style might be interpreted as a way of anticipating and heading off potential doubt on the part of other interlocutors, in this case the recipient of the message (Dr Ann), pre-empting the "pull yourself up by the bootstraps" type of response which construes emotional distress as mere self-indulgence and weakness of character (Switzer et al. 2006).

In summary, using corpus methods allowed for close examination of some of the discursive characteristics of adolescents' depression-related communication, which in turn revealed a great deal about their subjective experiences of this condition. Inductive keyword analysis brings salient themes in the corpus of health communication to the surface, themes that were then inspected and unpacked in greater depth through collocation and concordance analyses. Examining the messages in their original and more expansive textual surroundings also revealed the adolescents' tendency to psychologize their complaints by drawing on a medical register to frame their life experiences as depressive, thus requiring the expert practitioners' intervention if their disorders are ever to be cured. These corpus-derived findings have implications for mental health practitioners, since the increasingly psychologized style of symptom presentation identified in these messages brings with it the potential risk that young people and practitioners may possibly collude in medicalizing normal human distress, considering "any expression of depression as mandating treatment" (Parker 2007, p. 335). Adolescents may be more susceptible to diagnosis regardless of whether their "depression" is actually in fact clinical or not, since, as Dowrick (2004, p. 104) argues, health professionals might be more liable to concentrate on a problem that contains a straightforward solution. Consequently, when responding to adolescents' accounts of psychological distress, practitioners need to take into account their discourse of self-pathologization, particularly as young people may be influenced by medical models of depression that restrict the role of personal agency and therefore downplay, or even exclude altogether, the personal and social contexts in which mental distress is embedded.

Study 2: Expressing Concerns about Self-Harm Online

In recent a corpus-assisted research study, Harvey and Brown (2012) reported on an examination of adolescents' linguistic formulations of self-harm concerns in the AHEC. As the list of mental-health-related keywords derived from this corpus (appearing in Table 9.1 in the previous section) attests, a number of the most salient keywords in the corpus relate to the topic of self-harm. The top 10 most frequently occurring self-harm-related keywords from the corpus are reproduced in Table 9.2.

As discussed in the previous section, a list of keywords alone contributes little to our understanding of how language is used *in situ*. Accordingly, Table 9.3 displays the most frequent lexical collocates (using the MI measure) of the keywords *cut* and *self-harm*, identifying items of potential interest for a more detailed contextual analysis.

Viewing these keywords with regard to their lexical surroundings offers a greater understanding of how they occur *in situ*, revealing several themes that played a central role in the adolescents' self-harm-related messages, including: notions of time, durations and cycles (*started*, *stop*, *years*), low mood or depression (*feel*, *depressed*), support and assistance (*help*) and peers (*friends*). Although the majority of the messages contributed to the THF website are self-featuring, the high frequency of the item *friend* occurring alongside the words *cut* and *self-harm* suggests that several messages relate ostensibly to the predicaments of peers, on whose behalf adolescent contributors may have been writing (although these

Table 9.2 Most frequent self-harm-related keywords in the AHEC

	Word	Frequency
1	*cut*	314
2	*self-harm*	175
3	*cutting*	122
4	*self-harming*	61
5	*cuts*	55
6	*slit*	18
7	*harm*	16
8	*harming*	12
9	*self-harmer*	10
10	*slitting*	7

third-person-focused messages may have actually related to their own self-featuring problems (Holmes et al. 1997, p. 80)). Given the prominence of the term *friend* in the self-harming messages (see Table 9.3), this ostensible third-party theme was pursued further through the prism of concordance, which revealed these peer-related messages (containing the lexical item *friend*) to be intriguingly rather short, consisting of no more than three or four clauses, for example:

(9) my **friend** is self harming how can i help her
(10) what happens if your **friend** is doing drugs and cutting there selfs because of there life problems, what do you do?
(11) hey my **friend** has depression and she is self-harming her self what should i do?

Inspecting the lexical item *friend* in its wider textual environment here reveals how the adolescent contributors variously regarded self-harm as a problem associated with depression, triggered by negative life events and which they should *help* their friends to *stop*. Interestingly, none of the contributors negatively evaluated—or judged—their *friend* for self-harming. There is, for instance, no indication that these friends were being manipulative or merely seeking attention, responses that are very common to self-harm (Clark 2002).

Another interesting insight emerging from the concordance analysis was that self-harming contributors constructed themselves as addicted to self-injurious behaviours, exhibiting linguistic choices resembling the language of addiction, for example: *i tried to stop* and *i want to stop but*

Table 9.3 Most frequent collocates of cut and self-harm in the AHEC

	Collocate	Frequency	Mutual information score
1	*help*	81	9.60
2	*stop*	60	6.79
3	*friend*	46	5.55
4	*started*	45	9.83
5	*feel*	28	7.78
6	*depressed*	19	12.40
7	*years*	16	10.39
8	*blood*	12	10.05

i cant. Such formulations demonstrate the habitual and addictive nature of self-harm. Moreover, by construing their self-harming behaviours as addictive and themselves as addicts, the contributors portrayed their compulsion to self-harm as non-volitional. In these messages, self-harming is something over which, like other addictions (gambling, alcohol, illicit drugs, for example), sufferers had very little or no control (see also Bailey 2005). Yet, there is a curious and biting irony at work here; self-harm was once regarded as a means for these adolescents to gain/maintain control of their lives and feelings (Plante 2007). However, at the same time, self-harm was construed as an activity over which the contributors themselves had very little or even no control. In other words, the adolescents were caught in the double bind of their self-harm experiences, having little or no control over the one thing which, paradoxically, they deem to afford them some degree of empowerment over their life situations.

Although corpus methods are predicated on identifying high-frequency and recurrent patterns and themes in language, this study also demonstrates how such tools can be useful for identifying less frequently occurring patterns, thereby elucidating minority or subordinate discourses (Baker 2010, p. 125), that is, alternative or non-mainstream ways of viewing and talking about the world. While self-harm was frequently formulated as an addictive problem that the contributors wished to "stop" (in either themselves or others), close inspection of the concordance lines surrounding the term *addiction* revealed a solitary occasion on which a contributor actually constructed self-harm not as a problem, but quite the opposite:

(12) I know cutting yourself is a problem for me its an addiction, but what none of my friends understand is im not doing it for suicide reasons. I dont want to kill myself . . . I really dont. I cut because i dont know how to deal with my pain so i take it out on my self or ill be really mad so ill just cut. Ive cut my wrists alot thats mostly where and my legs abit but i really dont know what to do about my friends or how to stop, i mean to me its not a bad thing i have the power i like that i could kill myself but iam not trying to so to me its not a problem how doi tell other people it feels good and stuff with out them thinking im crazy

The contributor of this particular message defiantly frames their self-harming as something that affords them power (*i have the power I like that i could kill myself but iam not trying to*) which, in turn, makes them *feel good and stuff*. This presents an alternative discourse to those typically drawn upon in accounts of self-harm, a contrasting discourse in which self-harming is a legitimate and acceptable form of relief from the pains and stresses of everyday life, rather than a disordered and harmful behaviour. By casting extended chunks of the data under the scope of extended concordance lines it was thus possible to identify a minority discourse in which self-harm was framed as a positive, even liberating act able to grant individuals a perhaps otherwise unobtainable degree of control over their lives. While preceding keyword and collocation analyses were certainly useful in terms of identifying addiction as a salient theme in the corpus, it was only through taking the more qualitative step of examining this lexical item through the prism of concordance—and so in its wider textual environment—that this alternative discourse could be observed and fully explicated.

The corpus-based study of self-harm-related communication described in this section evinced the complexity of this behaviour as a socially situated practice that cannot be reduced to the individual. Interventions which regard the self-harmer as at fault, and/or which are focused entirely on correcting behaviour in adolescents who self-harm, may therefore be incomplete or misdirected (see also Adams et al. 2005).

Conclusion

The overarching argument of this chapter is one in favour of the utility of corpus methods for the examination of health communication. The depression and self-harm-related studies that we have described here illustrate how corpus linguistics techniques are useful for undertaking in-depth, quantitative and qualitative examinations of large collections of health-related language data—a mode of analysis capable of affording detailed insights into the communicative dynamics or "linguistic signatures" associated with communication tied to a variety of health-related issues and occurring across an array of health-related contexts (Atkins and

Harvey 2010). As we have sought to demonstrate, frequency, keyword and collocation (staple tools of corpus linguistics) serve as an inductive means for broadly surveying the corpus data, providing a useful precursor for more refined, qualitative analysis of the linguistic formulation of health-related concerns. Moreover, we hope to have shown not only how corpus-assisted studies can describe, at a molecular level, patterns and commonalities in language use, but can also expose the operation of wider discourses that underpin individuals' subjective illness accounts. In this sense, corpus-assisted studies of medical communication lend themselves to interdisciplinary approaches, where linguistic observation can be effectively combined with the perspectives of medical sociology, psychology and anthropology (to mention but a few possibilities).

