

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

ProQuest Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

UMI[®]

TRANSLATION OF THE HEALTH BROCHURE AND IMPACT ON THE TARGET
READER: A CONTRASTIVE ANALYSIS OF THE STRUCTURAL AND
PRAGMATIC FEATURES OF TEXTS TRANSLATED INTO SPANISH VERSUS
TEXTS WRITTEN ORIGINALLY IN SPANISH

by

Holly E. Jacobson

A Dissertation Submitted to the Faculty of the

GRADUATE INTERDISCIPLINARY PROGRAM
IN SECOND LANGUAGE ACQUISITION AND TEACHING

In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF PHILOSOPHY

In the Graduate College

THE UNIVERSITY OF ARIZONA

2002

UMI Number: 3060993

UMI[®]

UMI Microform 3060993

Copyright 2002 by ProQuest Information and Learning Company.
All rights reserved. This microform edition is protected against
unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

THE UNIVERSITY OF ARIZONA ©
GRADUATE COLLEGE

As members of the Final Examination Committee, we certify that we have read the dissertation prepared by Holly E. Jacobson entitled Translation of the health brochure and impact on the reader: A contrastive analysis of the structural and pragmatic features of texts translated into Spanish versus texts written originally in Spanish.

and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy

Muriel Saville-Troike

Muriel Saville Troike

July 12, 2002
Date

Mary Wildner-Bassett

Mary Wildner-Bassett

July 12, 2002
Date

Jane Hill

Jane Hill

July 12, 2002
Date

Date

Date

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copy of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Muriel Saville-Troike

Dissertation Director

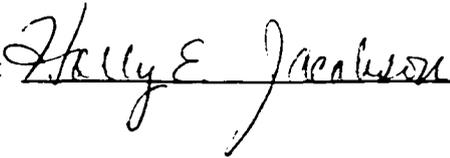
July 12, 2002
Date

Muriel Saville-Troike

STATEMENT BY AUTHOR

This dissertation has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this dissertation are allowable without special permission, provided that accurate acknowledgment of source is made. Request for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department of the Dean of the Graduate College when in his or her judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: 

ACKNOWLEDGEMENTS

This dissertation research could not have been completed without the support of many. First of all, the study was sponsored by a dissertation grant from the Agency of Healthcare Research and Quality (AHRQ), which allowed me to dedicate much more time to the research than would have been otherwise possible. I hope that the findings contribute to AHRQ objectives of improving access to health care to language minority populations.

I would also like to express my gratitude to Muriel Saville-Troike, my dissertation chair, for her valuable insights, suggestions, and patience during the past three years. Thank you, also, to my other committee members, Jane Hill and Mary Wildner-Bassett, for their encouragement along the way. I am also grateful to all three of you for doing thorough readings of my final draft during the hottest and least convenient time of the year.

Special thanks also go to Delia Greth for running around the University of Arizona campus in the sweltering June sun to collect signatures for me. You are a generous person and good friend.

My gratitude is endless for all of the informants who served as consultants in this study. They took time out of their extremely busy lives to contribute to this research, and my hope is that it will in some way benefit them, especially in terms of improved access to health information in Spanish.

Thank you to my parents, Jack and Gretchen Jacobson, for teaching me the value of completing "a good job of work." The periods of rest and wining and dining with you in the Land of Enchantment throughout the difficult process of research and writing provided much needed moments of respite, even while waiting out the Cerro Grande firestorm.

I am thankful to my sister, Heather, and for our times together in New Mexico during these "dissertation years." You kept me sane and on track, reminding me to get back on track and "wrap it up."

I am grateful, too, to my sister, Cherry, and our long phone conversations. I'm glad you always knew I would finish.

Thank-you, Teresa Cohen, for carrying me through these years, and for your patient ear.

Also, I am forever indebted to Nadia Avendaño, Rosa Job, and Phyllis Swenson for their support and friendship.

I close with special thanks to my husband, Quico, for the many sacrifices he made so that I could complete my doctoral studies, and for understanding my tortoise-like character.

DEDICATION

This dissertation is dedicated to three individuals:

To Quico, my nearest and dearest

To Juanita Reina, lively conversationalist and singer

To Tonya, bearer of good news

TABLE OF CONTENTS

LIST OF TABLES	9
LIST OF FIGURES	11
ABSTRACT.....	12
CHAPTER 1. INTRODUCTION	14
Background	14
Statement of the Problem	17
Purpose of the Study	21
<u>Goal</u>	21
<u>Objectives</u>	21
<u>Research Questions</u>	22
<u>Primary Research Question</u>	22
<u>Secondary Research Questions</u>	22
<u>Part I: Text Analyses.</u>	22
<u>Part II: Field Testing of Texts.</u>	23
Significance of the Study	23
Overview of the Study	26
CHAPTER 2. LITERATURE REVIEW	28
Part I: Text Analyses	28
<u>Translation Studies</u>	28
<u>Speech Act Theory</u>	32
<u>Corpus Linguistics</u>	35
<u>Genre Analysis</u>	46
Part II: Field Testing of Texts	47
<u>Pretest/Posttest Protocol</u>	48
<u>Knowledge and Attitudes</u>	48
<u>Inductive Approaches</u>	50
<u>Recall Protocol</u>	50
<u>Interviews</u>	51
CHAPTER 3. PROCEDURE AND METHODOLOGY	52
Part I: Text Analyses	52
<u>Speech Act Analysis</u>	52
<u>Multifeature-Multidimensional Analysis</u>	53
<u>The Corpus</u>	53
<u>Linguistic Features</u>	55
<u>Preparation of the Corpus</u>	56
<u>Factor Analysis</u>	56
<u>Genre Analysis</u>	57
Part II: Field Testing of Texts	58
<u>Subjects</u>	58
<u>Materials</u>	61

<u>Brochures</u>	61
<u>Pretests/Posttests: Testing Knowledge and Attitude Changes</u>	63
<u>Published Tests</u>	63
<u>Test Development</u>	64
<i>Knowledge Items</i>	64
<i>Attitude Items</i>	65
<i>Pretest/Posttest Validity</i>	66
<u>Background Information Questionnaire</u>	66
<u>Procedure</u>	68
<u>Recruitment</u>	68
<u>Participants</u>	69
<u>Sunland Park, New Mexico</u>	69
<u>New Mexico</u>	71
<u>Arizona-Mexico Border</u>	73
<u>Testing and Interview Sessions</u>	74
<u>Recall Protocol</u>	76
<u>Idea Units and Scoring</u>	77
<u>Interviews</u>	79
CHAPTER 4. ANALYSIS OF THE DATA	82
Part I: Text Analyses	82
<u>Speech Act Analysis-Results</u>	82
<u>Speech Act Analysis-Discussion</u>	84
<u>Multifeature-Multidimensional Analysis-Results</u>	93
<u>Multifeature-Multidimensional Analysis-Discussion</u>	93
<u>Interpretation of Factor 1</u>	96
<u>Interpretation of Factor 2</u>	105
<u>Interpretation of Factor 3</u>	112
<u>Overview of Multifeature-Multidimensional Analysis</u>	117
<u>Genre Analysis-Results</u>	119
<u>Genre Analysis-Discussion</u>	121
Part II: Field Testing of Texts	125
<u>Participant Background Information</u>	125
<u>Self-Reported Prior Knowledge about Disease</u>	125
<u>Health Information Sources and Preferences</u>	125
<u>Pretest/Posttest Protocol-Results</u>	127
<u>Knowledge</u>	127
<u>Attitudes</u>	131
<u>Pretest/Posttest Protocol-Discussion</u>	133
<u>Recall Protocol-Results</u>	139
<u>Cause</u>	140
<u>Disease Transmission Mechanisms and Risk Factors</u>	141
<u>Symptoms and Diagnosis</u>	142
<u>Prevention, Control, and Treatment</u>	142
<u>Recall Protocol-Discussion</u>	143

<u>Cause</u>	143
<u>Disease Transmission Mechanisms and Risk Factors</u>	145
<u>Symptoms and Diagnosis</u>	149
<u>Prevention, Control, and Treatment</u>	150
<u>Coherence and Cohesion in Recall</u>	152
<u>Other and Inferences</u>	158
<u>Interviews-Results</u>	160
<u>Text Preference</u>	161
<u>Emergent Categories</u>	163
<u>General Praise for Brochure</u>	164
<u>Rationale for Information Needs</u>	165
<u>Physical Appearance of Brochure</u>	167
<u>Critique on Brochure Content</u>	169
<u>Family</u>	172
<u>God</u>	173
<u>Identity</u>	173
<u>Social Issues</u>	175
<u>Language</u>	176
<u>Fear</u>	178
<u>Interviews-Discussion</u>	179
CHAPTER 5. SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS	191
Overview of Findings, Limitations and Challenges	191
<u>Part I: Text Analyses</u>	191
<u>Overview of Findings</u>	191
<u>Limitations and Challenges of the Text Analyses</u>	195
<u>Recommendations for Future Research</u>	196
<u>Part II: Field Testing of Texts</u>	197
<u>Overview of Findings</u>	197
<u>Limitations and Challenges of Field Testing</u>	200
<u>Recommendations for Future Research</u>	201
Implications and Recommendations	202
APPENDICES	207
Appendix A: List of Health Brochures	208
Appendix B: Informed Consent Form	212
Appendix C: Pretests/Posttests	215
Appendix D: Background Information Form	229
REFERENCES	232

LIST OF TABLES

Table 3.1. Social and Demographic Characteristics of 54 Mexican-born Adult Informants	60
Table 3.2. Text Selection Criteria	61
Table 3.3. Number of Idea Units in Each Category per Topic (Recall Scoring Sheets)	79
Table 3.4. Interview Questions	80
Table 4.1. Mean Frequency of Verb Forms according to Text Type (per 500 Words)	82
Table 4.2. Verbs Used as Imperatives in T-texts	87
Table 4.3. Verbs Used as Imperatives in N-texts	87
Table 4.4. Descriptive Statistics for the Health Brochure Corpus as a Whole (n=32)	94
Table 4.5. Persuasive vs. Informational	97
Table 4.6. Informal Interpersonal vs. Impersonal	106
Table 4.7. Group Persuasion vs. Formal Direct Persuasion.....	112
Table 4.8. Superstructural Organization of the Health Brochure	120
Table 4.9. Examples of Move 8: Prevention and Control	123
Table 4.10. Sources of Health Information (For Informants Reporting Prior Knowledge)	126
Table 4.11. Sources of Health Information (As Reported by Informants)	126
Table 4.12. Health Source Preferences of Informants	127
Table 4.13. Total Number of Idea Units per Category Recalled by Informants (n=14)	138

LIST OF TABLES - Continued

Table 4.14. Recall Results: N-texts vs. T-texts	139
Table 4.15. Number of Idea Units from Each Category Recalled per Text	140
Table 4.16. Percentage of Idea Units Recalled from Each Category according to Text Type	141

LIST OF FIGURES

Figure 4.1. Mean Factor Scores for Factor 1: Persuasive vs. Informational	104
Figure 4.2. Mean Factor Scores for Factor 2: Informal Interpersonal vs. Impersonal	111
Figure 4.3. Mean Factor Scores for Factor 3: Group Persuasion vs. Formal Direct Persuasion	116
Figure 4.4. Pretest-Posttest Mean Difference Score (%) by Group	128
Figure 4.5. Pretest-Posttest Mean Difference Score by Brochure	129
Figure 4.6 Mean Pretest Knowledge Score by Topic.....	130

ABSTRACT

This study involved the analysis of a corpus of health brochures in Spanish, contrasting the way this particular genre is formed and understood in the United States and Mexico. The corpus is made up of two subcorpora: a collection of health brochures published in the United States (translated from English into Spanish), and a collection of brochures from Mexico (written originally in Spanish). These subcorpora were analyzed and compared from many different angles, providing a comprehensive view of how the texts are structured and organized. Analysis at the microlinguistic level, grounded in Speech Act Theory, shows differences in the linguistic realization of the persuasive interactional goals in the two text types. At the macrolinguistic level, a factor analysis reveals differences between the two text types in terms of the patterning and co-occurrence of linguistic features serving the overall informational and persuasive functions characteristic of the health brochure. These differences are attributed to the interpersonal relations and cultural and social contexts in which the two text types are embedded.

A subset of texts from both subcorpora was field tested with the aim of assessing the impact of the two text types on readers, in addition to readers' perceptions of the texts. Fifty-four Spanish-speaking adults from Mexico participated in this part of the study. Field testing involved a three pronged approach: a pretest-posttest protocol, recall protocol, and interviews. Responses provide a look at the brochures from the perspective of the reader, and shed light on the role of the two text types in the Mexican community.

Results of both parts of this study contribute to the fields of translation studies, translator training, contrastive rhetoric, corpus linguistics, genre analysis, cross-cultural communication, and health education and communication.

CHAPTER 1

INTRODUCTION

Background

The disciplines of health communication and applied linguistics have grown rapidly over the past several decades, but they have very separate histories. Applied linguistics concerns itself with the application of theory from psycholinguistics, sociolinguistics, linguistic anthropology, and, in some cases, more traditional, theoretical fields of linguistics to practical areas, such as translation, stylistics, language planning, and, especially, second and foreign language teaching and learning. Health communication also concerns itself with the application of theory for practical ends: one of its major focuses is the application of theory in the development of "health messages." In other words, like applied linguistics, it involves the practical application of theory in the context of language use. However, the theoretical constructs and models implemented in these fields are very different: health communication relies principally on behaviorist and social psychological theory in its investigations and practical applications. During the years of greatest development of these two disciplines (the past five decades), they have mutually ignored each other.

There exist a limited number of studies within applied linguistics on "doctor-patient communication," but these studies are rarely mentioned or referred to by health communication experts. Linguistic applications within health communication have been limited to discussions about the denotative and connotative meanings of words, and their

possible effect on target audiences, especially in the development of persuasive strategies for health messages. A "health message" is defined by the Centers for Disease Control and Prevention (CDC) as information that is provided in order to "increase knowledge or inspire a change in beliefs or behaviors" (Centers for Disease Control and Prevention, 1999, p. 5). Stiles (1999) further explains that the purpose of the health message is to inform and to influence: information increases knowledge, and knowledge serves as the stimulus for influencing behaviors, attitudes, and beliefs. The assumption within health communication is that effective health messages are formed by first conducting formative research (including identifying the participant audience and relevant theories related to attitude, beliefs and behavior), followed by testing the messages to determine how they resonate with the target audience. The CDC (1999) also recommends evaluating messages over time with a large number of subjects. Ideally, messages should contribute to positive health outcomes among participant populations, such as taking action to reduce disease risk, or taking steps to determine health status. Health messages are disseminated through print (brochures, pamphlets, booklets, fact sheets, posters, billboards), audio and visual modes (television, radio, the internet), as well as through multimedia.

The majority of health materials are not tested and retested with participant populations, and effectiveness and impact are rarely evaluated through longitudinal studies. This is due, in part, to the fact that messages are created by a wide range of organizations and health professionals: few have access to sufficient funding, and the principal aim is often simply "to get the information out there," especially when dealing

with highly prevalent diseases and conditions, such as high cholesterol and diabetes. Print materials represent one of the easiest and least expensive means of disseminating health information to large numbers of people as quickly as possible. For some populations, it may also be the most effective means: there is evidence that English print materials are more effective than oral communication in increasing knowledge and satisfaction with care, and in encouraging compliance (Glanz & Rudd, 1990). Doctors and other health professionals also rely heavily on written materials due to time restrictions. According to a study at Rutgers University, the typical office visit with a doctor lasts only 18 minutes (Healthy news, 2001). One-on-one consultations with other health professionals are also rare and certainly not long enough for providing comprehensive information on disease prevention and treatment.