Accordingly, the corpus-assisted approach outlined in this chapter is capable of affording insights that do more than merely enhance theoretical knowledge of medical discourse: they also provide revealing insights about how, in this case, young people conceptualize and discursively construct their subjective experiences and understandings of depression and self-harm in this (albeit specialized) online clinical context. Thus, we argue that the research we have described in this chapter constitutes applied corpus linguistics, demonstrating how specialized corpus data can be quantitatively and qualitatively analysed in order to address real-world health-related concerns.

Empirical corpus-based analyses of health communication can contribute to the education of health-care practitioners from a variety of backgrounds by raising their consciousness of the nuanced styles and strategies employed by adolescents (and people from other age groups) when linguistically formulating health concerns (Bourgeault et al. 2010, p. 3; Crawford and Brown 2010, p. 1). This is a worthwhile endeavour if health professionals are to advance their knowledge with regard to the "richness" of everyday communication about health and illness, knowledge that can contribute to improving the efficacy of communication in a range of clinical settings (Brown et al. 2006, p. 139). Moreover, due to its commitment to authentic, naturally occurring language data, corpus linguistics is ideally suited to the examination of individuals' subjective descriptions of their health experiences, producing findings that offer an important counterweight to much mainstream positivist research that

has rarely considered the discourse of people expressing their lived illness experiences, particularly in relation to mental health (Nicolson 1995). Focusing on the illness accounts in this way foregrounds the adolescents' personal experiences of emotional turmoil, while affording penetrating insights into the discursive routines on which young people draw when communicating psychological distress in this online clinical context.

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10

Identifying Adherence Behaviors through the Study of Patient Talk in English and Spanish

Viviana Cortes and Ulla Connor

Introduction

It is undeniable that the use of language corpora and the application of computer software designed for linguistic inquiry have helped advance the field of discourse analysis and communication studies in the last decade (Baker 2006). Corpus linguistics has introduced new empirically based quantitative methodologies that can be employed in lexical, grammatical, and lexico-grammatical studies of a wide variety of discourses such as philanthropic discourse, business-related discourse, or scientific discourse, to mention only a few examples. A field that still deserves more attention from corpus-based researchers, however, is the medical field.

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The use of corpus-based methodologies in the study of spoken discourse in health-care settings has not received the same impetus as the study of other types of specific spoken registers. There have been a few investigations of written medical discourse, centered mainly around studies that analyzed medical journal writing (Chen and Ge 2007; Mungra and Webber 2010; Webber 1994). Only a few analyses of spoken medical language have taken place, including the study of medical conference monologue with a focus on interactiveness (Webber 2005) and the use of specific grammatical features in doctor–patient consultations (Ferguson 2001). We speculate that corpus-based methodologies have not been widely used for the analysis of spoken health-care discourse because available samples of medical discourse often may not fulfill the size and representativeness requirements necessary to apply corpus-based methodologies in a reliable way.

A few recent corpus-based studies of health discourse that focused on the analysis of interactions in a variety of patient-practitioner scenarios have taken place in the past few years. Antón and Goering (2015) explain the process of conducting interdisciplinary, multicultural research used to explore the relationship between patient language and diabetes management. Their multiyear project explored language use among diabetes patients using quantitative, qualitative, and contrastive methodologies which hold potential for health discourse analysis. Some of the quantitative methods used in their study were corpus-based (Cortes 2015) and aimed at identifying language tendencies associated with effective and ineffective disease management control in a collection of grammatically tagged texts taken from interviews with English-speaking diabetes patients in clinical settings. Staples (2015) used quantitative methods to examine a variety of linguistic features in a corpus of nurse–patient interactions. Her study investigated the discourse of nurses who were native and nonnative speakers of English and compared the communicative styles of the two nurse groups. Staples used quantitative and qualitative analyses of a wide variety of lexico-grammatical, interactional, prosody, and nonverbal features, assessment of the effectiveness of those interactions, and qualitative interviews with those nurses. The results of her study provide a framework for the study of sociocultural and linguistic aspects of nurse discourse. The two studies just described

emphasize the potential of corpus-based methodologies for the analysis of patient talk.

Another area with relevance to the present study is the use of corpus-based methods in contrastive analysis (Johansson 2007). Multilingual corpora often consist of translation corpora or comparable corpora. While translation corpora are very difficult to obtain and depend on the level of translation equivalence (Kenny 1998), these types of contrastive studies may be conducted using multilingual comparable corpora, that is, collections of original texts in the languages compared. This method of data collection and analysis has the potential of generating new tools for linguistic analysis across different languages. To our knowledge, however, there are no studies that have used corpus-based methodologies to compare linguistic tendencies across groups of patients who speak different languages.

The purpose of this chapter is to report a study that used corpus-based research methods to analyze English and Spanish discourse produced by patients with Type II diabetes in a US health-care context. The corpora used were collected as part of a large project that identified relationships between literacy levels and diabetes self-management (Connor et al. 2012) across patients who were identified as adherent and nonadherent to their diabetes treatment in each language group (English and Spanish) (Antón and Goering 2015). A combined analysis of the linguistic features frequently used in each group of patients, adherent and nonadherent, together with the tendencies discovered by the analysis of frequent linguistic features identified in each language group, provides important information about patients' adherence tendencies through their language use. As Antón and Goering (2015) state, "if one were able to codify the linguistic features of patient talk, one would be a step closer to identifying linguistic patterns associated with effective or ineffective disease management" (p. xi). In this study, each group of patients in each of these languages showed different linguistic preferences that revealed the way these patients view and manage their illness.

The rest of the chapter will be organized as follows. The next section will present data collection procedures and methods used for data analysis, as well as descriptions of the statistics used for the identification of the tendencies in the language produced by the groups of patients.

The Results and Discussion will introduce the findings of the analyses by language, with a brief review of already published results from the analysis of the interview language of the English-speaking patient talk (Cortes 2015). The major focus of this section will be the explanation of the results of the Spanish-speaking patient talk, concentrating on the linguistic features that helped identify group membership (adherent and nonadherent). The discussion of the results yielded by the analysis of each language group will be followed by a comparison of some of these grammatical features across languages. Finally, we will present the limitations we discovered in the analyses, several applications of our findings, and suggestions for future directions in the study of this type of discourse.

Data Collection and Method

This section presents the different steps in the collection of the data used in this study as well as the different levels of discourse analysis and procedures of statistical analysis employed. First, we will briefly introduce the interview protocol that was designed for the diabetes literacy study for producing language that was later used as a corpus. We will then describe how the interview data were processed as a corpus to be used in the succeeding stages of the analyses. Finally, we will present a detailed account of the statistical procedures and functional analysis performed.

Interview Protocol

The corpus used in this study consisted of the language produced in answer to an interview protocol designed for a large study of diabetes patients' talk (Connor et al. 2012). The research team in charge of that study (comprised of linguists, medical experts, and biostatisticians) defined two objectives for their investigation: "1) to enhance understanding of the relationship between literacy, language use, and chronic disease management across cultural boundaries and differing education levels; and 2) to translate study findings into specific strategies for healthcare providers that could improve chronic disease management" (Antón and

Goering 2015, p. 29). In order to fulfill the first objective, the research team decided to conduct in-depth interviews which allowed them to collect survey and narrative responses from the recruited patients. These interviews provided the research team "with samples of patients talking about living with their disease in their own voices" (p. 30).

Table 10.1 shows the nine parts of the interview protocol used for the English-speaking patients. In Part A, interviewees talked about their experiences living with diabetes. This section had open ended-questions to prompt patients to share their stories from the time they were first diagnosed with this disease. Part B included questions that were meant to help patients refer to the relationship between the way they managed diabetes and their overall outlook on life. In Part C, patients were asked about their diabetes medications and what they were supposed to do with each of those medications. The questions in this section were used as one indicator of health literacy. Patients were asked to rate the usefulness of different sources of information for understanding and managing their diabetes in Part D. Part E focused on measuring health literacy through questions that asked whether the patients needed or often received help from family members or caregivers in reading health-related materials, or if they ever had encountered problems in learning about their medical condition because written materials were difficult to understand. The questions in Part F were meant to elicit narrative responses about the patients' use of patient information leaflets (PILs) and how they related to the information on those PILs. Part G contained yes/no and multiple-choice questions about the treatments that had been recommended to these patients. Part H provided another measure of health literacy, which

Table 10.1 Diabetes patients' interview protocol (Antón and Goering 2015)

Section	Description
Part A	Diabetes and You
Part B	Your Outlook on Life
Part C	Medical Treatment and Adherence
Part D	Information Sources
Part E	Literacy
Part F	Using Medication Information
Part G	Quality of Care
Part H	Knowledge about Diabetes
Part I	Demographics

focused on patients' knowledge about diabetes. Finally, Part I included questions concerning demographic information such as race, gender, marital status, education, and family situation (Antón and Goering 2015, pp. 30–40).

After this interview protocol was developed, pretested, and revised, a Spanish version, based on a translation and interpretation of the English one just described, was designed. This task was conducted by a team of native speakers and advanced learners of Spanish from Spain and different areas of Latin America.

Interviewee-patients were recruited using a variety of strategies, facilitated through participating clinics that work with the population targeted for this study. As shown in Table 10.2, 65 patients with Type II diabetes, living in a large city in the Midwest of the USA, took part in the study: 43 English speakers and 22 Spanish speakers. English speakers had a slightly higher level of schooling than Spanish speakers. All interviews were transcribed by multiple transcribers, and the procedures for transcribing were carefully codified and checked for reliable transcriptions (Antón and Goering 2015, pp. 41).

From Interview Data to Corpora

The language collected in the interview protocols was treated as a linguistic corpus and was analyzed following corpus-based standard procedures for text analysis. The purpose of the interview data collection was not solely to use the language as a corpus. Thus, the interviews were marked using a variety of annotations agreed upon by the research team (linguistic and nonlinguistic features such as pauses and asides, for example) to guide the different types of analysis that the team members would conduct on such data. The markings were deleted first with a specially designed computer program and later manually in order to ensure homogeneous data for reliable automatic analyses.

Table 10.2 Interviewee-patients

Participants	Number
English speakers	43 (22 female; 21 male)
Spanish speakers	22 (9 female; 13 male)

The analyses were conducted in four different stages. For the first two stages, we used automated computer programs in order to obtain quantitative results. In these stages, both the English and Spanish corpora were grammatically tagged and those tags were later counted and normed. In the third stage, we applied statistical procedures based on the normed, tagged counts. The fourth, and final, stage focused on a functional analysis of the variables that had been identified in the third stage as significantly different across the two groups of patients in each language group (adherent and nonadherent). These quantitative analyses were followed by a qualitative functional analysis. In the functional analysis, each linguistic variable was studied in context with a focus on discourse functions and distribution, in an attempt to find patterns of language use. It is important that corpus-based studies include both quantitative procedures and functional analysis to confirm language tendencies (see Biber et al. 1999, p. 51).

The corpus of English-speaking patients (hence, English corpus or EC) used in this analysis consisted of 43 machine-readable files. The corpus of Spanish-speaking patients (hence, Spanish corpus or SC) was made up of 22 files that were converted to text format and manually cleaned of all nonlinguistic annotation (pause markings, paralinguistic annotations such as laughter or coughing, for example). The total number of words in the English corpus was a little over 130,000 words and the Spanish corpus consisted of about 60,000 words. Table 10.3 shows basic information about the corpora.

Table 10.3 Corpus of English and Spanish diabetes patient talk

Corpus	Files	Number of words
English		
Adherent patient group	31	86,464
Nonadherent patient group	12	44,880
Total	**43**	**131,344**
Spanish		
Adherent patient group	19	48,171
Nonadherent patient group	3	10,047
Total	**22**	**58,218**

The corpora were then tagged using automatic taggers for English (Biber 1988) and Spanish (Biber et al. 2006). These computer programs analyze texts and provide information about the grammatical characteristics of each word in the corpus. The tags were then counted and normed to a common basis of frequency to prepare the corpus for reliable comparisons across texts of different lengths.

The results of the tag counts in each language group, English and Spanish, were grouped according to the patients' level of adherence to their diabetes treatment. It is important to point out that in the study, adherence was identified by patients' self-reported data. A question in the survey asked how many times the patient had missed taking medication in the previous month. Following several examples in the health-care literature, patients who reported that they had only missed taking their medication twice or less in a month were considered "adherent," while those that reported missing taking their medication more than twice were considered "non-adherent" (Antón and Goering 2015; Cortes 2015).

Statistical Procedures and Functional Analyses

We used two statistical procedures to identify the grammatical features preferred by a particular group of patients. These procedures were first conducted on the English corpus and later on the Spanish corpus. In the first stage, significant differences for the mean counts were computed (two-sided t-tests) for each of the linguistic features, represented by the normed frequencies. In addition, the Mann-Whitney U-test was performed. This test is a nonparametric test (also known as Wilcoxon test or Wilcoxon's rank sum test) often used to compare the means of two groups which do not follow a normal distribution. This test is equivalent to the t-test and is thought of as the distribution-free analogue of the t-test for two independent samples (Howell 1997). Because the nature of our study was exploratory, variables with $p < 0.10$ for the t-test, the Wilcoxon Mann Whitney test, or both in each language were considered for the linguistic analysis, becoming the target of the next stages in the study. We focused our subsequent qualitative functional analysis on these target linguistic features, which had shown significantly different

tendencies of use across the two patient groups in each language (Cortes 2015).

Antconc 3.3.5 (Anthony 2012) concordancing software was used to analyze the target linguistic features in context in search of collocational tendencies that could explain patients' preferences in trying to find clues that could show evidence of group membership, that is, signaling the speakers as belonging to the adherent or nonadherent group. For example, concerning the first variable that was found to be significantly different between the adherent and nonadherent groups in the Spanish corpus, namely, unspecific demonstrative pronouns, all instances of these pronouns (*eso, esto, aquello—this, that*) were analyzed in Antconc to identify their collocational patterns, in an attempt to describe users' tendencies and preferences. This process was performed on all the features that had been statistically identified as potentially discriminating between the groups of patients.

In the examples that follow, excerpts from the corpus will be identified with the following acronyms: English adherent patient (EAP); English nonadherent patient (ENAP); Spanish adherent patient (SAP); and Spanish nonadherent patient (SNAP). Spanish excerpts are accompanied by English translations produced by the first author of this chapter.

Results and Discussion

We report our findings by language. We first present a summary of the previously reported findings of the English-speaking patient talk analysis (Cortes 2015). They are only presented here as a framework for comparison with the Spanish-speaking patient talk. We will then focus on the Spanish corpus to introduce the linguistic features that were identified as discriminating items between adherent and nonadherent patients in this language and we will discuss how each group used these features. Finally, we draw comparisons of potentially discriminating grammatical features across languages. For this contrastive analysis, we selected one of the features identified in the English-speaking patient subcorpora (second person pronouns and possessive determiners) and analyzed the use of comparable Spanish expressions in the Spanish-speaking patient

subcorpora. We then inverted the procedure, starting with one feature identified in the Spanish subcorpora (unspecific demonstrative pronouns) and analyzed comparable expressions in its English counterpart.

Summary of English Patient Talk Findings

The English patient discourse corpus analysis yielded seven significantly different variables across adherent and nonadherent patients. These linguistic features were: (1) first person pronouns and possessive determiners; (2) second person pronouns and possessive determiners; (3) the verb *do* in all its forms; (4) present progressive; (5) subordinating conjunctions—causative; (6) passive post-nominal modifiers; and (7) *Wh-pronouns* acting as relative pronouns or relativizers with a gap in the relative clause in the object position (Cortes 2015).

One of the most surprising significant differences in the use of grammatical features between the adherent and nonadherent groups of English-speaking patients was found in the use of first and second person pronouns and possessive determiners. Second person pronouns (personal pronouns, objective pronouns, reflexive pronouns) and possessive determiners were more frequently used by the adherent group. This finding was quite unexpected because previous studies of written medical discourse have considered the first person pronoun to be strongly related to the self-confidence and involvement which are often present in adherent patients (Salager-Meyer et al. 2003).

Subsequently, a thorough collocational analysis of the semantic environments surrounding the pronouns was conducted. All uses of second person pronouns and determiners as discourse markers, in expressions such as *you know* or *you know what I mean,* were excluded from the analysis. We noted that English adherent patients used second person pronouns and possessive determiners for impersonal functions. These linguistic features may often be used impersonally (see Biber et al. 1999). The adherent patients used the second person pronouns to group themselves with people who are controlling their diabetes. These patients find themselves experimenting with their course of treatment while trying to manage their illness to maximize results with positive outcomes.

Sometimes the adherent patients used the second person pronouns in combination with first person pronouns, always reporting strategies they used to manage their diabetes. Below are examples of the use of these linguistic features from the English adherent patient subcorpus (Cortes 2015, pp. 57–58):

Not everybody is sympathetic to the fact that you have this thing. (EAP)
This piece of bread is a carb choice, so when you have a sandwich, those are two carb choices. (EAP)
I went on medication and found out that you can control it.(EAP)
I know the exercise I need to do. It's just getting your mind set back up doing it. (EAP)
I'm in control but there's always something you gotta keep your eye out…(EAP)

As this particular use of second person pronouns and possessive determiners was frequent enough to mark group membership, in the present study, this variable was selected as the target linguistic feature for contrastive analysis in the Spanish corpus.

Spanish-Speaking Patients: Preferences and Tendencies

It is important to explain that the Spanish corpus analysis yielded nine variables that showed statistically significant differences in the frequency with which each group used these linguistic features. The differences in some of these variables, however, were not meaningful: they originated in a low number of texts in the nonadherent group (three texts). A few variables showed a significant difference marked by a higher use of a linguistic feature in the nonadherent group. When looking at the occurrences for those linguistic features, however, there were only a few uses of the feature produced by only one nonadherent patient and few or no uses in the adherent group. Thus, only the four variables that showed a sufficient number of examples produced by both groups were used in the succeeding steps of the Spanish corpus analysis. These variables are:

1. Unspecific demonstrative pronouns (esto, eso, aquello—*this, that*)
2. Simple conjunctions/subordinators (pero—*but*)
3. Complex conjunctions/subordinators (a pesar de—*in spite of*)
4. Augmentatives (dañísimo, bien mal—*extremely harmful, pretty bad*).