Related to the issue of dependence on print materials is another area of increasing importance in health communication: that of literacy levels. The status of literacy (reading and writing) over the years has led to an ever greater dependence on print materials in all sectors of U.S. society (Cook-Gumperz, 1986; Scollon & Scollon, 1981). Massive amounts of information are provided in written form, including health information. Consumers of health services in the U.S. are faced with a barrage of print materials: when they walk into a health clinic, the walls are plastered with posters; during brief visits with health professionals they are handed brochures, booklets, and fact sheets, and sometimes even folders or "packets" full of reading materials; medications come with specific written instructions on how they are to be administered; and bottles and packages containing drugs come with additional dosage instructions written on the label. Health

literature, especially on communicable diseases, is also readily available on university campuses, at public libraries and community centers, and at many other locations, such as airports. Billboards also proclaim health messages throughout cities and along highways.

Health agencies spend enormous amounts of money in the preparation and distribution of written health messages, but there is considerable concern among experts in health education and promotion that these messages are not reaching all of their intended audiences. The literature on "readability issues" and "problems with low literacy" is extensive. (see for example American Medical Association, 1999; Davis, et al., 1993; Doak, Doak & Meade, 1996; Doak, Doak & Root, 1995; Glanz & Rudd, 1990; and Williams, et al., 1995). As further example of the perceived urgency of the problem, the H. Lee Moffitt Cancer Center and Research Institute at the University of South Florida in Tampa, established a biennial conference (titled *Cancer, Culture and Literacy*) in 1998 to deal specifically with the issue of low literacy levels and the dissemination of cancer information in the U.S. Workshops at this conference discuss the development and simplification of print materials, as well as alternatives to print materials in getting information out to different communities. Participants concern themselves primarily with the development of print health messages that reflect the reading ability of target populations.

Statement of the Problem

An unfortunate consequence of this concern with low literacy levels (generally equated with low English literacy) is a disturbing trend to screen patients at hospital or

clinical intake or check-in for "concealed reading problems" to identify "potential validity problems with self-reported data gathered from patients" (Davis, et al., 1993, pp. 391 and 395; see also Davis, Michielutte, Askov, Williams & Weiss, 1998). An editorial published in JAMA labels patients with low English reading skills as "disabled" and of "impaired literacy" (Miles & Davis, 1995). The authors proclaim, "People with limited literacy may not recognize they have a problem and often will attempt to hide it if they do" (p. 1719). In addition to this literacy-as-disability perspective, the correlation between low literacy levels and health status is often portrayed as a "cause and effect" relationship. That is, blame for ineffective materials (and perhaps an overall ineffective health-care system) is placed on "deficits" in the target populations themselves.

This preoccupation with and often skewed perception of literacy problems among patients has brought about a movement to "simplify" health materials through the use of rather unsophisticated methods such as measuring the "readability" of texts. Readability is determined using formulas such as the SMOG Grading formula and the Fry Method to determine the "grade level" at which the texts are written (Doak, et al., 1995; Doak, et al., 1996; Glanz & Rudd, 1990). The results are based on number of syllables per word and number of words per sentence. In the previously cited CDC handbook (1999) intended for health professionals preparing health messages, the following "linguistic tips" for simplifying brochures are provided: "Use words with one or two syllables when you can. Make most sentences 8-10 words. Limit paragraphs to 3-5 sentences...Choose words with a single definition..." (pp. 6-7). The handbook also suggests that if the reading ability of the audience is not known then "aim for a readability level of grade 6 or 7, the level at

which most newspapers are written" (p. 23). Although there is considerable discrepancy between "grade-level scores" obtained using different readability formulas (Mailloux, Johnson, Fisher & Pettibone, 1995), in addition to the fact that "grade level" is a vague, non-operationalized construct, readability formulas continue to be touted as effective tools in the development of health messages.

Obviously, not all consumers of health information are English speakers: health professionals find themselves faced with the challenge of developing strategies for communicating with an increasingly multicultural, multilingual population. There seems to be a general consensus that health messages must be sensitive to the target population, and lip service is paid to the importance of developing "culturally and linguistically appropriate" materials. Literature on the topic is extensive, and the subject has been widely debated (see for example Marin & Marin, 1991; Pasick, et al., 1996; Perkins, Simon, Cheng, Olson & Vera, 1998; Ross, 2001; Sabogal, Otero-Sobogal, Pasick, Jenkins & Pérez-Stable, 1996; Power & Byrd, 1998; and Woloshin, Bickell, Schwartz, Gany & Welch, 1995). However, the current trend for preparing health materials in languages other than English continues to involve translating texts already developed in English (professional translators are used occasionally, but only if funding allows). As mentioned previously, a wide range of agencies prepare health messages, each one translating materials according to its own criteria, depending on funding, time restrictions, and, most likely, the linguistic and cultural savvy of the personnel in charge. The CDC handbook cited before does recommend that translations be evaluated before distribution. However, it describes the archaic and problematic approach of having

brochures "back-translated" as an effective evaluation technique. It also recommends applying the Fry readability formula to the text to determine its grade level (regardless of language). An article by Pasick, et al. (1996) in *Health Education Quarterly* also constitutes one of many examples of serious misconceptions about translation and sociocultural and cross-linguistic comparisons within health communication. These researchers recommend modifying English health messages to make them easier to translate into other languages, the objective being to make sure all translated texts (in three different languages in this particular study) are "comparably worded", making unlikely any "variation in meaning" (p. S29). This approach is also recommended by Marin and Marin (1991) in their book on research with Latino populations (see also Cella et al.).

It is clear that health communication would benefit from more sophisticated, in-depth analyses and evaluations related to health literature. First, there is an obvious need for research that goes beyond the determination of "literacy levels" of particular communities to understanding literacy as it exists within those communities. Secondly, it is crucial that health educators recognize the problem of equating literacy with English literacy. And thirdly, given the widespread use of translations in health communication, thorough analyses of these texts and their impact on the reader is essential. The purpose of the study presented here deals with the latter.

Purpose of the Study

Goal

The goal of this dissertation research project was to compare Spanish-language health brochures developed in the southwestern United States to health brochures developed in Mexico, and to assess and compare their impact on the reader.

Objectives

Objectives included:

- 1) Conducting a contrastive analysis of a corpus of health brochures translated from English into Spanish (from the U.S., here referred to as T-texts) and a corpus of non-translated health brochures, developed originally in Spanish (from Mexico, here referred to as N-texts). Text features were compared both on a microscopic level (comparison of individual linguistic features) and a macroscopic level (analysis of co-occurrence patterns of linguistic features in the two corpora, in addition to overall organizational structure).
- 2) Field testing a subset of both text-types with monolingual Spanish speakers from Mexico to assess and compare the impact of the two text types, in addition to comparing the way the two text types are formed and understood in the United States and Mexico.

Research Questions

Primary Research Question

This study was aimed at exploring and attempting to answer a number of research questions. The primary research question was:

How do health brochures prepared originally in Spanish by native Spanish speaking health professionals differ from health brochures translated from English into Spanish?

Secondary Research Questions

The study involved two parts, as described above: text analyses (Part I) and field testing of texts (Part II). Parts I and II served to address their own set of research questions, all subservient to the primary research question put forth above:

Part I: Text Analyses.

1. What categories of speech acts are used in the N-texts and T-texts, and how do their linguistic realizations and situational contexts compare?
2. How do the co-occurrence patterns of linguistic features that serve the overall communicative purpose of the health brochure differ between N-text and T-texts?
3. Do differences exist between N-texts and T-texts in terms of the way larger textual chunks are organized?

Part II: Field Testing of Texts. The "subjects" referred to in the following questions are Mexican-born, monolingual Spanish-speaking adults:

1. Do N-texts and T-texts differ in their effectiveness in promoting knowledge and attitude changes among subjects?
2. Do subjects indicate a preference for one text-type over another?
3. How do subjects respond to and perceive health brochures in general?
4. What do subjects' perceptions and responses indicate about the effectiveness of the content of the two text types?

Significance of the Study

As indicated above, this study deals with print materials used in health communication for language-minority populations in the United States, and is particularly concerned with the widespread use of translations. Although many of the findings are relevant to other languages, the focus here is on Spanish, and on Mexican-born speakers of that language.

Latinos are estimated to become the largest minority group in the U.S. by 2050 (reaching close to 25% of the U.S. population). There are currently more than 35 million Latinos in the U.S., representing approximately 13% of the population, and this number is expected to grow to about 97 million by 2050. Approximately 80% of U.S. Latinos speak Spanish, and 40% do not speak English well or at all (U.S. Bureau of the Census, 2000). Mexican Americans make up 65% of the Latino population, and in Arizona and New Mexico, where this study was conducted, there are close to a million people who

Speak Spanish as their first language (U.S. Bureau of the Census, 2000). In addition, Latinos, especially of Mexican origin, are more likely to be uninsured: they represent approximately 25% of the uninsured, even though they constitute only 13% of the population (American College of Physicians-American Society of Internal Medicine, 2000).

The problems related to language and insurance barriers are exacerbated by the fact that the Latino community is burdened by a greater prevalence of highly preventable diseases, including diabetes, tuberculosis, hypertension and other cardiovascular diseases, and AIDS (American College of Physicians-American Society of Internal Medicine, 2000). Diabetes is more than twice as prevalent among Mexican Americans than the general population, and is more likely to lead to complications due to difficulties encountered in obtaining adequate health care (American College of Physicians-American Society of Internal Medicine, 2000; Hunt, Hamdi Arar, & Akana, 2000). Latinos are also twice as likely as the general population to have tuberculosis (American College of Physicians-American Society of Internal Medicine, 2000), and the disease is six times more prevalent among migrant farm workers from Mexico and other Latin American countries (Centers for Disease Control, 1992). Mexican Americans in particular are less likely to have hypertension controlled by medication, leading to serious consequences, such as stroke (American College of Physicians-American Society of Internal Medicine, 2000). In addition, Latinos represent 20% of new AIDS cases in the U.S. (Roybal-Allard & Rodriguez, 2000). It is significant to this study that control of these diseases could be facilitated through education, prevention, early detection and

early treatment, that is, via greater access to care, which begins with improved communication and dissemination of information, including print information.

This research is significant in that it contributes to research on translation as a communicative event by focusing on a particular written genre in Spanish, the health brochure, and contrasting the way it is formed and understood in the United States and Mexico. It analyzes the interpersonal relations, sociocultural factors, and linguistic features that influence the way print health messages are produced in both countries. The contrastive text analyses, referred to as Part I of this study, reveal pragmatic and structural differences between the two text types, findings which are of potential use in the future preparation of health brochures for Latino populations. The findings also contribute to the fields of translation studies and training, pragmatics, genre analysis, contrastive rhetoric, and corpus linguistics.

In addition, to date, no research has been done to specifically determine the impact of translated materials on minority-language speakers in the U.S. Part II of this study provides a look at the health brochures from the perspective of the actual readers of the texts, revealing how the text characteristics described in Part I affect the text users. Part II also explores readers' perceptions of the health brochure, and provides valuable information on how this genre can be improved to meet the needs of participant populations. Beyond the obvious contributions to health education/communication and field testing of health materials, this exploratory study points to future innovative research in reading processes and cross-cultural communication.

Overview of the Study

The following chapter, Chapter 2, Literature Review, provides an overview of the literature contributing to the theoretical framework for the two parts of this research. The reviewed literature for Part I, which involved the text analyses, includes research from translation studies, speech act theory, corpus linguistics and genre analysis. For Part II, field testing of the texts, I provide a discussion of relevant concepts and research related to testing for changes in knowledge and attitudes, and of the more qualitative, hermeneutic approaches of recall protocols and interviews.

Chapter 3, Procedure and Methodology, is divided into two parts, Part I (Text Analyses) and Part II (Field Testing of Texts). Part I describes the procedure and methods implemented in the computer-based text analyses, including the micro-level speech act analysis, and the macro-level multifeature-multidimensional analysis and genre analysis. Part II details the procedure and methods implemented in field testing health brochures, including the pretest/posttest protocol (materials development, recruitment of informants, and testing procedures), recall protocol (process and scoring), and interviews.

Chapter 4, Analysis of the Data, also contains two parts corresponding to Parts I and II of this study. Part I contains results and discussion sections for each of the three text analyses presented in Chapter 3: the speech act analysis, multifeature-multidimensional analysis, and genre analysis. Part II contains the results and discussion of the three field testing approaches: the pretest/posttest protocol, recall protocol, and interviews.

Chapter 5. Summary, Implications, and Recommendations, provides an overview of the findings, limitations and challenges of Parts I and II, as well as suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

Part I: Text Analyses

As mentioned in the introduction, Part I of this research project involves a contrastive text analysis of a corpus of translated texts (English into Spanish) and a corpus of non-translated texts (developed originally in Spanish). The texts were analyzed both "microscopically" and "macroscopically". A microscopic analysis included a detailed look at the pragmatic functions of imperatives and the passive voice in the corpus, and revealed the distinctive usage of these linguistic features in the two text types. The theoretical basis for these analyses was Speech Act Theory. The macroscopic analysis, on the other hand, was conducted in the interest of determining the co-occurrence patterns of linguistic features in each of the two text types, including 70 linguistic features, sentence length, and type-token ratio. The patterning of larger textual chunks, that is, the overall organizational structure, was also described within the framework of genre analysis.

Translation Studies

Most American English-speakers interact with a wide range of written texts on a daily basis. For "avid" readers, these print materials may include academic journal articles, novels, magazines, and many others. Even those who are not avid readers normally participate in at least some sort of literacy activity on a daily basis, whether it

be to check the sports page in the newspaper, read a memo from the boss, write up a shopping list, or use the yellow pages to shop around for the freshest tortillas. Despite the wide range of text types that exist in American society, however, native English readers in the U.S. rarely find themselves interacting with texts translated from other languages (exceptions include persons in academia and international business and law, and regular readers of certain religious texts). This is in sharp contrast to minority-language groups who deal with translated texts on a regular basis, especially in the business, health, and legal sectors. Translated texts also constitute a large portion of the daily readings of people throughout other parts of the world, in part due to the current dominance of the English language in many sectors.

The lack of familiarity and experience with translation in the U.S. may explain the failure to properly evaluate their effectiveness in health communication. Translation theories grounded in a target-oriented framework shed light on the inadequacy of currently available translated health materials.

Since the early 1950s, the area of translation studies has gradually developed into a loosely defined scholarly discipline, and, logically, it draws heavily on already well-established linguistic fields. In much of the literature, translation research and theory is described as being divided into two camps: the source-text orientation and the target-text orientation. The different concepts, models, and theories represented by these two orientations have sparked useful debate, which has promoted growth in the field. Translation scholars and practitioners draw on concepts from both orientations, as they do not mutually exclude each other. Perhaps the best known contributor to the source-

language orientation is Peter Newmark (1988). Throughout his career, Newmark has developed theories related to source-text semantics, and the faithful rendering of individual words. Within his framework, context at all levels plays a secondary role, and linguistically accurate semantic translation is of utmost importance. This view of translation tends to be prescriptive, and focuses on "meaning units" as they are used in the source culture. Translator training in the U.S. has traditionally relied exclusively on unit-by-unit analysis of source texts, and paid tribute to the sanctity of original meaning. Trainees are taught that it is crucial to provide target readers with an unadulterated view of the original text. Another characteristic of this praxis-oriented approach is a focus on the correctness of the translated product. Genstler (1993, p. 8) describes the source-language orientation as a focus "not on the process but on the pursuit and consumption of 'original' meaning."