Since both simple and complex conjunctions/subordinators performed similar functions in the contexts under analysis, the findings for those variables will be reported together. The statistical results for the Spanish linguistic variables can be found in Appendix A.

Unspecific Demonstrative Pronouns

Spanish-speaking patients in the nonadherent group used unspecific pronouns more frequently than those patients in the adherent group. These grammatical features were often used by these patients to refer to their illness and the medication they were taking in a nonspecific way. These examples show how these pronouns are used in this indefinite function:

… *hay veces que me pongo a leer y leo y digo lisinopril porque yo tomaba de esto* (NASP)(… sometimes I start reading and I read and say lisinopril because I used to take this)

… *esto es para la presión* (NASP) (… this is for blood pressure)

… *esto se guarda en una temperature ambiente* (NASP) (this is kept at room temperature)

… *la diabetes pues lo que yo sé eso es una enfermedad hereditaria (*NASP) (… about diabetes because as far as I know that is a hereditary disease)

… *yo no sé ni siquiera quiénes el que dice que tengo eso porque a mí me han llegado folletos* (NASP) (I don't even know who is the one that ways I have that because I have received brochures …)

Simple Conjunctions and Complex Conjunctions/ Subordinators

These expressions were used more frequently by the Spanish nonadherent patient group. Expressions such as *pero* ('but'), *a pesar de*

('in spite of'), and *porque/porqué* ('because, why, the reason') were mainly used in clauses that included excuses or explanations that tried to account for the patients' nonadherent status. These examples show the way in which these grammatical features were used to express this function:

… *pues trato trato porque para que le voy a decir mentiras trato de de hacer una dieta pero usted sabe que es muy difícil hacer una dieta*. (NASP) (… well, I try, I try, because … why am I going to lie? I try to keep a diet but you know that it is difficult to keep a diet).

… *a mí me han llegado folletos y yo leo hay veces que leo por ahí pero pero soy un mal lector* (NASP) (… I have received brochures and I read … sometimes I read around but, but I am a bad reader)

… *sí porque bueno uno sabe que es una enfermedad y todo pero hay veces que hay otras preocupaciones*. (NASP) (yes, because well ... one knows that this is a disease and all but sometimes there are other concerns)

… *pero te voy a decir una cosa también a pesar de que tengo mis estudios todavía tengo problemas yo de así de leer o escribir* (NASP) (but I am going to say something else … in spite of my education I still have problems reading or writing)

Augmentatives

These linguistic features, usually composed of adjectives premodified by adverbial emphasizers or in the augmentative form in Spanish, were often used by the nonadherent group of patients to express different types of negative qualities. This particular use of these linguistic features was not observed in the production of the adherent patient group represented in the corpus. Here are some examples:

Yo también soy muy malo para las frutas la única que me gusta es como el banana y yo creo que es dañísimo. (NASP) (I am also very bad with fruits. The only one I like is the banana and I think it is extremely harmful)

En veces me subió bien altísima en veces cuando me bajaba sí me sentía ya bien bien mal. (NASP) (Sometimes it went up really high and sometimes, when it went down, I felt pretty, pretty bad)

Comparing Linguistic Preferences across Languages

As a final step in the analysis, we selected two features that helped discriminate between the adherent and nonadherent patients' linguistic preferences in each language and explored the way in which these features were used in the counterpart language subcorpus. These grammatical exponents were the second person pronouns and possessive determiners, preferred by the English-speaking adherent patient group, and unspecific demonstrative pronouns, often found in the production of the Spanish-speaking nonadherent patients.

Second Person Pronouns and Possessive Determiners in Spanish

Second person pronouns and possessive determiners were identified in the Spanish adherent patient corpus in a first stage of analysis, following the English procedure. In addition, as Spanish is a pro-drop language, verbs inflected for the second person in all their forms were also identified and analyzed through the use of the corresponding tags.

Tienes que hacer mucho ejercicio, caminar sobre todo… (You have to exercise a lot, mainly walking …)

Tampoco tienes que cambiar mucho tu forma de vida… (You don't have to change your life style too much either)

A veces no se te olvidan, sabes que te las tienes que tomar… (Sometimes you don't forget, you know you have to take them …)

Tu puedes vivir mucho tiempo, mucho más que una persona que este sana… (You can live for a long time, much longer than a healthy person)

These examples are very similar to the ones used by the adherent patients in the English- speaking group, as shown in the following examples (Cortes 2015, p. 59):

You need to exercise
You just gotta watch your diet and exercise
You have to change your eat habits and exercise

It is important to note that both groups of examples, those produced by English-speaking patients and Spanish-speaking patients, show how these speakers use the second person pronouns, determiners, and inflected verbs to distance themselves from their disease, providing examples and advice that reflect their desire to merge with the group of people who are free from the disease, doing their best to restore their health. Even though the second person pronouns and possessive determiners were also used by the nonadherent patients, this specific distancing strategy was not present in the language of those patients as frequently or used to refer to these particular topics or functions.

Unspecific Demonstrative Pronouns in English

Analyzing the use of the unspecific demonstrative pronouns in English was particularly difficult because the tags for demonstrative pronouns may not account for the uses of *this* and *that* that resemble those of *esto* and *eso* in Spanish. A manual examination was necessary to locate equivalent examples. The use of these pronouns in the Spanish nonadherent group reflected an indefinite sense and certain degree of imprecision. Some parallel examples were identified in the English nonadherent subcorpus:

… because sometimes it says <u>this</u> is for cholesterol.
… he wanted to give me this or give me that… and he wanted me to try <u>that</u> because I guess people lose weight…
I got home and I looked at <u>that</u> and I did not want to do any injections…
When your diabetes isn't under control <u>this</u> can cause a wide range of problems.
The job I had at that time did yearly physicals and nothing like <u>that</u> came up.

These uses of the unspecific demonstrative pronouns resemble the functions that Spanish-speaking nonadherent patients were trying to convey when using these grammatical features in their native language as reflected in these examples:

… a veces tomo leche y digo… voy a cambiar <u>esto</u>, voy a cambiar a otro… (… sometimes I drink milk and I say … I am going to change <u>this</u>, I am going to change another …)

… yo era de descendencia de diabéticos porque murió de eso mi abuela. (… I was a descendent of diabetes patients because my grandmother died from that.)

…ya me dijeron tiene enfermedad de esto… (and they told me, you are suffering from this …)

Discussion and Conclusion

In this chapter we introduced quantitative and functional corpus-based methods of analysis to study the language production of various groups of English- and Spanish-speaking diabetes patients. The comparison between adherent and nonadherent patients in each language group yielded specific tendencies in the use of several linguistic features.

Tagging the corpora facilitated the grammatical analysis and the results provided new evidence of the advantages of these types of tools and research methodologies in the study of medical discourse in general and of patient narratives in particular. The linguistic features identified as preferred by each group of patients can be analyzed to help profile the discourse of each specific group. The identification and analysis of these features provide new evidence to describe the way in which each group of patients described illness and its management.

Functional analyses of the linguistic exponents preferred by adherent patients in both language groups showed that these patients tend to use grammatical features to express their feelings about belonging to a healthier group of people. They described the extreme efforts that they employed to manage diabetes through healthy dietary and exercise habits that proved to be successful. This tendency is reflected in the use of second person pronouns and possessive determiners often found in the discourse of this group of patients in English and in Spanish, mainly to refer to eating habits and exercise routines.

The nonadherent groups, on the other hand, used linguistic exponents that are frequently related to unspecific and more imprecise language use, as in the case of the verb *do* in English and the unspecific demonstrative pronouns in Spanish. This imprecision that was sometimes used to refer to diabetes and other times to refer to the course of treatment patients

were following or the medicines they were expected to take may reveal lack of information about the disease as well as lack of attention to details about the disease management.

The findings reported in this chapter are somewhat limited considering the small size of the Spanish nonadherent patient corpus, which only had three texts. This limitation made it difficult to identify examples illustrating some of the significant differences that had been found. The comparison between English and Spanish was also somewhat limited, as the structural differences of the two languages made it difficult at times to reliably identify comparable examples to illustrate the parallel use of the selected grammatical features.

The use of these and other types of corpus-based methods and statistical analysis of corpora could help provide better discourse descriptions in health-care scenarios. The implications of this quantifiable, and therefore generalizable, linguistic evidence has a potential for providing practicable knowledge for health-care providers. Listening to patients effectively is an essential part of patient-centric care. Focusing on basic linguistic features such as the ones described in this chapter is a concrete step in moving linguistic research findings into the hands of practicing health-care providers.