Target-oriented, descriptive approaches to translation have been around for just as long, although they have yet to play an important role in translator training. One of the most important scholars to suggest the importance of the study of translation as a communicative event is Eugene Nida (1952, 1964, 1977). Nida advocates focusing attention on the receiver of the message, or the target community. From this perspective, the production of the original text, the translation process, and the reading of the translation (by the target reader) all occur in different sociocultural contexts. These contexts influence the way the message is formed and understood in each instance. Nida (1977, p. 215) also argues that "there is no point in making a translation apart from a situation involving real interlingual communication, and if this is so, then the capacities,

attitudes, presuppositions, and potential responses of receptors must be carefully studied." According to this view of translation, equivalence goes beyond the word, and must be considered at many different levels. Hickey (1998, p. 2) provides an example of one level of equivalence, that of "dynamic equivalence", which he defines as "stimulating an effect in the reader of the translation similar to that caused in the reader of the original." There are other levels of contextual equivalence, including communicative purpose or function (House, 1998), situational factors, and culture (Snell-Hornby, 1995). Another essential target-oriented concept is that of "appropriateness versus adequacy" (Toury, 1995). A translation is "appropriate" only if it meets the expectations and conforms to the rules of the target discourse community. That is, even if a translation is adequate, meaning that it constitutes a grammatically accurate text, containing linguistically and semantically equivalent forms, it still may not be deemed appropriate by the target discourse community.

Translations of both orientations each serve their own particular function. House (1998) posits the existence of the two types of translation for different purposes, and refers to them as *covert* and *overt* translations. An overt translation is realized as a way of providing the target world a glimpse into the source world, or of "eavesdropping" (House, 1998, p. 65) on another culture or discourse community, and remains faithful to the original sociocultural context. It is obviously and overtly a translation. An example of a source-language genre for which an overt translation might be preferred is the Navajo myth. A covert translation, on the other hand, is used "to recreate an equivalent speech event" (p. 65) which meets the expectations and rules of the target discourse community.

This is similar to Toury's "appropriate" translation. An example of a genre requiring a covert translation is the health brochure.

However, source-oriented, overt translation of brochures tends to be the current norm. The analyses conducted in this research shed light on the characteristic features of this type of text. The results show that the overt translations contain features which deviate from Spanish patterns.

Speech Act Theory

The communicative purpose of the health brochure, in general terms, is to positively affect people's behavior in relation to health (Parrott, 1995). In the literature, effective health messages are depicted as involving a careful analysis of the target audience, including culture, language, salient belief structures, and socioeconomic status (Crabtree & Ford, 1988). But, despite years of effort to develop "culturally and linguistically appropriate" (a commonly used "buzz expression" at conferences and in the literature) materials, health education literature in languages other than English has proven to be ineffective. I posit that this may be due, at least in part, to the current trend of focusing almost exclusively on "literacy levels": that is, the assumption that the target audience does not have the literacy skills to process certain messages (see Chapter 1). Throughout the literature, failure of written materials in clinics, hospitals and in health campaigns is nearly always blamed on the recipient of the message. References are made to the "poor education" and "low literacy levels" of the target population, in addition to

the "dialects" of the message recipients' "subculture." Cartoons and soap-opera style comic books (*fotonovelas*) are often presented as a solution to the problem.

I am not suggesting that literacy levels and language varieties do not play a role in the development of health brochures, nor that genres such as *fotonovelas* have no place in health communication. I simply wish to point out the need for more in-depth analyses of the contexts in which health brochures are produced; that is, I advocate a more target-oriented approach to the development of health messages. This includes taking a closer look at the pragmatic elements of texts in use, including translations, and their impact on the reader.

Pragmatics focuses on linguistic elements and conditions which allow speakers (or authors of written texts) to achieve certain goals: for example, modify the behavior or beliefs of the listener or reader (Hickey, 1998). Cross-cultural studies have shown that speakers of different languages differ in the strategies and linguistic forms they use to convey illocutionary meaning and politeness (examples include Blum-Kulka, 1989 and le Pair, 1996). In addition, second language acquisition research of interlanguage pragmatics has demonstrated that L2 learners often transfer speech act knowledge from their L1 to their L2 (Kasper, 1992). A similar sort of transfer is often seen in translation: during the translation process, source-text pragmatic features are transferred into the target text. Researchers in translation studies have studied the pragmatic differences in parallel texts (as defined in the section on corpus linguistics below) and between original texts and their translations. The theoretical basis for many of these studies has been Speech Act Theory. As an example, Snell-Hornby (1995) compares the use of public

directives in parallel English and German texts (public signs and notices), and concludes that the two languages use different strategies, grammatical structures, and lexical variants in signs and notices displayed for public attention. Her focus is on presupposed relationships between "speaker" and message recipients, which differ between the societies under consideration. Hervey (1998) considers differences in the use of particles, intonation, and sequential focus in German, English, and Hungarian, to achieve illocutionary meaning. The research presented here analyzes the use of imperative verbs and the passive voice in N-texts and T-texts from within the framework of Speech Act Theory.

A speech act is a functional unit of communication. Austin (1962) first described the use of performative verbs, or verbs which name the speech act or the desired impact of an act. Examples include "to apologize", and "to attest". In describing speech acts, Austin explains that they can misfire if certain "felicity" conditions are not met. For example, the act of attesting to something will misfire if the felicity condition that the person have the authority to attest in the first place is not met. According to Austin's model, all utterances perform speech acts that are comprised of a locutionary act (the literal or propositional meaning of the utterance), an illocutionary act (the social function or intention of the utterance), and a perlocutionary act (the result or actual effect of the utterance in a give context). The intended effect of a particular speech act on the reader (illocutionary force) may turn out to be very different from its actual effect (perlocutionary force) if the author and reader do not share the same knowledge about the purpose of the particular act. This is apt to happen if two languages differ in the linguistic

realizations of a speech act, or if presuppositions regarding the relationship between author and reader are not shared. Schiffrin (1994) argues that speech acts constitute part of a person's linguistic competence: speakers of a particular language share rules about the creation of speech acts. Sociocultural variables, such as authority, social distance, and situational setting, in addition to linguistic variables, influence the appropriate use of speech acts.

Searle (1969) developed Austin's model further by establishing a set of categories of illocutionary acts. These include *representatives* (assertions, claims, reports); *directives* (suggestions, requests, commands); *expressives* (apologies, complaints, thank-yous); *commissives* (promises, threats); and *declaratives* (decrees, declarations). It is Searle's taxonomy of acts that is used in the microanalysis presented in Chapters 3 and 4. Differences in the linguistic realization of speech acts in the two text types (N-texts and T-texts) is considered, with a focus on directives, commissives, and representatives. Observations are interpreted from within a critical framework. I speculate about the pragmatic force of the two types of text for the Mexican, native Spanish speaker, based on my analysis.

Corpus Linguistics

The macroanalyses conducted for this research make use of approaches from corpus linguistics. Aarts (1999, p. 7) suggests that corpus linguistics should be considered "a methodology in linguistics" rather than a discipline on the same level as, for example, theoretical linguistics or sociolinguistics. From this perspective, corpus methodology

constitutes a tool that has the potential of contributing to all of the linguistic disciplines: the only requirement is that findings be based on attested data. In fact, one of the basic premises of corpus studies is that the conclusions or interpretations drawn from the statistical analyses of corpora be informed by previously formulated theories and interpretations, in addition to native intuitions about language (Aarts, 2000; Biber, 1985, 1988, 1995; Conrad, 1996; 2000; Sinclair, 1991; Stubbs 1996, 2001).

Corpus linguistics derives, in part, from British traditions in text analysis, including the work of Firth, Halliday and Sinclair (Stubbs, 1996). Since the 1950s, these researchers have advocated the use of real, attested language for empirical studies of written and spoken language, and their research assumes that form and meaning are inseparable: that, indeed, E-language is "interesting" (for discussion of arguments against this, see Widdowson, 2001, and Chapter 5). This type of research has contributed to the conflict between empirical and theoretical linguistics and to debates related to form and function. However, many researchers contend that corpus data can be used to test the theorist's intuition, and can even serve to generate such intuitions or to open up new areas of research (Partington, 1996). From this perspective, theoretical linguistics and corpus linguistics are not necessarily mutually exclusive. Nor are other linguistic disciplines and corpus linguistics.

Computer technology has contributed to rapid development in data-driven corpus studies, currently allowing for the study and statistical analyses of millions of words. In addition, attempts to unveil ideological views using the still developing theories and methods of critical discourse analysis, a field often criticized for using "convenient" and

limited data (Widdowson, 2001), has led to a focus on the use of attested data in the form of large corpora in order to overcome shortcomings (Stubbs, 1996; 2001). Mair and Hundt (1999, p. 1) argue that, "...corpora have proved to be excellent testing beds for sociolinguistic theories and discourse models."

As I just mentioned, corpus linguistics involves the analysis of what is referred to as "attested data". Stubbs (1996, p. xv) defines attested data as "data which have occurred naturally in a real social context without the intervention of the analyst." Biber, Conrad and Reppen (1998, p. 1) state that corpus analysis involves studying "the actual language used in naturally occurring texts" rather than, or sometimes in conjunction with, more abstract or theoretical notions of language. In other words, attested data allows the researcher to analyze language use (although texts are often argued to represent simply a *product* of language use, as discussed in Chapter 5). Corpus studies have demonstrated that native speaker intuitions do not always correspond with corpus findings: the way speakers perceive their own use of language and the way they actually use it often diverge (Sinclair, 1991). By searching a corpus for a keyword, or a particular grammatical construction, it is possible to unveil how it is actually used, in what context, and how frequent it is relative to alternative forms. Large bodies of attested data are also useful sites for analyzing how groups of grammatical constructions work together to achieve a particular function.

A review of the literature shows that researchers refer to different levels of context when conducting corpus analyses. One level is that of *co-text*: in corpus linguistics this is defined as a span of a certain number of words to the right and left of a

keyword, as specified by the researcher. Concordancing software programs are used to scan a corpus and display all incidences of a keyword along with corresponding co-text. Generally, programs allow for the words immediately to the left or right of the keyword to be ordered alphabetically, making it easy to skim the concordance and notice the most frequent collocations: that is, the words with which they most frequently co-occur. These collocation patterns or sequences, as seen on the vertical axis of the concordance, are referred to as the keyword's *inter-text* (also commonly referred to as *expanded context*), another level of context (Barlow, 2001; Lawler & Aristar Dry, 1998; Partington, 1998; Stubbs, 1996). The patterns are analyzed and interpreted, depending on the given research questions. For example, the researcher might wish to distinguish between the uses of certain verbs, such as whether they have nominal or adjectival predicates, or whether they differ in their frequency of usage in the passive voice. Although the co-text and inter-text of words may reveal significant information about "real" grammatical usage and connotations of keywords, it is likely that other levels of context should be considered, as well (for each study, it is necessary to decide how much context is relevant for answering proposed research questions) (van Dijk, 1997). Another level of context is the text itself and the function or functions that it is meant to serve. Particular linguistic features (or groups of linguistic features) contribute to the achievement of text function. For example, a high frequency of noun phrases in a text may serve to pack large amounts of information in a text or set of texts (in a scientific article, for example, or in the technical description of disease in a health brochure). In my view, it is essential that text analyses and interpretations be informed by considering yet another level of context: that

of the sociocultural and cognitive context in which the texts are produced and received. Readers infer the author's meaning by drawing on cultural presuppositions and expectations that are not always explicit in the text (Schiffrin, 1994). In addition, their expectations about how structures are used and how they pattern may affect how a text is processed during reading.

In addition to focusing on different levels of context, corpus analysts also distinguish between micro- and macro-analyses. The definitions of *micro* and *macro* vary across linguistic disciplines, theories, and models. For the purposes of this study, *microanalysis* is defined as looking at individual features in a text (or set of texts), and describing their function according to various levels of context (as defined above). These types of studies are often both quantitative and qualitative in nature, and pay detailed attention to the function of individual features in a small number of texts (Biber, 1985, Conrad, 1996). Microanalyses play an important dual role in corpus studies. First of all, they are exploratory in that they serve to identify the linguistic features to include in macroanalyses. Second, description of the functions of specific linguistic features aid the researcher in determining the results of macroanalyses. *Macroanalysis*, for the purposes of this study, is defined as the analysis of groups of linguistic features (selected by the researcher and based on previous microanalyses) in a set of texts, or text corpus, to reveal the co-occurrence patterns of these features, and the particular functions shared by groups of features. Micro- and macro- analyses, as defined above, are mutually interdependent (Biber, 1985). I should note that the definitions of *micro-* and *macro-* in the literature are not as clearly delimited as I would make them seem, and that corpus linguistic research

includes studies along a continuum between microanalytic and macroanalytic, varying greatly in the number of linguistic features and texts under consideration.

Other terms that need to be clearly defined in any corpus study include *register*, *genre*, and *text type*. There does not seem to be a consensus among investigators as to the meaning of these terms, and their definitions are often unclear. They are often used interchangeably, but this varies from study to study. The term *register* is sometimes used to refer to very specific texts (e.g. health brochure) and at other times to refer to modes of discourse (e.g. narration or argumentation). Biber (1994, p. 51) defines *register* as referring to "situationally defined varieties [of language] as opposed to dialect....", although his use of register is somewhat confusing: in his research, for example, modes of communication and specific functions often overlap. Ferguson's (1994, p. 20) definition of *register* is "A communication situation that recurs regularly in society" which over time develops "identifying markers of language structure and language use, different from the language of other communication situations." This definition of *register* is similar to Swale's (1990), Bahtia's (1993) and Connor's (1996, p. 126) definitions of *genre*. According to Swales (1990, p.46) and Bhatia, a genre is "some shared set of communicative purposes" recognized and understood by the members of a particular discourse community. Connor refers to genres as "linguistic realizations of some social activity." For the purposes of this study, *register* and *genre* are used to refer to the same concept: a communicative event that is situationally defined, has a recognized communicative purpose, and is characterized by particular linguistic patterns. These linguistic patterns include microfeatures as well as larger chunks of text. Because *register*

is the term that is usually used in corpus studies. I use that term in the following discussion of corpus linguistics, and in my own multifeature/multidimensional corpus study. The term *genre* is used when discussing macro-level text organization, because it tends to be the preferred term among scholars in genre analysis (see discussion below). It is worth noting, here, however, that there are inherent problems with my definitions. Askehave & Swales (2001, p. 197) point out the difficulty in operationalizing the concept of communicative purpose. The intended goals and purposes of a text tend to be evasive, multiple, layered, and complex. These researchers recommend taking a "context-first" approach to genre analysis: that is, the communicative purpose(s) of a text should be gotten at through an ethnographic approach, in which genres are characterized as being dynamic rather than static. My definition of *genre*, or *register*, is not, therefore, considered fixed or absolute.

Another term that requires explanation is *text type*. Biber (1994, p. 52) uses the term for "text categories defined in strictly linguistic terms" and that is the definition that I use here. In this study, N-texts and T-texts are considered *text types*: they are parallel corpora (of the same register or genre) that are distinct from each other with respect to their linguistic characteristics (see definition of *parallel* below).

Given that corpus methodologies are relatively new and derive from traditions in British linguistics, the majority of studies involve the use of publicly available English corpora, such as the Longman-Lancaster Corpus (made up of written texts), which contains 15 registers, and consists of millions of words (Biber et al., 1998). There are comparatively few corpora of this type in other languages, and I was only able to identify

two publicly available corpora of written texts in Spanish, both from Europe. The ARTHUS or *Archivo de textos hispánicos de la Universidad de Santiago de Compostela* (Spain) contains texts from different eras in the history of the Spanish language, from both Spain and Latin America. It currently contains 1.5 million words. The majority of the texts are classified as narratives, and the corpus also contains theatrical literature, essays, newspapers articles, and transcribed oral texts. The ARTHUS is a small corpus compared to some of the publicly available English corpora, and contains relatively few registers. The other corpus is actually a subcorpus of The European Corpus Initiative Multilingual Corpus, and includes only legal, technical and newspaper texts in Spanish (the ECIMC is still under development). One other corpus, the CUMBRE corpus, has been compiled at the Universidad de Murcia, Spain, and consists of 8 millions words. Information about the representativeness of registers in this corpus was not available on-line.