Appendix A: Statistical Results for Significantly Different Spanish Corpus Variables

Table 10.4 Results for two-sample t-test with equal variances

	Adherent group			Non-adherent group				
Linguistic variable	*N*	*M (SD)*	95% CI	*N*	*M (SD)*	95% CI	*t*	*p*
Unspecific demonstrative pronouns	19	6.41 (3.26)	[4.84, 7.98]	3	10.29 (5.48)	[–3.33, 23.91]	1.76	0.09
Simple conjunctions	19	38.70 (13.21)	[32.34, 45.07]	3	50.81 (3.26)	[42.70, 58.92]	1.55	0.14
Complex conjunctions	19	2.32 (1.46)	[1.63, 1.63]	3	4.49 (1.57)	[–2.26, 11.25]	2.14	0.04
Argumentatives	19	0.10 (.24)	[–.02, .21]	3	.36 (.32)	[–.45, 1.17]	1.69	0.11

Table 10.5 Results for Mann-Whitney U-Test

	Adherent group		Non-adherent group		
Linguistic variable	*N*	Rank Sum	*N*	Rank Sum	*p*
Unspecific demonstrative pronouns	19	205	3	48	0.74
Simple conjunctions	19	199	3	54	0.84
Complex conjunctions	19	204	3	49	0.75
Argumentatives	19	204	3	49	0.75

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11

Creating and Exploring Spoken Corpora of Health Communication for Second-Language Training Purposes

Leif French and Stephanie Lapointe

Introduction

In Canada, where English and French are the two official languages, Health Canada has been mandated to increase access to health services in both official languages across the country (Canada and Canadian Heritage 2013). Nurses in particular, depending on their geographical location, are often faced with the challenge of becoming bilingual. While these nurses may be highly skilled medical practitioners, they are not necessarily prepared to cope with the reality of bilingual or multilingual language use in hospitals and clinics (Isaacs et al. 2011), which often requires them to seek out second-language (L2) training. Such training, however, may not adequately prepare nurses for the reality of bilingual or multilingual language use because L2 materials tend to focus more on

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presenting a prescriptive standard of language than preparing nurses for various sociolinguistic expectations of their work environment (Beaulieu 2011; Carter and McCarthy 1995). Consequently, nurses may often lack important knowledge about the extent to which the sociolinguistic dynamics of spoken language impact effective communication during nurse–patient interactions.

The main motivation behind this study was therefore to create corpora that would help health professionals, particularly nurses, increase their sociolinguistic knowledge, which, as defined by Bachman and Palmer (2010), enables creating or interpreting language that is appropriate to a particular language use setting. In this regard, our objectives were twofold. The first objective consisted of designing and creating specialized, comparable, spoken corpora of the language actually produced by anglophone and francophone nurses in Quebec when engaged in speech tasks that tended to be emotionally charged. A second objective was then to illustrate how the corpora could be useful for L2 training purposes, in particular, by examining types of responses and linguistic forms used by nurses to convey empathy/sympathy.

Corpus Creation

With technological advances, creating corpora is becoming much easier and numerous creation projects now exist (Leech 2000). Although there is much interest in creating large-scale corpora, smaller and more specialized corpora are also becoming quite popular. One area that has yet to have been fully explored is the creation of specialized, comparable, spoken corpora of health communication situations for L2 training purposes.

Currently, there are few corpus-creation initiatives that specifically target health communication situations (e.g., http://www.nottingham.ac.uk/research/groups/cral). One reason for this is that collecting speech from authentic health-care exchanges can be difficult because of ethical restrictions. Furthermore, access to patients can be particularly limited in situations that are emotionally charged. Such situations, however, are precisely those that tend to be the most challenging for L2 speakers; they require greater language proficiency (Isaacs et al. 2011) and

are therefore of particular interest for L2 training purposes. Given that health communication is so diverse, corpora of a variety of health communication situations between differing patient groups and health-care professionals may even be too general to pinpoint recurring language use in highly emotional contexts. There is therefore a serious need for L2 educators to have corpora that specialize in health communication in emotionally charged contexts.

Another important reason for examining speech in such contexts is that this may lead to a better understanding of how to reduce potential language barriers that occur when health professionals and patients do not share the same first language (L1) (Segalowitz and Kehayia 2011). Having comparable bilingual or multilingual corpora, designed using similar sampling frames with similar balance and representativeness (e.g., "the *same proportions* of the texts of the *same genres* in the *same domains* in a *range of different languages* in the *same sampling* period" [McEnery and Xiao 2008, p.3]) would be ideal for comparing how a message is conveyed in different languages, and therefore help better understand why language barriers may lead to misunderstandings. In fact, research by Bowen (2001) and Robinson (2002) has shown that language barriers can lead to communication breakdown, which can not only negatively affect the quality of communication but also the quality of health services rendered.

Currently, there are several English and French corpora that exist in Canada (for an overview of some, see Gold 2010); however, these are not based on health communication situations, nor designed using similar sampling frames with similar balance and representativeness, and therefore cannot be considered comparable corpora. Consequently, such corpora are not ideal for cross-linguistic comparison, nor for attempting to find ways to limit miscommunications between health professionals and patients. Creating comparable health communication corpora in different languages would therefore be extremely useful in dealing with both of these issues.

It is also necessary for such specialized, comparable corpora to be based on L1 speech. Having spoken corpora from L1 speakers in target health settings would provide examples of linguistically rich data that is often overlooked or ignored in L2 pedagogical materials, yet very important

for communicating effectively. For example, such corpora would provide information about stylistic variants (i.e., how L1 speakers modify their speech in order to adjust to their interlocutor and the communicative context). Research has shown in both health-care and nonhealth-care contexts that L2 speakers who fail to appropriately adjust their speech style (e.g., formal versus informal styles) to the communicative situation are often perceived as distant and uncooperative (Beaulieu 2012; Segalowitz 1976). Corpora showing how L1 speakers adapt their speech in emotionally charged situations would be invaluable for L2 training proposes, especially if such information can ultimately be used to help reduce negative patient reactions and, in turn, enhance the perceived quality of health care.

Taking into consideration the above issues, we set out to create comparable spoken corpora based on L1 nurse–patient interactions in emotionally charged contexts. Our main interest was to develop a corpus tool that would ultimately help better prepare health professionals for the reality of bilingual or multilingual language use in hospitals and clinics.

Method

Creation of the MHCTP

The specialized, comparable, spoken corpora for the training of health professionals, herein referred to as the Multilingual[1] Health Corpora for Training Purposes (MHCTP), was created in several phases. First, three speech tasks, which were previously rated by nurses in Quebec for their high level of difficulty and emotionally charged factors related to caregiving (Isaacs et al. 2011), were selected. Second, with the collaboration of nurses and professors from the Department of Nursing at the Université du Québec à Chicoutimi (UQAC), a role play was designed to elicit language for each of the three speech tasks (see Table 11.1 for descriptions).

[1] Currently, the MHCTP is bilingual (i.e., English and French), however, there are plans to include other languages (e.g., Spanish) as well as add an L2 component, which is why we used the term "multilingual".

Table 11.1 Speech tasks and accompanying role plays

Speech task (Isaacs et al. 2011)	Role play
Speech task # 8: Support a patient who received bad news	*A 56-year old man learns from his doctor that he will no longer walk following a stroke*
Speech task #19: Reformulate a patient's feelings in reaction to a diagnosis	*Parents are worried for their gravely sick child whom they believe is ill-diagnosed*
Speech task #10: Ensure a patient's understanding of a situation	*An elderly woman refuses to take her blood pressure medication*

The third phase consisted of recruiting nurse participants and actors/patients.

Sampling Frame

Building corpora of spoken health communication that are adequately balanced and represent the range and variation of language use that exists within this domain is a formidable challenge. Many variables need to be considered which minimally include age, gender, occupation and professional experience of health professionals; the age, gender, occupation and health issues of patients; the type of setting (i.e., hospital, clinic, home care); and the region from which the language is being sampled. Moreover, Baker (2010, p. 102) mentioned that: "[…] all spoken corpus research is localized to a specific population—although without carrying out comparisons with other populations we cannot know which linguistic phenomena are typical of all speech and which are distinctive of the group being studied." Given the fact that it is unrealistic to try to account for the multitude of variables that influence language use in health communication situations, the sampling frame of the MHCTP is therefore specialized and focuses on a limited set of participants and role plays.

Participants

For the nurse participants, a total of 30 registered nurses (15 anglophone; 15 francophone) voluntarily consented to participate in the project and

received $25 each for their participation. All were native speakers of English or French who were currently practicing or had recently retired. The majority of the anglophone nurses (all female) were from the Eastern Townships, an English-speaking region of Quebec (Age: *M* = 57 yrs.; *SD* = 8.11; range: 37 to 68 yrs.), and the number of years of nursing experience ranged from 8 to 47 years (*M* = 35 yrs.; *SD* = 10.32). For the francophone nurses (14 females; 1 male), a large majority had spent most of their lives in the predominately French-speaking region of Saguenay Lac-Saint-Jean (Age: *M* = 34 yrs.; *SD* = 11.39; range: 22 to 57 yrs.). The number of years of nursing experience ranged from 6 months to 36 years (*M* = 6 yrs.; *SD* = 9.66).

Professional and semi-professional actors were hired to play the patient participants (4 anglophone; 4 francophone); all were recommended either by the artistic director of a local theatre group or theatre faculty at a Quebec university and were remunerated for their services.

Role Plays

Due to the reality that accessing speech in authentic, emotionally charged health communication situations is quite limited, it was decided to use role plays to elicit speech. Moreover, it was therefore possible to have several nurses participate in three specific speech tasks with the same anglophone or francophone patients (actors) demonstrating the same emotional behavior; this scenario would have been impossible to achieve in more authentic health-care exchanges. By having several nurses participate with the same patients in three specific speech tasks in two different languages, it was also possible to extract recurring language use, which could be compared cross-linguistically. Lastly, considering that creating spoken corpora is costly and time consuming, this methodology made it possible, in a relatively short amount of time, to zero in on a type of language use that would normally take years to collect from authentic health communication situations.

Prior to the role plays, nurses were provided a detailed written description of the patient and the reason for the intervention (e.g., support a patient who received bad news). The full breadth of

technical health information normally included in patient files was not provided so as to avoid a technical discussion about chart details; rather, the goal was to elicit spontaneous language about how nurses interacted emotionally with the patients. It was also felt that some nurses might purposefully avoid engaging in emotionally charged discussions by talking about technical details instead. Removing technical details from the nurse–patient interactions therefore increased the likelihood that speech samples from emotionally charged instances of caregiving were highly comparable (i.e., several nurses interacting, independently, with the same patient who is always in the same emotional state).

The amount of time nurses were given to prepare for the role play was not controlled because the nurses had no idea of how the patients would react to what they would say, and thus could not plan ahead. For all role plays, nurses were encouraged to maintain interaction for approximately 8–12 minutes, but were instructed to end the intervention when, based on previous clinical experience, they felt it was appropriate. Patients (actors) were instructed to respond consistently, both in terms of language and body language, to all nurses as per their assigned character description. Recall interviews were used as debriefing sessions after each role play to gather additional information from the nurses as to whether they would have done anything differently if they were to do the role play again, what vocabulary they thought was essential to use, and what their level of anxiety was.

The role plays were filmed and recorded on DVD-R in a nursing classroom at Champlain College Lennoxville (anglophone nurses) and in a nursing lab at UQAC (francophone nurses). In all, the role plays generated an English corpus of nearly 100,000 words, which can be broken down further into the following subcorpora: a nurse transcript consisting of approximately 72,000 words (47,300 words from the role plays; 24,700 words from the recall interviews); and an actor transcript consisting of around 26,300 words. Comparatively, the French corpus has approximately 121,400 words: the nurse transcript consists of roughly 73,900 words (49,600 words from the role plays; 24,300 words from the recall interviews) and the actor transcript has nearly 47,500 words.

Corpus Analysis

Our second objective was to illustrate what type of data could be extracted from the MHCTP and used for L2 training purposes. We therefore chose to investigate how nurses verbally communicated a construct that is deemed to be of particular importance in the health-care profession: empathy and/or sympathy (Morse et al. 2006). More specifically, we set out to:

1) identify which types of responses were more frequently used to verbally communicate empathy/sympathy by anglophone and francophone nurses; and
2) describe the most recurring linguistic forms anglophone and francophone nurses used per type of response.

The Construct of Empathy

Empathy is considered important during the delivery of care (Egan 2010; Hojat 2007; Morse et al. 1992; Robinson 2002; Segalowitz and Kehayia 2011). Sympathy, however, has received much less research attention, and there is debate as to how appropriate or necessary it is for caregiving (Egan 2010; Hojat 2007; Morse et al. 2006). Based on definitions provided by the APA Dictionary of Psychology, it is quite difficult to clearly distinguish one construct from the other because the definitions refer to each other. For example:

- ***empathy*** n. understanding a person from his or her frame of reference rather than one's own, so that one vicariously experiences the person's feelings, perceptions, and thoughts. Empathy does not, of itself, entail motivation to be of assistance, although it may turn into SYMPATHY or personal distress, which may result in action […] ("Empathy", 2007, p. 327)
- ***sympathy*** n. 1. feelings of concern or compassion resulting from an awareness of the suffering or sorrow of another. 2. more generally, a capacity to share in and respond to the concerns or feelings of others. See also EMPATHY. 3. an affinity between individuals on the basis of similar feelings, inclinations or temperament. […] ("Sympathy", 2007, p. 916)

For the purpose of analysis, we avoided trying to distinguish one construct from the other; consequently, empathy and sympathy were treated as one. We then looked to health communication and linguistics research to identify recurring types of responses used to convey empathy/sympathy, thus establishing a speech-act set for the construct.

In health communication literature, a large body of research has focused on defining and explaining the construct of empathy, yet no theoretical framework of the construct currently exists (Kristjánsdóttir 1992; Pedersen 2009). The definition of empathy has also evolved over the years. Even Rogers changed his initial definition from that of a state of being (1957) to describing its cyclical and procedural qualities (1975). Indeed, several models have been proposed to describe the cyclical nature of empathic communication (e.g., Barrett-Lennard 1981; Suchman et al. 1997). Although each model employs different terminology, the cycle essentially consists of one person sending an emotional signal to another; the person receiving the emotional signal sends back a response communicating understanding of the signal to the first person; the first person then accepts the other's response and continues to engage in communication.

However, other researchers (e.g., Morse et al. 1992) have described empathic communication as multidimensional, containing cognitive, emotional, moral and behavioral aspects. Considering that no theoretical framework of the construct of empathy exists and that we were principally interested in identifying and describing types of responses and linguistic forms used to verbally communicate empathy/sympathy, we decided to focus strictly on investigating the behavioral aspect of empathic communication. In other words, we viewed manifestations of empathy/sympathy as a "communicative response to convey understanding of another's perspective" (Morse et al. 1992, p. 274).

In order to investigate the verbal communication of empathy/sympathy by nurses, and to build on previous research in conversation analysis (CA), we selected the types of responses in health communication literature (Bylund and Makoul 2002, 2005; Coulehan et al. 2001; Egan 2010; Morse et al. 2006; Suchman et al. 1997) that were also identified by Pudlinski (2005) as examples of empathic/sympathetic responses.[2] It

[2] One type of response, *validating,* was not identified by (Pudlinski 2005). However, because this response was frequently used in health communication literature, it was included for analysis.

is important to note that it is impossible to determine whether the types of responses selected for analysis entail a complete representation of the verbal communication of empathy/sympathy because the concepts, as previously mentioned, are not theoretically defined. In all, eight types of responses were identified and therefore represented our speech-act set for communicating empathy/sympathy. To be able to identify occurrences of the types of responses in the corpora, we established a clear working definition for each type of response (see Table 11.2).

Table 11.2 Definitions and examples of the types of responses for empathy/sympathy

Types of responses	Definitions and examples
Emotive reactions	A short emotionally charged utterance expressing concern in reaction to news of another's trouble (e.g., *Oh*, or *Gee:s.*) (Pudlinski 2005, p. 270)
Making assessments	Used to mark the news as troubling to the listener and quantifies the "badness" of the news (e.g., *That's not fair* or *That's awful*) (Pudlinski 2005, p. 270)
Naming other's feelings	Listener states how the other person feels about the "bad" news (e.g., *Clobbered*) (Pudlinski 2005, p. 274)
Formulating the gist of the trouble	Listener states the root/essence of what is causing difficulties for the patient, underscoring the significance of the trouble. It is likely to encourage further discussion of this trouble as formulated (Pudlinski 2005)
Expressing one's own feelings	Report of how one personally feels with regards to another's trouble (e.g., *Sorry to hear that*) (Pudlinski 2005, p. 276)
Reporting one's own reaction	Conditional statement indicating how one would feel in reaction to "bad" news (e.g., *I'd feel kinda down* […]) (Pudlinski 2005, p. 279)
Sharing a similar experience	An assertion of similarity, a report of similar feelings/problems, and perhaps a report of attempts to remedy those feelings (e.g., *I feel that way too sometimes, I know what you're talking about*) (Pudlinski 2005, p. 281)
Validating	To make valid (defensible) by normalizing, agreeing, or giving importance (e.g., *I understand, I know, or It's normal.*)

Role Play Selection

In order to extract recurring linguistic forms for a particular context, only the nurse transcript of one role play (i.e., a 56 year-old man who learned he would no longer walk following a stroke) was analyzed. In the English nurse transcript of this role play, there were approximately 13,600 words; in the French nurse transcript, there were around 11,000 words. The specific speech task associated with the role play was for nurses to support a patient who received bad news. By selecting only one role play for analysis, we were able to control for the types of social factors that may have influenced the use of certain linguistic forms. For instance, all 15 anglophone nurses interacted with the same male anglophone patient who always portrayed the same emotional behavior after learning that he would no longer be able to walk. All of the interactions took place in the same room and the all the nurses received the same set of instructions. Likewise, all 14[3] francophone nurses interacted with the same male francophone patient who always portrayed the same emotional behavior. The interactions in French took place in a setting that was comparable to the one in which the English interactions occurred. All francophone nurses received the same instructions as the anglophone nurses. For each language, the key element that varied in the role play was the nurses. In comparing the English and French corpora, the variable factors were the nurses and patients.