A wide range of language studies have been realized through methodologies from corpus linguistics. Some analyze data directly from publicly available corpora to study the use of lexicon and grammar in a corpus as a whole (across registers) or within certain registers. Partington (1998), for example, analyzes the use of *if* constructions in a corpus, and compares his findings to the way these constructions are taught in the FL classroom. Conrad (2000) also describes investigations of this type. In other studies, two or three texts or sets of texts are analyzed and compared in terms of their use of particular key words or grammatical structures. The texts may be representative of different registers: For example, a textbook might be compared to a journal article to determine whether the

two text types differ in their use of a particular feature, such as the passive voice. In some studies, the compared texts belong to the same register. In either case, the results of the analyses are then compared to a large corpus to determine whether findings about the texts or sets of texts differ in any significant way from normal usage (across registers), as observed in the large corpus. In studies such as these, the corpus is assumed to be representative of the language, so reliability of results and validity of interpretations depend on how heterogeneous (representing a wide range of the language's registers and varieties) the corpus is considered to be. Biber et al. (1998) and Stubbs (1996) provide several examples of these types of comparative analyses in English.

Other studies include many more linguistic features, providing a more macroscopic analysis of a corpus, as mentioned previously. These analyses are based on co-occurrence patterns among features and involve an interpretation of the functions (interactiveness, personal stance, communicative purpose, etc.) of groups of features (Biber, 1995). One of the best known examples is Biber's (1988) multifeature-multidimensional study of oral versus written texts. In this study, Biber used statistical analyses (factor analysis) to establish dimensions which define the various registers that exist in both oral and spoken English. Each dimension is defined by a set of linguistic features which co-occur to serve the communicative function of that dimension. Researchers such as Conrad (1996) have referred to Biber's dimensions in subsequent studies.

Many researchers have constructed their own corpora for the purpose of analyzing specialized registers, also referred to as *sublanguages* by Biber (1995), from both a micro

and macro perspective. One example is Kessapidu's (1997) analysis of Greek business letters.

Spanish is still underrepresented in corpus linguistics. A review of the literature turned up microanalyses of particular Spanish syntactic features in corpora, such as conjunctions and prepositions (Gil Salom, 2000; de Kock, 1999); morphological structures (Medina Urrea, 2000); verb forms, such as passives (Ricos Vidal, 1998) or change-of-state verbs (Eddington, 1999); word order (Lopez Meirama, 1997); lexicon (Fuertes Olivera, 2001); and type-token ratio (Sanchez & Cantos, 1997). However, no multidimensional macroanalyses were found.

In addition to comparing texts intralingually, there has been a recent upsurge in the application of corpus linguistics for cross-linguistic comparisons. Contrastive interlingual corpus studies focus on what are referred to as "parallel texts" or "parallel corpora" (Hartmann, 1980). According to Hartmann (1980), there are three types of parallel text corpora: one consists of original texts and their translations into another language. The second is defined by Hartmann as documents published by international organizations in all of the different languages represented in multilingual communities. (In my view, texts in this category could be distributed between the first and third of Hartmann's categories, depending on whether or not they are translations). The third category is made up of cross-linguistic corpus pairs that constitute equivalent genres as determined by the situation and purpose for which they were produced. An example of parallel texts of this type would be a corpus of English health brochures from the United States paired with a corpus of Spanish health brochures from Mexico.

Translation studies implementing parallel texts have generally focused on pairs of translated texts and their originals, one of the goals being to study translationese, and the process of translation (Hartmann, 1996). The study presented here is unique in that the compiled parallel text corpora represent a hybrid of the first and third of Hartmann's categories. The texts can be classified as belonging to category three in the sense that the T-texts were originally created in English, while the N-texts were originally created in Spanish, and the two text types share similar production circumstances (situation, purpose, goals, audience), and are therefore functionally similar. On the other hand, the T-texts, as translated texts, would be expected to contain features of "translationese", and to be similar in many ways to translations of the N-texts. This study is unique in that it allows for non-translated texts to be studied apart from their translated counterparts while still allowing for analyses of the features and characteristics of translated language. As Hartmann (1996, p. 953) points out, "translation often proceeds literally unit by unit... ". Comparing translated texts to their originals is conducive to a unit-by-unit analysis of the texts. My comparison of N-texts with translated texts that are not directly derived from the former allows for a more "holistic" and comprehensive view of the linguistic features and characteristics of translations. In addition, the parallel corpora in this study allow for the study of functionally equivalent texts that are actually in use, created under similar circumstances, for similar purposes. All of the text analyses conducted in Part I of this study are based on data from parallel corpora of N-texts and T-texts.

Genre Analysis

Another macro-level of analysis realized in this study is that of functional text units which are larger than the sentence. Enkvist (1987) refers to such text units as "macropropositions," and points out that the patterning of these larger units also varies cross-linguistically within a particular genre (for my definition of *genre*, see the discussion of corpus linguistics above). According to Swales' (1990) genre analytic framework, large text units are referred to as moves. Moves are "discriminative elements of genre structure" that are highly constrained within a genre (Bhatia, 1993, p. 32). These structures are unique in that they are not usually manipulated to achieve personal style, although there is some flexibility in move structure (more than one move may be fused, for example). Swales and Bhatia consider moves and the way they are patterned to be the basic defining characteristic of a genre: they work together to serve the communicative purpose of the genre.

Research in genre analysis and contrastive rhetoric indicates that readers have preconceived notions or expectations about how a text from a particular genre should be organized (Connor & Kaplan, 1987; Hinds, 1983, 1987). Hinds' research indicates that when a writer transfers L1 rhetorical structures or moves to an L2 text, as occurs frequently during the translation process (Hartmann, 1996; Snell-Hornby: 1995; Toury, 1995), native speakers of the L2 may evaluate the writing as "poor" and "confusing." Deviations in normal patterning also appear to have the potential of negatively affecting comprehension (Eggington, 1987).

In the genre analysis, I compared the organization of moves within N-texts and T-texts to determine similarities and differences in patterning.

Corpus linguistics "investigates relations between frequency and typicality, instance and norm" (Stubbs, 2001, p. 151). It aids in determining what is expected (and not expected) in a text. Although there may be many possible forms in a language, corpus studies serve to demonstrate what is probable in terms of linguistic features and other text characteristics. Such studies leave questions unanswered, however. For example, the cognitive influence of these text patterns and sequences is not clear. The second part of this study takes a closer look at this issue.

Part II: Field Testing of Texts

As mentioned above, it cannot be automatically assumed that differences in linguistic, pragmatic and structural features in the two types of texts impact the reader of the health brochure in significantly different ways. However, it is not illogical to hypothesize that text features not meeting the expectations of readers may serve as stumbling blocks to the process of extracting and processing information. The literature in contrastive rhetoric points to this possibility. Researchers have demonstrated that information is retained better when it is presented in ways that meets readers' expectations (Eggington, W.G., 1987; Hinds, 1983; Hinds, 1987; Kobayashi, 1984; Tirkkonen-Condit, 1986, as cited in Toury, 1995). However, these studies have generally focused on larger chunks of texts, and the impact of text organization on the reader. There is a clear need for research (relevant to both L2 writing research and translation

studies) to determine how other textual features impact the reading process, and to establish which features bear the most weight in terms of impact on the reader and comprehensibility.

Part II of this study, which involves the field testing of four N-texts and four T-texts (as described in Chapter 3), was conducted, in part, to determine the impact on the reader of the linguistic and pragmatic features discussed in Part I, according to text type. The four pairs of texts selected for field testing had similar organizational structures, which allowed me to consider how other features affect comprehensibility. I approached the field testing of the brochures from three different angles during testing sessions with participants.

Pretest Posttest Protocol

Knowledge and Attitudes

The first approach was experimental: evaluating knowledge and attitude changes after text readings through a pretest/posttest protocol. The purpose was to determine, through quantitative data, whether the two types of texts differ in their effectiveness in promoting such changes.

I chose to evaluate knowledge and attitudes because they are widely considered to be two of the most crucial determinants of health-related behavior. Positive change in one or both determinants is the objective of many studies, and both are used as variables in the evaluation of health promotion campaigns and programs (Glanz, Marcus Lewis &

Rimer, 1997; McKenzie & Jurs, 1993). Before health-related behavioral change can occur, individuals must have knowledge about risk factors, and how to reduce their risk (Maibach & Cotton, 1995). In addition, a person's attitude toward risks and disease is considered a strong predictor of future behavior (McKenzie & Jurs, 1993).

Health promotion has a strong tradition in developing models of individual behavior and behavior stimulation. For the past fifty years, the Health Belief Model has been one of the most widely used conceptual frameworks used in the design of health promotion programs and health behavior interventions (Glanz et al., 1997). According to this model, if individuals regard themselves as susceptible to a disease (perceived susceptibility), if they believe the disease is severe (perceived severity), that a course of action is available to them that will reduce either susceptibility or severity of disease (perceived benefits), and that the benefits of behavior change outweigh the cost or sacrifice inherent in taking action to change behavior (perceived barriers), then they will take action to prevent or control disease. I used these components of the Health Belief Model in the development of the knowledge and attitude items of the testing instruments described in Chapter 3, Part II. For AIDS and tuberculosis, which are contagious diseases, I included another attitudinal component in testing for changes in attitude: that of perception of social norms, such as the definition of "safe sex", and fear of being around an infected person.

Inductive Approaches

Recall Protocol

The other two "prongs" of the field testing portion of my research involved recall protocol sessions and semi-structured interviews with participants. Both of these approaches offered a way of grounding theories (about the health brochures) in data. In other words, instead of establishing a hypothesis and conducting an experiment to determine whether there were significant differences in text impact, I used these more inductive approaches to delve into the nature of the two types of texts, readers' perceptions of health brochures in general, and to search for clues as to how the Spanish health brochure might be improved. The three approaches provided a "triangulation" of data, allowing me to look at the eight brochures from different angles, learning something new and drawing unique conclusions about the texts in each case.

The recall protocol was a useful tool in this text analysis, revealing details and patterns that distinguished not only the two text types, but also the subcategories within the texts, as described in Chapter 3, Part II. According to Appel and Lantolf (1994, as cited in Roebuck, 1998), recall protocols are based on the assumption that people can remember what they have understood. Bernhardt (1991, p.7) argues against the use of multiple choice and true/false tests (such as the instruments used in the pretest/posttest portion of this study) as a means of assessing comprehension. She contends that the structure and content of such tests can constrain the possible answers, and that they can be answered correctly without having to read the text. In addition, she astutely observes

the potential problem of the test itself being a source of information which may alter the reader's representation of the target text (in this case, the health brochure), thus affecting "the comprehension product, without providing evidence of its doing so." The recall protocol used in this study provided the opportunity to observe the effect of N-texts and T-texts in a more direct manner, without the interjection of yet another written text for processing between the text reading and the comprehension product.

Interviews

The third prong used in field testing involved semi-structured, open-ended interviews with participants. The most important goal of the interviews was to reveal an emic view of the brochures (Johnson, 1992). Qualitative researchers advocate the use of interviews and other qualitative techniques (Johnson, 1992; Lincoln & Guba, 1985; Fetterman, 1989) for collecting data. The researcher sifts through the data, searching for patterns. The data is organized and reorganized, as categories and patterns emerge. "Qualitative data analysis is a search for general statements about relationships among categories of data: it builds grounded theory" (Marshall & Rossman, 1989, p. 112). The process is an inductive endeavor, very different from the positivist, deductive approach provided by the pretest/posttest protocol. Because I did not want to predetermine participants' responses, I used an open-ended format, with a set of questions used simply to guide the conversation (Merriam, 1988). The sections in Chapter 4, Part II describing the interviews show that the resulting data shed light on many aspects of the Spanish health brochure and its role in Mexican communities.

CHAPTER 3

PROCEDURE AND METHODOLOGY

Part I: Text Analyses

Speech Act Analysis

In the macrostructural analyses that follow this section (multifeature-multidimensional and genre analyses), I focus on the linguistic features of N-texts and T-texts, but pay relatively little attention to the wider sociocultural context in which the texts are used. This microscopic analysis, in contrast, focuses on a small number of specific linguistic features, and the complex relationship that exists between linguistic form, intended function (interactional goals), and actual impact on the reader.

The linguistic features under consideration include imperative verb forms and the passive voice. Concordance listings of these features from a corpus of 16 T-texts and 16 N-texts (described in further detail in a later section) were used to facilitate the investigation of speech act usage and comparison across text type.

Interpretation of results is descriptive and critical in nature, and focuses on the interaction of linguistic forms with variables such as content, the interactional goals of the author, situation, and relationship between interlocutors.

Multifeature-Multidimensional Analysis

In Chapter 2, I mentioned macroscopic corpus research involving many linguistic features and determination of their co-occurrence patterns in a variety of registers. The analysis presented in this section falls under that category, and is modeled after Biber's multifeature-multidimensional studies of English (Biber, 1988) and other languages (Biber, 1995).

The underlying construct of this type of analysis is the factor or "dimension": linguistic features found in "clusters", serving a particular text function. These co-occurring features are determined quantitatively through factor analysis. The steps taken in conducting this analysis are outlined below.

The Corpus

The corpus in this study consists of 32 health brochures written in Spanish. A list of the brochures is provided in Appendix A. I selected the brochures for this multifeature-multidimensional analysis from a large collection of both translated and non-translated texts from various clinics, hospitals and other health settings in Arizona, New Mexico, and Mexico. All of the brochures are currently provided to Spanish-speaking patients, families and friends at these settings.

The corpus is made up of two subcorpora: 16 N-texts from Mexico and 16 T-texts from the United States. The decision as to whether to include a particular text in the corpus was based on established criteria. First, I verified the classification of each text as either an N-text or T-text. This involved contacting the publisher, or, in some cases, the

author to discuss development and preparation of the particular brochure. Second, I read each text carefully to determine whether there were any major grammatical or typographical problems. For the T-text group, my principal interest was to select brochures that did not contain grammar errors, typos, or obvious word-for-word literal translations, given the objective of determining differences and similarities between non-translated texts and appropriately translated texts, as defined by Toury (1995, see Chapter 2). In other words, I wished to probe for translation effects related to subtle, less obvious differences in linguistic and semantic distributions, rather than to error. Criteria for selection for the T-texts was that they represent adequate, albeit overt, translations. After selecting what I perceived as appropriate candidates for both corpora, two native Spanish-speakers read each text and commented on any obvious text problems.

Following this process made it tedious to develop a corpus of sufficient size to conduct the multifeature-multidimensional analysis. There were relatively few T-texts that did not contain glaring grammatical and typographical errors, or word-for-word translations, making them unfit for this analysis. Another issue was the quantity of brochures: while I was able to find a fair number of N-texts on AIDS, other topics were difficult to find (I did a wide search throughout Sonora, in Hermosillo, Nogales, Sonoyta, and other small towns), and received some brochures (used throughout Mexico) from the Instituto Nacional de la Salud in Cuernavaca (published in Mexico City). I also received several brochures from health educators who have prepared their own materials for use along the U.S.-Mexico border.

Given that my purpose was to speak to the nature of a particular register, the health brochure, and not to the nature of health and medical writing in general, the sample of 32 texts was deemed sufficient. As corpus research in Spanish develops, and textual dimensions are defined for that language, I hope to conduct future research into how the health brochure in general, and N-text and T-texts in particular, compare to a wide range of text types in Spanish.

Linguistic Features

Seventy linguistic features were identified for inclusion in the factor analysis. Their selection was based on previous microanalyses and macroanalyses related to functionally relevant linguistic features, in particular the work of Biber (1985: 1988: 1994: 1995), Biber, Conrad & Reppen (1998), and Montaña-Harmon (1991). In addition, I identified particular features based on my own intuitions and experience as translator and editor. These features were included as possible contributors to the functional purpose of the health brochure in both languages, and to differences between N-texts and T-texts. Comments made by informants (Part II of this study) and readers involved in the selection of corpus texts also pointed to the important role of these features, which include gerund nominals, infinitive nominals, different forms of the passive voice, imperatives, explicit pronouns, demonstrative pronouns and determiners, commas, and sentence length. The 70 linguistic features are listed in Table 4.4 in Chapter 4.