Annotation

Using the UAM (Universidad Autónoma de Madrid) Corpus Tool (O'Donnell 2007), nurse transcripts of the corpora were annotated per type of response for empathy/sympathy, which means that when an utterance of the nurse transcript fitted any of the eight defined types of responses, that utterance was labeled as per the applicable type of response. It was possible that an utterance matched the definition of

[3] In the French corpus, there were 15 francophone nurses. For this particular role play, however, there were technical difficulties with the recording of one nurse, reducing the sample to 14 francophone nurses, which is why there are fewer words and nurse participants in the French nurse transcripts than in the English nurse transcripts.

more than one type of response; in which case, there was more than one annotation per utterance.

The annotation process was executed in three distinct phases. First, by reading all transcripts and viewing the accompanying video recording when necessary, utterances that fit the various definitions of the aforementioned types of responses were annotated. An utterance was annotated, rather than a sentence, because a sentence is not the ideal structure to decipher in spoken corpora (Leech 2000). The definition of an utterance was taken from Ring, Dowrick, Humphris, Davies, and Salmon (2005, p. 1508): "a piece of speech which has sufficient meaning to be coded." When certain utterances were difficult to attribute to a specific type of response, they were tagged in a temporary category. After the entire corpus was annotated, a second series of annotations took place in which the temporarily tagged utterances were reviewed and either reannotated as per the definitions of the type of responses, or their temporary annotation was simply deleted because the tagged utterance did not match with any of the definitions. Afterwards, a third series of annotations took place in which all utterances were scanned per type of response to determine whether any utterances had been improperly classified. If an utterance had been improperly categorized, it was reannotated as per the proper definition. If an utterance clearly did not fit any of the definitions of the type of responses, the annotation was deleted.

In order to verify the accuracy of the annotations, they were reviewed three separate times by reading over all the nurse–patient dialogues. During this process, if an utterance had not been annotated or was discovered to have been improperly annotated, it was put in a temporary category prior to being added to or deleted from the previously annotated utterances. All annotated utterances then underwent a final revision to ensure they had been properly classified per type of response.

The inter-rater reliability of the annotations was established by having a research assistant recategorize 30% of all the annotations in two phases. The first phase consisted of assigning a category for each annotation. The second phase consisted of reviewing the annotations that did not match the original analysis and recategorizing them by referring to the definitions of each type of response. The inter-rater reliability for the annotations was calculated at 89 and 87% for the French and English corpora respectively.

Analysis

Once the annotation process was completed, a mixed methods (quantitative–qualitative) approach was used to analyze the corpora. First, all annotated utterances were extracted as per the types of responses, which generated descriptive statistics as to the number of utterances for each type of response. It was also possible to assess how many of the anglophone and francophone nurses used each type of response by calculating the number of types of responses per nurse. These descriptive statistics allowed examination of the first research objective, which was to assess which types of responses were more frequently used.

The second round of analysis consisted of comparing the most recurring two-word phrases and surrounding variable slots per type of response. Due to the limited size of the corpora, it was difficult to apply a standard frequency cutoff point, such as 10 or 20 times per million words (McCarthy and Carter 2006), as the moment a word appeared once in the corpus, it would surpass the cutoff. Moreover, because the range of occurrence of two-word phrases and variable slots varied per type of response, the first, second, and occasionally third most frequent two-word phrases and variable slots were analyzed per type of response. The most recurring two-word phrases were selected for analysis because of the high likelihood that they would illustrate the recurring phraseology of the type of response. Furthermore, although grammatical words are often not considered for these types of analyses because they are not lexically rich, it was nevertheless decided to include them in the analysis for two main reasons: (1) they can provide a great detail of information on how to formulate the syntactic structure of a type of response (Celce-Murcia and Larsen-Freeman 1999; Dewaele 2001); and (2) communicating empathy/sympathy is an abstract construct, which may not necessarily be best conveyed through use of lexical or content words. The contextual meaningfulness of both grammatical and content words per type of response was therefore considered when identifying which linguistic forms merited further investigation. Qualitative analysis consisted of describing the most recurring two-word phrases by looking at which words occupied surrounding slots; at times, the audio files were consulted to assess whether intonation, in particular, could add another level of description to the most recurring phrases.

Findings

The first research objective was to identify which types of responses were more frequently used to verbally communicate empathy/sympathy by anglophone and francophone nurses. Table 11.3 illustrates the frequency of occurrence of each type of response and the number of nurses who actually used the type of response in both languages. The pattern that stood out the most is that both anglophone and francophone nurses used four types of responses (i.e., *formulating the gist of the trouble*, *validating*, *naming feelings* and *making assessments*) far more frequently than the four others (i.e., *emotive reactions, expressing one's own feelings, reporting one's own reaction* and *sharing a similar experience*). In the English corpus, the four most frequently used responses represented 90% of the occurrences. In the French corpus, the same four frequently used responses represented 96% of the occurrences. The results from a chi square analysis revealed that when the frequency of the responses was compared between the English and French corpora, the *validating* response was used more frequently ($p < 0.05$) by the francophone nurses, and the *emotive reactions* response was used more frequently ($p < 0.05$) by the anglophone nurses.

For the second research objective, analysis of the most frequently recurring linguistic forms for the four least frequently recurring types of response (i.e., *emotive reactions, expressing one's own feelings, reporting one's own reaction* and *sharing a similar experience*) could not be carried out due to the small number of occurrences. Instead, only the most frequently recurring linguistic forms of the four most frequently used types of responses (i.e., *validating, formulating the gist of the trouble, naming feelings* and *making assessments*) were analyzed. Table 11.4 provides a summary of the findings; more detailed descriptions of the most recurring linguistic forms per type of response follow afterwards.

Validating

For the validating type of response, the most frequent two-word phrases in the English and French corpora respectively were *I know*

Table 11.3 Frequency of occurrence of each type of response

	Anglophone nurses			Francophone nurses		
Types of responses	*N* of utterances per type of response	% of utterances per type of response	*N* of nurses who used type of response	*N* of utterances per type of response	% of utterances per type of response	*N* of nurses who used type of response
Validating	92	29*	15/15	114	38*	14/14
Formulating gist	104	32	15/15	78	26	12/14
Naming feelings	55	17	13/15	69	23	13/14
Making assessments	39	12	11/15	27	9	11/14
Emotive reaction	12	4*	6/15	1	0*	1/14
Expressing one's own feelings	10	3	5/15	7	2	3/14
Reporting one's own reaction	6	2	5/15	3	1	2/14
Sharing a similar experience	3	1	2/15	4	1	1/14
Total:	321	100	n/a	303	100	n/a

*$p < 0.05$

Table 11.4 Findings per type of response per corpora

Types of responses	English corpus[a] (raw frequency/percent)	French corpus[b] (raw frequency/percent)
Validating	*I know* (38/41%)	*Je comprends* (33/29%)
	I [*can*] *understand* (13/14%)	*Je* [*le*] *sais* (20/18%)
Formulating gist	*It's* (37/36%)	*C'est* (43/55%)
		C'est sûr (12/15%)
	you are (21/20%)	*que vous* (10/13%)
	going to (18/17%)	Verb *aller* conjugated (14/18%)
Naming feelings	Feelings named while validating (20/36%)	Feelings named while validating (22/32%)
	Using tag question (8/15%)	Using tag question (10/14%)
	Using rising intonation (7/13%)	Using rising intonation (20/29%)
	Using direct question (7/13%)	Using direct question (2/3%)
Making assessments	Neutral subject (17/44%)	Neutral subject (6/22%)
	Ellipsis of the subject (15/38%)	Ellipsis of the subject (1/4%)

[a]Whenever a reference is made to the "English corpus," only the nurse transcript of the selected role play in the English corpus was analyzed

[b]Whenever a reference is made to the "French corpus," only the nurse transcript of the selected role play in the French corpus was analyzed

(41%[4]) and *je comprends* (29%), which are not direct translations of one another because *je comprends* would be directly translated to "I understand" in English.

In contrast, in the English corpus, *I understand*, which sometimes contained the emphatic marker of *can* or *do* (e.g., *I can understand*), was used 13 times (14%). In the French corpus, *je sais*, which actually translates directly to "I know" in English, was used 13 times, and there were another 7 occurrences of *je sais* with the emphatic marker *le* (e.g., *je le sais*). *Je* [*le*] *sais* therefore occurred 18% of the time, which is close to the rate at which *I* [*can*] *understand* was used in the English corpus.

[4] For all of the types of responses in the nurse transcript, all occurrences, including false starts, were counted.

Formulating the Gist of the Trouble

In the English and French corpora, the most frequent two-word phrase for formulating the gist of the trouble contained a neutral subject followed by a verb. In English, the phrase was *it's* (i.e., *it* + *is*) and in French it was *c'est* (i.e., *ce* + *est*). In the English corpus, there were 37 occurrences of *it's* (36%) and in the French corpus there were 43 occurrences of *c'est* (55%), 12 of which made up a three-word phrase *c'est sûr que*, which directly translates to "it's certain that."