Preparation of the Corpus

The brochures selected for inclusion in the corpus were scanned and prepared as Word documents. The 16,000 words were then coded by hand for part-of-speech, and markup was inserted for titles, headings, subheadings, sentences, bulleted lists, and illustrated terms. POS tags and markup were developed by me as adaptations of the tags used by the Corpus of Spoken Professional American-English and the British National Corpus. The texts were then converted into ANSI (text only) files for analysis utilizing MonoConc Pro 2.0.

Factor Analysis

The frequencies of each of the 70 linguistic features for each of the 32 texts was calculated. Raw frequency counts were adjusted by normalizing the word count of each text to 500 words (the average text length). The frequencies were then analyzed using SPSS. A factor analysis was conducted to reduce the 70 original linguistic features, or variables, to a small set of derived variables (factors). Each factor represents a cluster of linguistic features: the assumption is that each cluster serves a particular text function. Each of the 70 linguistic features had a specific loading on each factor. Only those features with a loading of greater than $|0.30|$ were considered to be representative of a particular factor. Features with positive loadings and features with negative loadings on a particular factor exist in complementary distribution: the presence of positive features signals the absence of the negative features (Kessapidu, 1997). In other words, if a text contains features with positive loadings on a particular factor, the features with negative

loadings will be noticeably absent or less frequent, and vice versa. The factor analysis determined the existence of three interpretable factors, presented in Chapter 4.

After extracting the three factors, and determining their salient loadings, a factor score was calculated for each of the 32 texts for Factors 1 through 3. These were arrived at by summing the frequencies of the salient linguistic features on each factor. If a feature showed a salient loading on more than one factor, it was calculated into the factor scores of the factor with the highest loading on that feature to assure experimental independence of factor scores (see Biber, 1988, p. 93). Results are presented in Chapter 4.

Genre Analysis

The corpus of texts analyzed in the speech act and multifeature-multidimensional analyses described above was also the object of this macro-level descriptive analysis. The entire corpus was coded for title, headings, subheadings, bulleted lists and illustrated content. I used a concordancer for parallel texts (ParaConc) to align the subcorpora of N-texts and T-texts. I noted differences and similarities across the text types related to variations on or deviations from the following superstructure, consisting of 11 moves: PROBLEM-IDENTIFICATION OF PROBLEM-SOLUTION. The contribution of macro-level structures to the overall communicative purpose of the health brochure is discussed.

Part II: Field Testing of Texts

Subjects

Sixty informants participated in this experimental segment of the study. All of them were Spanish-speaking, Mexican-born adults (over 18) from the Mexican states of Sonora and Chihuahua. Of these 60 subjects, six could not be included due to problems related to vision (one reported difficulty reading the texts and tests due to poor eyesight), misrepresentation on the background information form (two subjects reported knowledge about disease after taking the posttest, and another explained that he had completed both primary and secondary education in the U.S., and was fluent in English), literacy (two subjects reported that they could not read the background information form), and confusion related to terminology (the data for one participant was eliminated for this reason, see comments on terminology related to high blood pressure in discussion of pretest posttest results, Chapter 4). Of the 54 remaining informants, 35 of them were female and 19 were male. As can be seen in Table 3.1, 63% of the subjects were 18 to 39 years of age, 33% over 40, and only 4% over 60. 19% of the informants completed 3 to 5 years of the 6 year *primaria* of the Mexican school system (comparable to U.S. elementary education), 20% completed all 6 years of *primaria*, 6% went on to complete 1 to 2 years of *secundaria* (comparable to middle school and high school in the U.S.), 30% completed *secundaria*, and 26% continued with studies after completing *secundaria*. Such a broad range of educational backgrounds was allowed for two reasons. The first reason is related to the characteristics of the populations making use of health literature in

the southwest U.S. and along the U.S.-Mexico border: the type of brochure represented in this study is used to disseminate information to people of all ages, education levels, and experience, so it was decided to include any adult informants who wished to participate, as long as they fit the following criteria: they had to be Mexican-born speakers, readers and writers of Spanish with limited or no fluency in English, be over 18 years-of-age, and have no formal learning experience related to the four diseases (thus excluding any health professionals). Time and financial limitations are the second reason for permitting such a broad educational range: the time involved in recruitment of subjects and travel to meeting places made stricter subject criteria prohibitive.

I contacted participants in several different locations, including ESL classes in community colleges, churches, community centers and non-profit outreach organizations in Albuquerque, New Mexico and surrounding areas, parent resource centers in Hatch, New Mexico, a Women, Infant, and Child (WIC) Program in Santa Fe, New Mexico, a church in Nogales, and by word-of-mouth through acquaintances and friends in Tucson and Nogales, Arizona, and Nogales and Sonoyta, Mexico. In addition, prior to the study conducted with the 60 subjects described above, an additional 11 women from a parent resource center in Sunland Park, New Mexico also participated in a pilot study conducted as part of the validation of the testing instruments and testing process. A brief description of the research and its purpose was provided to all subjects before they were asked whether they would be interested in participating. Those who agreed to participate were reminded that their participation was voluntary, that the information gathered was strictly

confidential, and that they could withdraw at any point. They were asked to read and sign an informed consent form in Spanish. This form is provided in Appendix B.

Table 3.1.
Social and Demographic Characteristics of 54 Mexican-born Adult Informants

Characteristic	No.	%
<u>Age Group (years)</u>		
18-29	19	35.2
30-39	15	27.8
40-49	11	20.4
50-60	7	13.0
60 and over	2	3.7
<u>Gender</u>		
Male	19	35.2
Female	35	64.8
<u>Education (Mexico)</u>		
3-5 yrs (primaria)	10	18.6
Completed primaria	11	20.4
1-2 yrs secundaria	3	5.6
Completed secundaria	16	29.6
Preparatoria and beyond	14	25.9
<u>English classes in U.S.</u>		
Up to 1 year	38	70.4
1-2 yrs	7	13.0
2-3 yrs	3	5.6
3-4 yrs	1	1.9
5+ yrs	5	9.3

Subjects received compensation in the form of small, "health-related" gifts, such as water bottles, elastic workout bands, key chains with health messages, sunscreen, etc. These gifts were provided by Health Net of Arizona, Phoenix, Arizona (formerly

Intergroup), and the New Mexico Health Department, Santa Fe, New Mexico. In addition, I provided pencils, writing pads, stickers, and other toys to children who were present with their parents during testing and interview sessions. None of the gifts were used as incentives to participate.

Materials

Brochures

The eight brochures used in this part of the study were selected from the two corpora described in this chapter, Part I (Text Analyses).

Table 3.2
Text Selection Criteria

Topic	Purpose	Audience	Size
AIDS	Prevention: Definition, contagion, symptoms, high-risk behavior, diagnosis	General public	8"x11" sheet, folded, 6-section brochure format
Diabetes	Prevention and Treatment: Definition, risk factors, symptoms, diagnosis, control	Both diagnosed patients and the general public	8"x11" sheet, folded, 6-section brochure format
Tuberculosis	Prevention and Treatment: Definition, contagion, symptoms, diagnosis, control	Both diagnosed patients and the general public	8"x11" sheet, folded, 6-section brochure format
High blood pressure	Prevention and Treatment: Definition, risk factors, symptoms, diagnosis, control	Both diagnosed patients and the general public	Small booklets: N-text: 15 pages T-text: 17 pages

For each of the four topics (AIDS, diabetes, tuberculosis, and cardiovascular disease), a pair of texts was selected: one N-text and one T-text.

Since my main interest lay in determining whether linguistic differences between N-texts and T-texts affect comprehensibility, I controlled for purpose, audience, and size of text, as described in Table 3.2. In addition, the text pairs were similar in terms of organization of content. I also controlled for appearance by photocopying each pair of texts on paper of the same color, and by carefully choosing texts that were similar in terms of layout, illustrations, and text density. The brochure that was used as the control text (read by the control group) was an N-text on influenza. The selection process for the texts on cardiovascular disease was complicated by the fact that this topic constitutes my smallest collection of N-texts (indicating the need for the development of written materials in Spanish on CVDs), so there were a limited number of texts to choose from, making it difficult to control for the variables mentioned above. For this reason, the texts on high blood pressure used in this study, although constituting the best match, were much longer than the other text pairs. Testing problems related to this are discussed later. A team of Spanish-speaking health educators independently evaluated the information and language provided in the eight selected experimental brochures, and categorized their content based on salience and significance to future behavioral changes and attitudes. This information was used in the development of the testing instruments.

Pretests, Posttests: Testing Knowledge and Attitude Changes

Published tests. An extensive internet search was done in addition to consultation with health education experts in an attempt to find tests in Spanish that had already been assessed and adjusted for reliability and validity. I was able to identify tests in Spanish for AIDS, diabetes, and cardiovascular disease, and was considering adapting these to my study (no published tests in Spanish on tuberculosis were available at the time this research was done). The purpose of these tests was to evaluate change in knowledge and attitudes after intervention (see Chapter 2, Part II). Upon further inspection, however, I determined that the tests were neither adequate nor appropriate for my research. First, and most importantly, all of the tests were translated versions of English originals. I have set forth previously that translations have the potential of negatively impacting comprehensibility. Obviously, I was concerned that the use of translated tests in my research would introduce a confounding variable: the possible incomprehensibility of the tests due to translation problems. Secondly, in the studies I reviewed, the researchers assessed the reliability of testing instruments written in English, and then translated them into Spanish, automatically assuming that the translated versions were also reliable. Thirdly, there was no guarantee in the case of any of the published tests that reliability and validity could be generalized to groups that were made up solely of Latinos, regardless of language. In most cases, the reliability of knowledge and attitude indexes was assessed for a population as a whole (for example, drug users), but not within demographic groups.

I contacted several institutions in Mexico, including Te Isida, Conasida, (both in Mexico City) and the Instituto Nacional de Salud in Cuernavaca, in an attempt to find published tests originally developed in Spanish, but was unsuccessful.

Test Development. This lack of success with published tests led to my decision to develop my own tests with the help of experts in the field. Four tests were prepared, one for each brochure topic. Several different scales were considered, including a five-point Likert-type agree/disagree scale; however, I was concerned about the "familiarity" of this type of format. Likert-type scales are very common in U.S. educational systems, and are commonly used in research in U.S. universities, for example, but would not necessarily constitute a familiar format for people who had their formal education in Mexico, as I knew would be the case with my informants. I consulted with a native Spanish-speaking health educator, who encouraged me to opt for a simple testing format that would not only involve less explanation, but would also provide for rapid scoring. I therefore chose a true/false/don't know format for the knowledge items, and a agree/disagree/don't know format for the attitude items. The four tests can be found in Appendix C. The strengths and weaknesses inherent in using this format are discussed in Chapter 4, Analysis of the Data, Part II).

Knowledge Items. The first section of each pretest/posttest is comprised of 15 items that assess level of basic knowledge about the particular brochure topic, including disease transmission mechanisms and risk factors (technical information), commonly known non-technical information, and definitions. Of course, given that the

"intervention" constituted the reading of a single brochure, care was taken to ensure that no questions were included that could not be deduced or inferred from the brochure. Items were scored as "correct" or "incorrect": an answer marked correctly (true or false) received 1 point, an answer marked incorrectly (true or false) received 0 points, and an answer marked "don't know" received 0 points. A total score of 15 was possible. There were two additional "practice questions" at the beginning of the knowledge section to allow the test taker to accommodate to the test, including asking questions about format and appropriate ways of marking the test. Questions of a sensitive nature were included on the AIDS test (see AIDS knowledge items 4, 5, 13, 16, Appendix C), given that sexual behavior is one of the major avenues of HIV/AIDS transmission. The common misconception that such information is offensive to people in Mexico is not apparent in their own health literature (published in Mexico), is based on stereotypes, and in this study did not pose any difficulties with the subjects during testing.

Attitude Items. This portion of the tests includes 5 items assessing attitude toward the particular brochure topic. These items represent five attitudinal components: 1) perceived personal vulnerability, 2) perceived severity of disease, 3) perceived benefits, 4) perceived barriers, and 5) perception of social norms (see Chapter 2, Part II). There is an additional "practice question" at the beginning of the attitude section to allow the test taker to accommodate to the test, including asking questions about format and appropriate ways of marking the test.

Again, since the "intervention" constituted the reading of a single brochure, care was taken to ensure that no attitude questions were included that could not potentially be

impacted by the text's reading. These items were also scored as "correct" or "incorrect." An answer marked "correctly" (agree or disagree) received 1 point, and an answer marked "incorrectly" (agree or disagree or don't know) received 0 points. Again, questions of a sensitive nature were included on the AIDS test (see AIDS attitude item 5, Appendix C). This did not pose any difficulties with the subjects during testing.

Pretest Posttest Validity: Content and face validity of the tests was established by the team of Spanish-speaking health educators who had evaluated the brochures. Draft questions that were considered difficult to infer from the text or to bear little significance in terms of risk reduction or attitude change were reworded or discarded. A pilot study was conducted with 11 women in Sunland Park, New Mexico, and, based on information derived from problems encountered during that study, the pretests/posttests were modified, including the addition of practice questions at the beginning of each section, and the rewording of some of the attitude questions. The tests were then again reviewed by the team of health educators. The pilot test thus contributed to establishing content and face validity, and also provided valuable information for refinement of testing procedures and protocol. It also helped me to avoid logistical difficulties during subsequent testing and interview sessions.

Background Information Questionnaire

All informants filled out a background information questionnaire (in Spanish) that included information about sex and age, language background and experience, and familiarity with the four disease topics. There were also questions related to Spanish and

English literacy, including where the informants had gone to school, how many years of schooling they had completed, whether or not they liked to read, how many hours a day they spent reading, and in what language. Questions about their experience with spoken English and other languages were also included. The second part of the questionnaire elicited information about their familiarity with the four health topics of the brochures: whether they had read or heard about the diseases and from what sources. The background information questionnaire is included in Appendix D. The questionnaire served several purposes: it allowed me to roughly determine the Spanish reading ability of the informants (if they were unable to understand or had extreme difficulty in reading the questionnaire on their own, they were not asked to participate in the pretest/posttest protocol, recall protocol, or interviews). It also provided the opportunity to determine how familiar they were with the four brochure topics: informants who were very familiar with a certain topic because they had family members or friends with the disease, for example, or had taken a class or had had some other sort of extensive experience with that disease, were not assigned to the testing group reading the brochure dealing with that topic (see the following section on testing procedure). Therefore no health professionals served as informants. The background information form also provided relevant information on where informants from Mexico are getting their health information, and also on their reading preferences (see pretest/posttest results, Chapter 4). Most importantly, discussion with informants as we worked through the background information forms allowed me to dispel the misconception that I was there as a medical

consultant, and I was able to establish that the informant was a "full partner in the study", that is, a bona fide consultant (Erlandson et al., 1993; Lincoln & Guba, 1985).

Procedure

Recruitment

The testing and interview sessions of this part of the study were conducted in a number of locations throughout the U.S. Southwest. I contacted ESL programs at universities, community colleges, technical schools, churches, outreach organizations, state and local public health departments in Arizona and New Mexico, and was referred to many informants by contacts in Tucson, who in turn referred me to others. The process of recruiting subjects was a lengthy process involving long telephone conversations describing the study, being shunted from one contact to another, waiting for call backs, attending and presenting at staff meetings, and long hours on the road. The most successful method of recruiting informants was to approach them directly, rather than through public and private outreach organizations. Attempts to solicit the collaboration of outreach program administrators and coordinators were unsuccessful. Many took on the role of "protector of the underserved" upon hearing the description of this study via telephone or e-mail, stating that they would not want to be involved in asking their clients to participate in a research study. In most cases, the desire to protect potential informants and their communities was well-intentioned. There were disheartening cases, however, in which it seemed to constitute a form of "gatekeeping" or a way of maintaining a stable

"helper-helpee" relationship between institution and "target population." In addition, at many of the local, state, and federal organizations I contacted, outreach directors and coordinators were clearly disconnected from and disinterested in the participant communities they claimed to serve. As an example, several project managers of border outreach programs argued that this type of research was not necessary because along the border there is no need for Spanish health materials considering that "everyone knows English." Of course, these (alarming) issues need to be investigated further, and make up an important area of future research in community outreach along the border.