The second most frequent two-word phrases in the English and French corpora respectively were *you are* (20%) and *que vous* (13%), which translates to *that you*. The third most frequent two-word phrase in the English corpus was *going to* (18 occurrences/17%), which was most often conjugated with the pronoun *you* (8 occurrences), *it* (5 occurrences) or *that* (3 occurrences). French nurses also referred to the near future by conjugating the verb *aller*; there were 14 occurrences for this type of response (18%). However, with the verb *aller*, there were more occurrences that were conjugated with a neutral third person singular pronoun, either *on* (2 occurrences) or *ça* (5 occurrences), whereas only 3 occurrences were with *vous* (the polite form of "you"). For the 4 remaining occurrences, 2 referred to the patient's health or rehabilitation, and the subjects preceding the verb of the 2 other occurrences were not recurring; none were with *tu* (the second person singular pronoun).

Naming Feelings

For the naming-feelings type of response, the most frequent two-word phrases in the English corpus were *you're* (35%), *it's* (20%) and *I know* (18%). In the French corpus, the most frequent two-word phrases were *vous avez*, translated to "you have" (48%), and *que vous*, translated to "that you" (25%).

For the English corpus, because *I know* was frequently used and was also the most frequent two-word phrase for the validation response, further investigation revealed that feelings were named while validating 36%

of the time. A similar finding was discovered in the French corpus; there were 22 occurrences (32%) where nurses named feelings while validating at the same time.

Lastly, qualitative analysis revealed that feelings were often named in the form of a question by using tag questions (15% in English; 14% in French), rising intonation (13% in English; 29% in French) and direct questions (13% in English; 3% in French).

Making Assessments

In the English corpus, for the making assessments type of response, the most frequent two-word phrases were *it is* (*it's*) (31%) and *that is* (*that's*) (13%). These phrases, which are similar because *it* and *that* are neutral subjects, represented a total of 44% of the 39 occurrences for this type of response. Further analysis of all 39 occurrences revealed that the other most frequently used subject of the utterance did not exist: there was an ellipsis of the subject in 15 occurrences, which represented 38% of all occurrences. In 82% of the occurrences for the assessments type of response in the English corpus, the subject of the utterance was therefore either neutral (44% of the time) or missing (38% of the time).

In the French corpus, there were 21 occurrences of *c'est* (78%), which was sometimes expanded to either *c'est difficile* (13 occurrences) or *que c'est* (13 occurrences), which translates to "that it's." Furthermore, the direct translation of the neutral subject *that*, which is *ça*, occurred 6 times (22%) in this type of response. Unlike the English corpus, however, there was only one utterance with an ellipsis of the subject.

For the English corpus, because the subject of the making assessments utterances was usually neutral or missing, it put more emphasis on the words that followed. A variety of adjectives, adverbs and nouns were used to describe the severity of the situation. On the other hand, in the French corpus, not as many words were used to describe the severity and they were not always direct translations (see Table 11.5 for the adjectives, adverbs and nouns used to make assessments in both languages).

Table 11.5 Examples of adjectives, adverbs, and nouns used to make assessments (raw frequencies)

Adjectives		Adverbs		Nouns	
English	French	English	French	English	French
Big (1)	Gros/grosse (5)	Very (5)	Très (2)	News (2)	Nouvelle (3)
Difficult (2)	Difficile (16)	Really (1)	Vraiment (2)	Shock (2)	Choque (2)
Not easy (1)	Pas facile (1)	Exactly (4)		Pain (1)	
Great (1)		Extremely (1)		Challenge (1)	
Hard (1)		For sure (1)		Bummer (1)	
Huge (1)		Absolutely (1)		Load (1)	
Incredible (1)		Certainly (1)		Report (1)	
Upsetting (1)					Affaires (1)
Major (1)					Choses (1)
	Terrible (1)				Réalité (1)
					Situation (1)

Discussion and Future Research

With respect to our first objective of the corpus analysis, the findings supported health communication and linguistics literature in that the eight types of responses selected from the literature (e.g., Pudlinski 2005) were also present in the MHCTP. Moreover, because both anglophone and francophone nurses tended to use the same four types of responses (i.e., *formulating the gist, validating, naming feelings* and *making assessments*) more frequently than the four others, these findings appear to suggest that, regardless of the language spoken, there may be types of responses that are used more frequently to communicate empathy/sympathy. It would be important to conduct similar corpus analyses in various languages to assess whether the same four types of responses are more frequently used in general. Establishing whether these types of responses are

used universally across languages to convey empathy/sympathy would allow for a better understanding of this construct as a whole.

The second research objective was to describe recurring linguistic forms per type of response per language. The findings illustrated that a direct translation of a linguistic form did not always exist in the other language. For instance, for the making assessments type of response, more adjectives and adverbs were used in English than in French. Furthermore, there appeared to be a shift in semantic meaning between languages for certain linguistic forms. For instance, based on frequency counts, it is possible that a more appropriate translation of *I know* be "je comprends," which, in English, directly translates as "I understand." Lastly, such descriptive analysis reveals linguistically rich data that often gets overlooked in L2 pedagogical materials and does not have an equivalent use in the other language. For instance, *can* was used as an emphatic marker in the phrase *I can understand*, yet the direct translation, *je peux comprendre* was infrequently used in French; instead, it appears that *je le sais* may be a more equivalent emphatic translation. Many other examples exist; however, what is important to highlight is that these findings need to be shared with L2 learners to increase their overall language awareness in their L1 and L2. Comparing English to French is particularly salient in Canada where many people have either English or French as an L1. These comparisons, therefore, make it easy to understand the subtle differences that exist between the two languages.

Establishing the keyness of the findings to the greater English- or French-speaking population of Canada would require a larger, demographically diverse sample of nurses. It would also require, as Baker (2010) mentioned, comparing the MHCTP with other corpora to determine which linguistic phenomena are characteristic of all speech or distinctive to the group of participants or to the particular speech tasks and role plays under study. For the exploratory intents and purposes of this study, the sample size was intentionally kept small, and the findings from the MHCTP were not compared to other types of corpora; however, the findings do provide a point of departure for subsequent corpus analysis and comparisons. Moreover, the results provide evidence-based examples of the language used by some nurses to communicate empathy/sympathy, which would be useful for L2 teachers who wish to raise

language learners' awareness of certain cross-linguistic similarities and differences.

With this corpus creation project, we tried to adopt a methodology that could be adapted for future research in different branches of applied linguistics. For instance, from a corpus linguistics perspective, aside from enlarging the corpora by having more nurses to participate and creating more role plays, it would be worthwhile, and very feasible, to reproduce the role plays in other languages. Having highly comparable multilingual corpora would allow for greater cross-linguistic analyses that would be insightful for many branches of applied linguistics research.

From a second language acquisition and L2 teaching perspective, there is a need for more research that investigates frequently recurring linguistic forms for particular speech acts. For instance, if a teacher would like to explain how empathy/sympathy can be communicated, it would be useful if there were a corpus-based resource that could provide examples of the types of responses frequently used and the linguistic forms that recur most frequently per type of response. For the time being, annotating responses is done by hand, but with technological advances, it would be interesting for speech-act sets to somehow be annotated automatically.

From a sociolinguistics perspective, Crawford and Brown (2010) mentioned there is an interest among policy makers to investigate how patients perceive the different types of language or variants used by health professionals. Crawford and Brown also pointed out that deciding on whether such variants should be taught to health-care professionals is a problematic task. Considering that L2 learners are not necessarily expected to use the variations that native speakers use, it would therefore be worthwhile to investigate which types of variations L2 nurses tend to integrate into their language use, and how patients view this language use adaptation.

Limitations

We created the MHCTP to respond directly to a pedagogical need for the L2 training of health professionals. Although research has increasingly highlighted the benefits of using small corpora for language teaching, all corpus findings of the MHCTP should be considered in relation to its

small and specialized sampling frame. Another limitation is that in corpus linguistics there is always debate regarding the use of role plays and the information that is provided to participants; sampling speech from authentic situations is generally preferred. Finally, a potential limitation was identified by health professionals during a knowledge-sharing session that took place a year after the creation of the MHCTP. They suggested that the role plays be validated for their "clinical appropriateness," which means that they be validated from a clinical perspective.

Conclusion

There is clearly a need for creating specialized, comparable, spoken corpora for the L2 training of health professionals, and the MHCTP is a first attempt at fulfilling that need. In this chapter, we have therefore proposed a strategic type of corpus creation methodology that:

1) avoids access barriers related to collecting language from authentic health situations;
2) elicits recurring language use from independent sources in specific speech tasks;
3) targets L1 language use that is generally challenging for L2 learners to acquire; and
4) allows for cross-linguistic comparisons.

We also employed a function-to-form approach to analyze the verbal communication of empathy/sympathy, illustrating that the MHCTP does indeed contain recurring language use that can be compared cross-linguistically. Overall, the findings are exploratory, but they do show that although the anglophone and francophone nurse participants tended to use similar types of responses to communicate empathy/sympathy, the language used per type of response could not always be directly translated into the other language. It would therefore be beneficial for L2 learners to be informed of the similarities and differences when communicating empathy/sympathy in different languages to increase their overall language awareness in their L1 and L2.

Considering that developing corpora in an attempt to help L2 learners increase their sociolinguistic knowledge is a complex and gradual process, a concerted effort to align corpus creation and cross-linguistic function-to-form analyses would be a fruitful endeavor for L2 training purposes, particularly in the field of health care where nurses often find it difficult to cope with the demands of a bilingual or multilingual work environment.

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