After many phone conversations, e-mails, and meetings, I found that it was best to approach potential informants directly, or through people who had regular, direct contact with the participant community: administrative assistants, maintenance facility directors and janitorial managers, friends, volunteers (including the volunteers who invited me to conduct the pilot study in Sunland Park), ESL instructors, and church employees. In two cases, I invited the employees of a store in Nogales, Mexico to participate, and in another, I recruited a willing volunteer who worked at a hotel where I was staying in Sonoyta.

Participants

Sunland Park, New Mexico. The pilot study was conducted in Sunland Park, New Mexico, in early May 2000. It took place at a Parent Resource Center funded by the state. Sunland Park is located on the borders of New Mexico, Texas, and Mexico, near El

Paso, Texas. It is only a few miles from an important border crossing point, Santa Teresa, and the population is predominately Mexican. It is known for the grassroots efforts of its citizens to contribute to and improve conditions in the town and surrounding areas, and this community spirit is evident in the parent resource center. The purpose of the center is to provide classes on child development and parenting, affordable child care for working parents, and to disseminate information on government and state-funded programs for women and children. It also serves as an essential source of social support for the women of the community: many volunteer at the center, helping with classes and with childcare. They organize events, such as birthday parties and holiday celebrations, and classes on arts and crafts for adults and children. Many women stop by on their way to work or on their way home for conversation and to lend a hand. The employees of the center invited me to spend two days with them, and to recruit informants for this study. As it turned out, they had already recruited willing participants, and had prepared a two-day testing schedule. The first day, a large group of women had come to participate as informants: they came with food and drink for everyone, converting the occasion into an enjoyable social event. The center is located in an old, poorly maintained school building. There was a large room with a conference table where the women sat and chatted and worked on crochet projects. This was connected to another room which had been converted into a playroom for the children. I set up a card table in this room for the testing sessions, and closed the door to keep the noise out. There was a noisy swamp cooler running, but it was very hot in the building. However, the windows and doors had to be left closed to keep out the hordes of flies. The bathroom was also located in the back room, and the morning

of the second day of testing, the toilet broke and was leaking. This caused a strong smell in the room, which fortunately was only bothersome during the last two sessions with informants. Despite these inconveniences, the testing process went remarkably smoothly, and the informants remained focused and able to stay on task.

They all showed a keen interest in the study and in participating. Interviews were conducted with 16 women during the two days: five of them did not meet the subject criteria, but I chose to meet with all of them. All of the women (including the 11 informants who went through the testing process) volunteered information about their experiences with the U.S. health system, and were eager to share information about their own health problems or those of family members. Many hoped to receive health counseling, and were disappointed when I explained that I was not a health professional and could not provide that type of consultation. Most felt that they did not have anyone to turn to for medical help, and expressed deep concern over the lack of both medical and mental health services in the area.

New Mexico. Informants were interviewed and tested at the following locations in New Mexico during the month of July 2000:

1. Technical school ESL class, Albuquerque: An ESL instructor at the school allowed me to present the project to her class, and ask for volunteers. Testing sessions were conducted in a large, quiet air conditioned tutoring center, with comfortable tables and chairs. At tables dispersed about the room there were students working with tutors, but the atmosphere was calm and quiet, and conducive to testing.

2. Technical school: maintenance, Albuquerque: Maintenance employees at two branches of the technical school volunteered to participate in the study. Their supervisor discussed the study with them, and set up session times for those who were willing to participate. A quiet conference room was provided for the interviews.
3. ESL class at local church, Albuquerque: An ESL instructor who taught night classes at a local church invited me to recruit informants from his classes. A quiet classroom was provided in the church for some of the interviews. Other informants invited me to their homes for testing sessions.
4. Branch of local university, Albuquerque: An ESL instructor of the branch college invited me to her class to recruit students. The classroom was large, and a table at the back of the room away from the other students was provided. Students volunteered to be "pulled" from class to participate in the study.
5. ESL class-community center, Albuquerque: the instructor of an ESL night class (offered free at a local community center) invited me to recruit students from her class. Students volunteered to be "pulled" from class to participate in an adjacent, quiet classroom.
6. ESL classes at a religious outreach organization, Albuquerque -ESL instructors from this organization allowed access to their classes to recruit volunteers. Some were amenable to the students' being tested during class. In other cases, appointments were set up for sessions with students before or after class. A quiet lounge was available for use for the sessions at one site, and a testing room was provided at another site. Some of the

female informants had their children with them during sessions, and they were provided with distractions such as paper and pencils, toys, etc. to keep them occupied.

7. Parent resource center, Hatch: I was invited to recruit informants during a nutrition class at a parenting resource center in Hatch, New Mexico on a weekday. Only one woman volunteered to participate. A small room with a small conference table was made available for testing. The informant had her infant nephew with her, but he slept through the session.

8. Public health office, program for new mothers, Santa Fe: I was invited to recruit subjects taking a free infant/mother nutrition class. An office was provided for testing two informants.

Arizona-Mexico Border. Informants were interviewed and tested at the following locations near the Arizona-Mexico border during the months of July and August 2000:

1. Church, Sonoyta-I was invited to recruit members of a church (3 days): a table was provided for testing in the minister's home and in the chapel. Many women and children and a few men (the latter after much convincing) showed up because they had been informed beforehand by the minister that testing would be conducted. Children were given pencils, paper, stickers and other toys to keep them busy during testing sessions. Groceries and other gifts were provided to the church members who organized the sessions. It was extremely hot and sultry in the chapel and the home, as no air conditioning was available. Interviews were conducted from eight in the morning until about one o'clock, when the heat was too much for everyone to bear. We continued in the

evening for a few hours on the first two days. Hot chicken stew with *chile picante* and corn tortillas were provided, despite the heat, and we were invited to attend a lively, charismatic church service when testing and interviews were done.

2. Private homes. Tucson-I contacted many informants in Tucson through the recommendation of friends. I was invited to conduct the sessions in their homes.
3. Businesses. Sonoyta-I invited two store employees to participate, and directly recruited one hotel employee.

Testing and Interview Sessions

I conducted all of the sessions with each of the subjects. Each session lasted between 30 and 60 minutes, with an average of 46 minutes. The subjects first read the informed consent form, discussed it with me, and signed two copies. They then were asked to fill out the background information form. Although they read and filled it out themselves, I participated actively in the process, responding to any questions that arose, and providing any needed explanation. The second page, on knowledge about disease and health information sources, often opened up several minutes or more of discussion. It was found that these discussions gave participants the opportunity to relax and feel more comfortable with me, so that by the time the actual testing process began they were less nervous. This confidence seemed to serve as an aid in making them feel comfortable enough to ask questions to clarify any problems they had with the test format, and, in some cases, to point out what they considered to be problematic aspects of the tests.

After filling out the background information form, the testing process began. As mentioned previously, the 60 subjects were randomly assigned to the following twelve groups (five per group):

- | | | | |
|-----------------|----------------------|----------------|-----------------|
| 1. AIDS-N | 3. Diabetes-N | 5. TB-N | 7. HBP-N |
| 2. AIDS-T | 4. Diabetes-T | 6. TB-T | 8. HBP-T |
| 9. AIDS-control | 10. Diabetes-control | 11. TB-control | 12. HBP-control |

During each session, I read the test instructions to the informant, and any questions about test format were answered before she/he completed the pretest. The subjects in groups 1-8 above (which made up the experimental group) first took the pretest that corresponded to their topic, then read the relevant brochure, and then took the posttest. For example, those in Group 1, the AIDS-N group, took the pretest on AIDS, read the N-text brochure on AIDS, and then took the posttest on AIDS. The subjects in groups 9-12 (which made up the control group), first took the pretest that corresponded to their topic, then read the control text on influenza, and then took the posttest. For example, those in Group 9, the AIDS-control group, first took the pretest on AIDS, then read the control text on influenza, then took the AIDS posttest.

After completing the posttest, many informants asked questions related to their topic, expressing the desire to know "how well they had done," and many asked for further references for readings on the topic.

Results of the pretest posttest protocols were evaluated using SPSS in consultation with a statistician.

Recall Protocol

As discussed in Chapter 2, Part II, the recall protocol used in this study was more hermeneutic than quantitative. Individuals were asked whether they were willing to participate in this part of the study after they had finished the pretest/posttest protocol described above. Fourteen of the subjects were willing and able to dedicate extra time to do so.

The motivation behind conducting a recall protocol with some of the informants came from the need for more data, in this case qualitative, to determine the impact of translated versus non-translated texts on comprehension. Given that the number of informants for this study was limited due to time and resource restrictions, it was clear that I needed to extract as much quantitative and qualitative data as possible to determine the effect of these two types of texts on the reader. The information obtained through this process, along with the interview data described in the next section, provided for a triangulation of data which enhanced the interpretations and conclusions derived from input collected from a very limited number of informants. The recalls, in particular, allowed me to observe the effect of N-texts and T-texts in a more direct manner, without the interjection of yet another written text for processing between the text reading and the comprehension product (see Chapter 2, Part II).

Each of the fourteen informants was asked to read either an N-text or a T-text on a particular topic silently and at her/his own pace. The topic of the text differed from the one she/he had been assigned for the pretest/posttest protocol. After reading the brochure, she/he was instructed to state everything she/he remembered from the text. No time limit was given for reading and recall: the subjects did the entire task at their own pace. Their recall was recorded on a tape recorder. This approach was adapted from a study conducted by Horiba, van den Broek, & Fletcher (1994). Two subjects each were assigned to read the TB-N, TB-T, Diabetes-N, and Diabetes-T texts. Three subjects each read the AIDS-N and AIDS-T texts. The brochures on hypertension were not included in the recall protocol because the length of those texts did not make it feasible.

Idea Units and Scoring. Scoring sheets for each of the three topics were prepared for use in the evaluation of the 14 recorded recalls. The three topics were analyzed into a set of idea units (24 for TB, 33 for diabetes, and 30 for AIDS), each of which consisted of a single clause (main or subordinate, including adverbial and relative clauses), or an infinitival construction, gerund, or nominalized verb phrase. These idea units were derived from the categorizations of salient content established for the brochures during the development of the pretests. In this way, the recall score sheets only included idea units that were shared by both the N-text and T-text for a particular topic. The idea units were categorized into the following sections on the scoring sheet: Cause of Disease, including technical information about the cause and the development of the disease; Disease Transmission Mechanisms and Risk Factors, including information on

mechanisms of spreading the disease from one person to another, in the case of TB and AIDS, and the risk factors for developing the disease, in the case of diabetes; Symptoms and Diagnosis, including information about symptoms and how a person is able to find out she/he has the disease; and Prevention, Control, and Treatment, including how a person can prevent contracting and passing on the disease (or developing the disease, in the case of diabetes), and available treatments. Informants were given credit for an idea unit whether or it not it was recalled verbatim from a text or paraphrased. In addition to this list of idea units, a section designated "Other" was included on the scoring sheets for noting down recalled items that were particular to each text. Another section, "Inferences and Other Comments" was also included for noting down ideas and concepts that appeared to be inferred from the texts by the informants. The number of idea units under each category for each of the topics is as presented in Table 3.3.

The sum of all of the idea units from the three scoring sheets is 88, with Cause constituting 28%, Disease Transmission Mechanisms and Risk Factors 24%, Symptoms and Diagnosis 27%, and Prevention, Control, and Treatment 20%. However, the representative brochures for each topic vary in their emphasis on the four categories, as seen in Table 3.3. The TB brochures place the greatest emphasis on prevention, control and treatment, the diabetes brochures stress cause and development of disease, and for the AIDS brochures, disease transmission and risk factors make up the largest category.

Table 3.3
Number of Idea Units in Each Category per Topic
(Recall Scoring Sheets)

<u>Category</u>	<u>Topic</u>			<u>Total</u>	<u>%</u>
	<u>AIDS</u>	<u>Diabetes</u>	<u>Tuberculosis</u>		
Cause of Disease	5	16	4	25	28
Disease Transmission Mechanisms and Risk Factors	13	3	5	21	24
Symptoms and Diagnosis	9	8	7	24	27
Prevention, Control, and Treatment	3	7	8	18	20

Interviews

Semi-structured, open-ended interviews were conducted with twelve of the informants (different from those who participated in the recall protocol). The purpose of the interviews was to probe for more information concerning the impact of the two different types of texts on comprehensibility.

The data collected was purely qualitative in nature, and was elicited through questions that required the informants to compare N-texts and T-texts to each other. Informants were asked to read an N-text and T-text on the same topic silently and at their own pace. Three read the AIDS texts, four read the TB texts, four read the diabetes texts, and one read the high blood pressure texts (due to time constraints). After they read the brochures, I based the interviews on the questions presented in Table 3.4, and their

answers were tape-recorded. This set of questions served strictly to guide the interview. The exact wording and order varied.

Table 3.4
Interview Questions

Question 1:	Si alguien estuviera sufriendo de esta enfermedad, o simplemente quisiera más información sobre esta enfermedad, ¿cuál de estos dos folletos le recomendaría? ¿por qué? (If someone had the disease, or asked you for information about the disease, which of the two brochures would you recommend that she/he read? Why?)
Question 2:	¿Qué recomendaría para mejorar el folleto que ha escogido? ¿Y el otro? (What recommendations would you make for improving the text that you chose? And the other one?)
Question 3:	¿Cuáles son las preguntas que tiene sobre esta enfermedad y que no se discuten en estos dos folletos? (What questions about this disease do you have that these two texts do not answer/address?)
Question 4:	Hábleme un poco sobre lo que piensa del lenguaje del texto. (Discuss/comment on the language of the text).

During data collection, I made entries in two notebooks. One notebook contained background information about the informants to help me develop a profile of each one. I carried this one to sessions with informants and took notes during and after the testing and interview sessions. Included in this notebook is the context in which each interview took place, the pretest/posttest texts that the subject read, and the texts they read for the interviews, as well as my own thoughts and reflections about the interaction and

interviewee's comments. The second notebook consists of the actual transcriptions of the tape recordings of the interviews, along with their translations into English.

A third notebook was used to categorize units from the transcriptions through the process of "emergent category designation" (Lincoln & Guba, 1985). This involved a process of "unitizing" the data, then taking all of the units of data and sorting them into categories. The units here were larger than those used on the recall scoring sheets (each of which consisted of a single clause). The first units I established were single sentences, which were placed into categories. The labels or titles of the categories were derived from the emerging themes. In many cases, several sentences in a row belonged to the same category, and so they were kept together as a unit. In some cases, a unit belonged to more than one category: if it made a significant and different contribution to both categories, it was included in both. However, this applied in a limited number of cases.

Emergent category designation was used as a means of grounding theory about health brochures (and their impact on the reader) in the data, so that theories could follow the data rather than precede it (Coffey et al., 1996). Instead of working from the hypothesis that N-texts and T-texts would produce a measurable difference in impact on knowledge and attitudes, as I did in the case of the pretest/posttest protocol, I was able to draw a number of conclusions from the data about the nature of the two types of texts, readers' perceptions of health brochures in general, what is important to them as readers of the brochures, and how this genre in Spanish might be improved.

CHAPTER 4

ANALYSIS OF THE DATA

Part I: Text Analyses

Speech Act Analysis-Results

This microscopic analysis focuses on the following linguistic features in the N-texts and T-texts: second person formal and informal imperative verbs forms, and passive voice. As mentioned in Chapter 1, the analysis is grounded in Speech Act Theory, and the speech act categories developed by Searle (1969).

The mean frequencies per text type for the above mentioned linguistic features are presented in Table 4.1. The table shows that the T-texts utilize more imperative verb forms overall. A one-way ANOVA analysis showed that the T-texts also contain significantly more second person formal imperatives (corresponding to *usted*) than the N-texts, $F(1,30)=7.596$, $p<.05$. The N-texts showed a significantly higher frequency of second person informal imperatives than the T-texts, $F(1,30)=6.119$, $p<.05$.

Table 4.1

Mean Frequency of Verb Forms according to Text Type (per 500 Words)

Verb form	N-texts	T-texts
Imperatives	4.3	6.4
2nd person formal imperatives	1.7	5.9
2nd person informal imperatives	2.6	.43
SE passive	5.56	1.6

Although the difference between use of informal versus formal forms is noteworthy by itself, important differences in patterns of use emerge through a closer look at the semantic categories of the imperative verbs in each text type. The T-text imperatives consist of action verbs associated with self-care, avoidance of high risk behavior, and recommendations for prevention. Many of these verbs are reflexive, and refer to taking some action for oneself. The majority of the N-text imperative forms consist of more "neutral" active verbs, related to talking, explaining, and consulting with health professionals and others. Tables 4.2 and 4.3 show the verbs used in the imperative according to text type.

The frequencies of linguistic features calculated for the multifeature-multidimensional analysis below show that the two text types do not differ significantly in terms of average number of verbs. The greater number of directive verb forms in the T-texts suggest that the N-texts might implement other verb conjugations when the content deals with self-care, high risk behavior and recommendations for prevention. Mean frequencies (Table 4.1) show that the N-texts utilize the passive voice more frequently (*SE*-passive), and an ANOVA analysis showed that this difference is significant, $F(1,30)=21.672$, $p<.05$. (The *SE* passive is also discussed in the interpretation of Factor 1 in the multifeature-multidimensional analysis below). A text search and resulting concordances of this linguistic feature reveal its crucial role in an indirect approach to instigating behavior change, especially with respect to particular topics and issues.

These results of the Speech Act analysis are discussed in the next section.

Speech Act Analysis-Discussion

Differences between Spanish and English may explain the greater overall usage of directive speech acts in the form of the imperative in the T-texts. English has only one form of the second person imperative, which is the unmarked form of the verb (Snell-Hornby, 1995). There is therefore no difference between the imperative form used in the spoken speech act "Eat your spinach" directed to a child and "Eat a balanced diet" directed to an adult in a health brochure. The nuances in meaning carried by the marked imperative forms in Spanish (corresponding to second person formal and informal forms, in addition to first person plural forms in Mexican Spanish) are not available in English. Also, for the linguistic realization of public warnings, prohibitions and advice, English favors the use of the imperative (Snell-Hornby, 1995), and this may be due to the very fact that it is an unmarked form. Spanish, on the other hand, often uses unmarked forms such as the infinitive and the passive to issue warnings or suggestions. The higher frequency of direct imperative forms in the T-texts is therefore likely a carry over from English.

English-to-Spanish transfer does not explain the differences in frequency of usage of formal versus informal forms, however. The formative research necessary for writing health messages involves determination of a number of audience characteristics, including age, gender, salient belief structures, among many other variables. Translation of health brochures presents a particular problem: the formative research is generally done by the authors of the original English text, and involves the original English-speaking audience. Translators do not always have the time or resources to conduct

research related to the target readers of their translations, nor are they normally expected to do so. They may select *usted* as a blanket "safe" form of addressing all audiences, to avoid using more informal forms in an inappropriate context.

The significant differences existing between N-texts and T-texts in the implementation of informal and formal directives demonstrates the need to train translators not only in target audience assessment, but also in the selection of appropriate forms once the audience has been clearly defined. The N-texts in this particular corpus provide some useful insights related to the relationship between appropriate verbs forms and brochure content (that is, disease topic). A text search of the subcorpora of AIDS N-texts shows that out of 31 command forms, 24 are directed to the reader-as-*tú* (informal). In the diabetes N-texts subcorpora, on the other hand, there are 21 command forms, and all of them are directed to the reader-as-*usted*. These two N-text subcorpora show the most striking difference in this respect. A perusal of the brochures suggests that the audiences visualized by the authors are made up of two very distinct groups. The AIDS texts seem to address a younger, presumably potentially sexually-active group, while the diabetes texts seem to be directed to an older, more mature group of people (perhaps parents or grandparents of diabetic children, or those with adult-onset diabetes, which often occurs later in life). The following excerpts from the two subcorpora demonstrate this difference (a literal English translation follows each example in parentheses, and disease topic is indicated in parentheses after the original¹):

¹ The translations provided throughout this study are my own. They follow the original closely, and are rather literal to facilitate comprehension of the analyses.

El ejercicio de la sexualidad es algo placentero, vital y sano y resulta maravilloso sobre todo si te sientes enamorado. (AIDS)

(Putting into practice our sexuality is something pleasurable, vital and healthy, and it is especially wonderful if you feel you are in love).

Si tienes relaciones sexuales con varias parejas o una pareja que no es fiel...recuerda que lo mejor es no arriesgarse. (AIDS)

(If you have sexual relations with several partners or with a partner who is not faithful...remember that the best thing is not to put oneself at risk.)

¡Oye chavo! El SIDA no se ve hasta que te da. (AIDS)

(Hey, chavo [expression used to refer to youth]! AIDS can't be seen until you have it.)

Lea este folleto y procure que tus amigos lo lean. (AIDS)

(Read this brochure and make sure your friends read it).

En el trabajo, párese y camine un poco, por lo menos una hora. (Diabetes)

(At work, get up and walk a little, at least an hour.)

Si tiene automóvil, estacionelo un poco lejos de la tienda cuando vaya de compras para la familia y camine. (Diabetes)

(If you have a car, park it somewhat far from the store when you go shopping for your family, and walk.)

Obviously, my interpretations of intended audience are hypothetical. Also, it is important to note that I have observed many other texts with adults as intended audience in which the informal *tú* is used, so it may be that perceived age of diabetics influences choice of form of address. Further research into the development of health brochures in Mexico, especially related to the formative research conducted by the authors, would be extremely useful to health educators preparing messages for Mexican populations in the U.S., in addition to translators and translator trainers working in the health fields.

As the results above suggest, differences in the directive speech acts of the two types of texts go beyond formal versus informal forms. Tables 4.2 and 4.3 list the verbs used as imperatives in the two text types.

Table 4.2
Verbs Used as Imperatives in T-Texts

aprender	colocar	desanimarse	hablar	limpiar	pensar	quitar	tratar de
apretar	compartir	descubrir	hacerse	llamar	permitir	reducir	usar
asegurarse	comprar	desenrollar	informarse	mantenerse	poner	retirar	ver
averiguar	controlar	disminuir	insistir	medir	ponerse	seguir	verificar
ayudarse	cubrirse	enterarse	ir	medirse	preocuparse	tener	
ayudar	cuidarse	enviar	lavar	meterse	prevenir	tirar	
cocinar	dejar	evitar	leer	pedir	protegerse	tomar	

Table 4.3
Verbs Used as Imperatives in N-Texts

abandonar	continuar	lavarse	protegerse
abrir	escribir	leer	oir
acudir	estacionar	llamar	procurar
caminar	exigir	marcar	recordar
comentar	explicar	nublar	tirar
comer	hablar	pararse	tomar
comunicarse	insistir	pasar	visitar

The T-texts employ a greater variety of verbs in the imperative form, and the meanings of a selection of these verbs in context in the following examples illustrate a very direct approach to advising the reader to take action (literal English translations are provided in parentheses):

Use un condón cada vez que tenga relaciones sexuales.
(Use a condom each time you have sexual relations.)

Nunca comparta agujas o jeringas.
(Never share needles or syringes)

No permita que entren en su cuerpo.
(Don't allow them to enter your body).

Para evitar pasar la enfermedad a otros, cúbrase la boca cuando se ría o tosa.
(To avoid spreading the disease to others, cover your mouth when you laugh or cough).

Entérese.
(Educate yourself.)

Las bebidas alcohólicas son altas en calorías no nutritivas...evítelas.
(Alcoholic beverages are high in calories...avoid them.)

Y una vez que se le haya recetado la dieta, sígale.
(And once you have been prescribed a diet, adhere to it.)

Trate de perder peso...
(Try to lose weight...)

In the N-texts, on the other hand, the imperative is associated with fewer verbs (and is less frequent). Advice is provided in a direct manner, but tends to relate to less personal (perhaps less sensitive) concepts, as illustrated in these examples:

Si tienes tos con flemas, acude a la unidad de salud más cercana para que te hagan la prueba de flema.
(If you have phlegm, go to the health clinic nearest you to have the phlegm test done.)

Continúa con hábitos adecuados, como la buena alimentación.
(Continue with good habits, like a healthy diet).

Vacuna a tus hijos con la BCG desde el nacimiento.
(Vaccinate your children with the BCG starting at birth.)

No abras el sobre de tu resultado...
(Don't open the envelope with the results...)

Para mayor información marca XXXX.
(For more information dial XXXX).

Señora recuerda: al año de edad con todas las vacunas contar.
(Remember, señora: vaccinations are a must at age one.)

Given that the two text types share the same interactional goals (increasing knowledge, influencing attitudes, and producing behavioral changes being among the most essential), and deal with similar content, it would be reasonable to assume that the content presented in a direct manner in the T-texts would be presented in some other way in the N-texts. The striking difference in use of the *SE*-passive (see frequencies in Table 4.1) between the two text types seemed a logical site to search for representative and commissive speech acts implementing the verbs (or semantically equivalent verbs and associated content) presented in Table 4.2. Analysis of a concordance of all the cases of the *SE*-passive in the N-text subcorpora shows that this form of the passive voice plays a principal role in the description of disease causes and transmission mechanisms: in other words, it is used to provide information. This is discussed further in the section on the multifeature-multidimensional analysis below. The *SE*-passive is also used as an indirect means of issuing suggestions, advice, and warnings: that is, utterances involving the passive voice often constitute representative and commissive speech acts, with the intended perlocutionary force of persuading. Below I provide examples of persuasive utterances using the *SE*-passive, and classify each utterance according to speech act (passive forms are indicated in bold in the original, and speech act category follows the original in parentheses):

Al **informarse** e informar, puede salvar una vida. (commissive promise)
(By being informed and informing others you can save a life.)

Si se atiende y se controla oportunamente la diabetes, **se pueden** evitar las lesiones en el riñon. (commissive promise)
 (If diabetes is monitored and controlled in a timely manner, damage to the kidney can be avoided.)

Si se transmite el virus, puede desarrollarse el cáncer u otros enfermedades muy graves. (commissive threat)
 (If the virus is transmitted, cancer and other diseases may develop.)

Se ha demostrado que el condón es en la actualidad uno de los métodos más efectivos para la prevención del VIH/SIDA. (representative claim)
 (It has been shown that condoms are currently one of the most effective methods for preventing AIDS.)

Se estima que la mitad de las personas con sobrepeso son hipertensas. (representative claim)
 (It is estimated that half of all overweight people have high blood pressure.)

Cuando **se quiere** disfrutar de buena salud, la actividad física **se considera** tan importante como el propio cuidado médico. (representative assertion)
 (When good health is desired, physical activity is considered just as important as medical care.)

Note that in the commissive speech acts, the passive voice is associated with infinitive verb forms and *SI*-clauses (similar to *if*-clauses in English). No significant differences exist between the two text-types in terms of the frequency of usage of infinitives and *SI*-clauses, but they show different semantic and linguistic associations in the two types. This points to the fallacy of drawing sweeping conclusions about particular registers based on frequencies, without delving into the more complex relationships related to meaning and linguistic correlations. In the N-texts, the passive voice combines with these verb forms to serve an overall indirect persuasive function.

So far I have described the linguistic realization of persuasive strategies in N-texts and T-texts. Use of the imperative and passive voice were discussed to demonstrate that the interactional goals of the two text types are achieved through different strategies. The

T-texts are characterized by a greater number of formal directive speech acts used to encourage, threaten, and promise. The N-texts share these same interactional goals, realized through a more indirect approach, involving commissive and representative speech acts. Directive speech acts are not absent in the N-texts, but they are less frequent, and tend to be informal.

Many questions remain concerning the perlocutionary force of the two text types on the Mexican, native Spanish speaker. How does the reader perceive and process the direct strategies of the T-texts? Is there a mismatch between illocutionary intention and perlocutionary impact? The answer to these questions can only be speculative, and actual impact on the reader must be determined through field testing (see Part II).

The pragmatic force of linguistic features is determined by a number of variables, including situation and perceived social relationship between author and reader. The T-texts were originally written with native English speaking Americans in mind. The audience of the N-texts includes native Spanish speakers from Mexico. The latter are often described as belonging to a more allocentric and collectivist society, while the former are often defined as being more individualistic (Marín & Marín, 1991). Expectations about interpersonal relationships in particular situations vary for these two groups, which translates into different linguistic strategies used to signal perceived social relationships.

In the N-texts, the use of informal forms, indirect persuasion, and even group identity markers (see discussion of 1st person plural form in the multifeature-multidimensional analysis below) serve to maintain a sense of camaraderie and solidarity

(although *tú* forms can be used to indicate that the author holds a higher position than the reader, its co-occurrence with indirect features signals an equal-to-equal relationship). This is somewhat surprising, given that certain professionals, including physicians and other health professionals, are afforded deference and respect in Mexico (as they are among English speakers in the U.S.) (Marín & Marín, 1991). Linguistic features indexing authority might be expected in a brochure representing a health professional-patient consultation. But the N-texts signal a very different type of relationship: one of mutual respect and equality between informants. It seems that the author's role is not that of health professional, but rather that of a friend or family member. The directive speech acts of the T-texts, on the other hand, are characteristic of an authoritarian stance on the part of the author. The N-texts and T-texts are embedded in very distinct situations.

It appears that the Mexican authors of the N-texts, as members of a society which emphasizes group needs and objectives, prefer a more interpersonal, informal approach to health education. Authors of the T-texts (the original English versions) take a more individualistic point of view, focusing on the personal objective of the author to influence the knowledge and attitude of the reader. As a consequence, the reader from Mexico may find the T-texts overbearing and overly authoritarian.

Another issue related to situation and interpersonal relationships concerns the perception of the T-text author as coming from outside the Mexican community, as a member of a dominant or "outsider" group. This could, hypothetically, exacerbate the negative effect of direct forms on readers, and warrants further investigation, grounded in critical discourse theory.

Multifeature-Multidimensional Analysis-Results

Table 4.4 presents summary descriptive statistics for the normalized frequencies of the 70 linguistic features in the health brochure corpus described in Chapter 3.

The factor analysis determined three interpretable factors. I define these factors as (1) Persuasive versus Informational; (2) Informal Interpersonal versus Impersonal; and (3) Group Persuasion versus Formal Direct Persuasion. They are discussed in the following section.

Multifeature/Multidimensional Analysis-Discussion

In my discussion of the purpose of the health brochure in Chapter 1, I noted that the health message plays a dual role: to increase knowledge, or to *inform*, and to inspire change, or to *influence*. It would therefore be reasonable to expect to discover linguistic features serving the overall purposes of informing and persuading. Table 3.3 (under the section on recall above) shows the categories of the eight texts field tested in Part II of this study. The informational focus of *Cause of Disease* and *Transmission Mechanisms and Risk Factors* would be expected to involve the co-occurrence of features that serve to integrate information in the text. The other two categories, *Symptoms and Diagnosis* and *Prevention, Control, and Treatment*, may also contain features related to informational density, but they are also likely to involve the implementation of features serving the functions of interpersonal interaction and persuasion.

Table 4.4

Descriptive Statistics for the Health Brochure Corpus as a Whole (n=32)

Linguistic Feature	Minimum Maximum			Mean	Std. Deviation
	Range	value	value		
Total nouns	54.00	81.00	135.00	106.3125	13.7241
Total verbs	45.00	53.00	98.00	71.7500	10.6650
Infinitive nominals	19.00	.00	19.00	2.0313	3.7544
Gerund nominals	2.00	.00	2.00	.2188	.5527
Possibility modals	14.00	.00	14.00	5.1562	3.2638
Necessity modals	4.00	.00	4.00	1.3750	1.3137
Simple present tense	37.00	18.00	55.00	30.5625	8.3044
Infinitives	26.00	6.00	32.00	18.0938	6.2752
Total progressive forms	3.00	.00	3.00	.3750	.7513
Present progressive	3.00	.00	3.00	.3438	.7453
Perfect aspect verbs	7.00	.00	7.00	1.3750	1.9634
Present perfect	7.00	.00	7.00	1.2188	1.8445
Past perfect	.00	.00	.00	.0000	.0000
Total subjunctive forms	16.00	.00	16.00	5.3438	4.0926
Present subjunctive	16.00	.00	16.00	5.3125	4.1069
Past subjunctive	1.00	.00	1.00	.0625	.2459
Preterite	10.00	.00	10.00	1.4375	2.8954
Imperfect	3.00	.00	3.00	.2500	.7184
Conditional verb forms	2.00	.00	2.00	.2188	.4908
Future verb forms	8.00	.00	8.00	1.0000	1.7413
Total passive forms	12.00	.00	12.00	4.3125	3.1565
SE passive	11.00	.00	11.00	3.5938	3.0886
SER/ESTAR passive	4.00	.00	4.00	.6562	.8654
Reflexive verbs	12.00	1.00	13.00	6.2187	2.8368
Second person informal verbs	20.00	.00	20.00	3.9688	6.3930
2nd person formal verbs	30.00	.00	30.00	7.2500	9.3602
2nd person plural verbs	1.00	.00	1.00	.0625	.2459
1st person plural verbs	14.00	.00	14.00	1.1250	2.6730
1st person singular verbs	4.00	.00	4.00	.4687	.9832
3rd person verbs	43.00	18.00	61.00	32.2812	8.5014
Total imperative verb forms	25.00	.00	25.00	5.3438	5.5858
2nd per. informal imperatives	8.00	.00	8.00	1.5313	2.6999
2nd per. formal imperatives	25.00	.00	25.00	3.7812	5.9608
2nd per. plural imperatives	1.00	.00	1.00	.0313	.1768
Explicit pronouns	16.00	.00	16.00	3.4062	4.3095

Table 4.4 (cont.)

Linguistic Feature	Minimum Maximum		Mean	Std. Deviation	
	Range	value			value
2nd person infomal pronouns	3.00	.00	3.00	.2188	.6082
2nd person formal pronouns	16.00	.00	16.00	2.3750	4.0141
2nd person plural pronouns	.00	.00	.00	.0000	.0000
1st person plural pronouns	2.00	.00	2.00	.0938	.3902
1st person singular pronouns	2.00	.00	2.00	.0938	.3902
3rd person pronouns	5.00	.00	5.00	.5313	1.0155
Total possessive pronouns	23.00	.00	23.00	5.9063	5.0823
2nd pers. informal possessives	8.00	.00	8.00	1.3750	2.3793
2nd person formal possessives	23.00	.00	23.00	3.5000	5.5707
2nd person plural possessives	.00	.00	.00	.0000	.0000
1st person plural possessives	6.00	.00	6.00	.2812	1.1140
1st person singular possessives	.00	.00	.00	.0000	.0000
Third person possessives	9.00	.00	9.00	.9063	1.7294
Demonstrative pronouns	3.00	.00	3.00	.8750	1.0395
Definite articles	47.00	20.00	67.00	39.6250	10.4627
Indefinite articles	18.00	.00	18.00	7.6562	4.1004
Demonstrative determiners	5.00	.00	5.00	1.6250	1.3854
Total adjectives	36.00	14.00	50.00	35.7187	9.9717
Attributive adjectives	38.00	11.00	49.00	30.0000	9.9515
Predicative adjectives	14.00	.00	14.00	5.6563	3.5706
Adverbs	33.00	23.00	56.00	36.9687	7.0915
Present participial phrases	4.00	.00	4.00	.8125	1.0607
Cohesion markers	6.00	.00	6.00	1.9375	1.6252
Prepositions	35.00	11.00	46.00	23.0625	7.6704
Relative clauses	17.00	.00	17.00	6.3438	3.6065
Total subordinate clauses	16.00	3.00	19.00	11.8750	3.8248
Adverbial clauses	8.00	.00	8.00	3.4375	1.9166
SI clauses	9.00	.00	9.00	3.6875	2.7526
QUE clauses	12.00	.00	12.00	4.1562	2.8637
Coordinating clauses	13.00	.00	13.00	3.9687	3.3165
Coordinators	22.00	2.00	24.00	12.6250	5.3082
Questions	8.00	.00	8.00	2.5000	2.3001
Total commas	21.00	6.00	27.00	14.7813	6.1473
Sentence length	45.00	10.00	55.00	22.7500	10.0739
Type-token ratio	36.00	60.00	96.00	69.6875	8.0660

A reasonable interpretation of the three factors presented in the following sections must take this dual role of the health brochure under consideration. There is another element that must be considered, however: there are likely to exist clusters of English linguistic features which were carried over, or transferred, into the T-texts. As postulated below, it would not be surprising for the factor analysis to also reveal differences between the text types related to English versus Spanish linguistic features, regardless of function.

The functions of informing and persuading, as well as English transfer, were the three principal elements considered in the following interpretations of Factors 1 through 3.

Interpretation of Factor 1

Factor 1 is presented in Table 4.5. The table shows the salient linguistic features for this factor, and respective loadings. The factor consists of 12 salient features with positive loadings greater than 0.40 and 5 other features with positive loadings greater than 0.30. Two of the features with highest loadings, second person formal pronouns (*usted*), and second person formal verb conjugations (with *usted* as subject) indicate the active participation of a specific author and reader. The pronoun *usted* in Spanish is the formal form of the second person pronoun, which, depending on the context and relationship between author and reader, is used to index degree of respect or to establish distance (or both). Its use serves an interactional and persuasive purpose in the text, creating an impression of involvement between the writer and the reader, while maintaining distance and/or respect toward the reader.

Table 4.5

Persuasive vs. Informational

FACTOR 1	
Linguistic feature	Load
2nd person formal pronouns	.80
2nd person formal possessive pronouns	.74
Explicit pronouns	.73
2nd person formal verb conjugations	.70
Total verbs	.69
Total possessive pronouns	.62
Total subjunctive verb forms	.62
Present subjunctive	.61
Total complement clauses	.52
<i>SI</i> clauses	.51
Possibility modals	.49
3rd person verb conjugations	.46
Conditional	.38
Future	.33
Simple present tense	.33
Total progressive forms	.32
Infinitives	.31
Total passive forms	-.62
Type-token ratio	-.61
Total adjectives	-.63
Sentence length	-.59
SE passive	-.59
Definite articles	-.58
Attributive adjectives	-.58
Total commas	-.43
Coordinators	-.42
Questions	-.37
Total Nouns	-.35
Prepositional phrases	-.32
Relative clauses	-.31

The high loadings on both explicit use of *usted* and on explicit personal pronouns overall confirm this interactional focus. However, these high weights are also likely related to the

transfer of explicit pronouns from English. As mentioned in Chapter 3, the choice of linguistic features was based in part on my own observations of translated texts. I have observed that explicit personal pronouns are much more common in the Spanish translations of health brochures, the most logical reason being that English is not a PRO-drop language. In the entire corpus of T-texts, there are 78 instances of explicit use of personal pronouns, in contrast to the 19 instances observed in the entire N-text corpus. This represents a ratio of 18 to 1 after normalizing word count. The high loadings on the use of possessive pronouns may also be indicative of an overall interactional function, although this, too, may be a characteristic of English-to-Spanish translationese: there are 142 instances of possessive pronouns in the T-text corpus (with 110 directly referencing reader-as-*usted*), while only 77 are used in the N-texts (with 9 referencing reader-as-*usted*). This represents a ratio of 2 possessive pronouns in the T-texts to 1 in the N-texts, after normalization.

Other features with positive loadings on this factor also point to an interactional, persuasive purpose. Total verbs, simple present tense, progressive forms and infinitives reflect an active, verbal style, and a high frequency of main clauses, demonstrating that the primary purpose of these features is interaction and involvement rather than the integration of information (Biber, 1995). These verb forms also mark immediate relevance and urgency of content. Verbs marked for the third person have a fairly high loading on Factor 1, which may be contributed to the use of the simple present to discuss illness in an indirect manner, while suggestions for action to prevent or treat disease implement more direct verb forms.

The subjunctive forms of verbs, as well as the future and conditional tenses, serve the purpose of convincing and persuading the reader: they refer to the future, to what might happen (uncertainty about the future), and to what action should be taken, as in the following examples from the N-text corpus (I provide literal translations in parentheses below each example. The verb of interest is in bold in the original, and type of conjugation is specified in brackets after the verb):

Una vez que **hayas** [present subjunctive] tenido contacto sexual con una persona infectada, te puede contagiar.
(Once you have had sexual contact with an infected person, you can get infected.)

Es necesario que **lleves** [present subjunctive] el tratamiento hasta que **sanés** [present subjunctive] totalmente.
(It is necessary that you continue the treatment until you heal completely.)

El azúcar es tan importante para su vida, que el no tenerla le **causaría** [conditional] la muerte.
(Sugar is so important to your life, that not having it would cause your death.)

Así **volverás** [future] a ser una persona sana y productiva y **evitarás** [future] contagiar a tus familiares y amigos.
(That way you will become a healthy and productive person and avoid infecting your family and friends.)

The infinitive forms of verbs (including nominalized infinitives which did not show a positive loading on this factor) are also frequently used in bulleted lists to tell the reader what needs to be done to prevent disease and treat symptoms. A search of the N-text corpus reveals the following infinitive verb forms (at least 5 instances of each in the corpus), all associated with prevention and treatment (close English equivalents are provided in parentheses): *evitar* (prevent), *prevenir* (prevent), *actuar* (act), *adquirir* (contract), *acudir* (visit), *ayudar* (help), *chechar* (check, observe), *comer* (eat), *compartir* (share), *descansar* (rest), *esterilizar* (sterilize), *fumar* (smoke), *saber* (know, find out).

Many also occur in the reflexive, with reference to self-care and prevention: *ayudarse* (help oneself), *contagiarse* (get infected), *practicarse* (practice).

As shown in the following examples, possibility modals serve to express uncertainty about the future, and constitute part of the overall purpose of convincing the reader of what might happen. They also mark the reliability of what is being said (Kessapidu, 1997):

El organismo no **puede** [possibility modal] utilizar adecuadamente los alimentos que se ingieren dando lugar a una falta de energía.
(The body cannot adequately use the foods that are eaten, which leads to a lack of energy.)
En casos graves **pueden** [possibility modal] causar la muerte.
(In serious cases they can cause death).

With regard to sentence structure, Factor 1 shows a high loading on *SI* clauses (similar to English *if*-clauses in structure and use) and total complement clauses.

Although these features are often indicative of sentence complexity, reflecting informational elaboration, Biber (1995, p.144) contends that these features can also represent "a relatively fragmented rather than integrated packaging of information". They are often a characteristic of spoken discourse, and, in this case, are part of the overall involved, interpersonal, persuasive purpose of the positive features of Factor 1.

There are 9 negative features on Factor 1 loading on at greater than |0.40|. There are an additional 4 negative features with a weight greater than |0.30|. Total passive forms carry the greatest weight, and the *SE* passive also shows a high loading. Passive forms are characteristic of impersonal texts, and are associated with an informational style (Kessapidu, 1997). The *SE* passive is also instrumental in obscuring or demoting the

agent. (However, see the discussion of the *SE* passive in the speech act analysis above, and its role in persuasion).

Passive forms are more common in the N-texts than in the T-texts, with 121 instances in the N-texts and 53 instances in the T-texts, representing a 3 to 1 ratio after normalization. The *SE* passive is by far the most commonly used passive form used in the health brochures (83% of the 174 passive forms are of this type). Most of the other features with negative loadings on Factor 1 also reflect the integration of information. The high loading of nouns and definite articles on this factor are strong indicators of informational density. Type-token ratio is also a direct indicator of lexical density and information packing. It signals precise word choice and a lack of repetitiveness. Given that the factor score of the N-texts on Factor 1 is very negative, the high negative loading of type-token ratio may seem surprising, given previous assertions that written Spanish tends to be more repetitive and redundant (Montaño-Harmon, 1991). In fact, the type-token ratio of the N-text corpora is slightly higher than that of the T-texts (a mean of 15 types per 100 tokens versus a mean of 13 types per 100 tokens, respectively). Prepositional phrases and attributive adjectives are used to elaborate on nominal referents, and are also highly integrative, packing large amounts of information. Relative clauses clearly specify and elaborate on nominal referents, and lend to the informational purpose of the negative features on this factor.

Three other features have negative loadings on Factor 1: coordinators, total commas and sentence length. These features serve to illustrate the problem of the concept of "sentence complexity", especially in cross-linguistic analysis. Written Spanish is

characterized by a greater use of coordination relative to English texts, and a looser association of ideas (Connor, 1996; Montañó-Harmon, 1991). The N-texts corpus contains 95 coordinating clauses, while the English corpus contains 56 (a ratio of 1.5 to 1 after normalization). There are also 5 commas per 100 words in the N-texts and only 3 per 100 words in the T-texts. This is partially due to the use of the comma-as-coordinator in Spanish: 30 of the 95 coordinating clauses in the Spanish texts use a comma as coordinator (the comma-as-coordinator is not observed in the T-texts). I provide the following example of a sentence from the N-text corpus, containing two commas used as coordinators (the last word in the relevant clauses and corresponding commas are indicated in bold, and a literal translation follows, in parentheses):

Cuando la infección es muy reciente, la prueba puede dar un resultado negativo a pesar de que la persona ya está **infectada**, esto se debe a que el sistema de defensa aún no ha desarrollado anticuerpos contra el virus del SIDA que puedan ser detectados por la **prueba**, por lo que es necesario dejar pasar tres meses desde la fecha en que se pudo haber estado en riesgo de infección hasta el día de realizarse la prueba.

(When an infection just occurred recently, the text may come out negative even if the person is **infected**, this is because the defense system has not yet developed the antibodies against the AIDS virus that can be detected by the **test**, for this reason it is necessary to allow three months to pass from the date in which you may have been at risk of infection until the day you get tested.)

Sentence length also has a high negative loading on Factor 1. Because the negative features of this factor are more characteristic of the N-texts, number of words per sentence may be highly correlated with these features strictly as a feature of Spanish. The average sentence length of the N-text corpus is 30 words, compared to an average of 16 words per sentence in the T-text corpus.

Another linguistic feature associated with this factor is questions. It is surprising that this feature did not load on to any of the other factors, and that the loading is so low for this factor. Its negative loading is unexpected, also, given that questions are often associated with interactiveness (Biber, 1995), whereas here they correlate with more informational features. Questions are a defining characteristic of both text types, used frequently as headings of sections in the health brochure. There are an average of 3 heading questions per brochure among the N-texts, and 2 per text among the T-texts. One explanation for the negative loading is that questions as headings mark both interactional-persuasive and informational sections of brochures. It is also worth noting that one major difference between the two text types is that "embedded questions" (not included in the factor analysis) are fairly common in the N-texts (2 per every 500 words) and absent in the T-texts, meaning that, as is common in Spanish, questions are marked within the sentence, as in the following example (embedded question in bold):

No sé tú, pero me pregunté **¿Qué onda con la sexualidad?**
(I don't know about you, but I asked myself **What's up with sexuality?**)

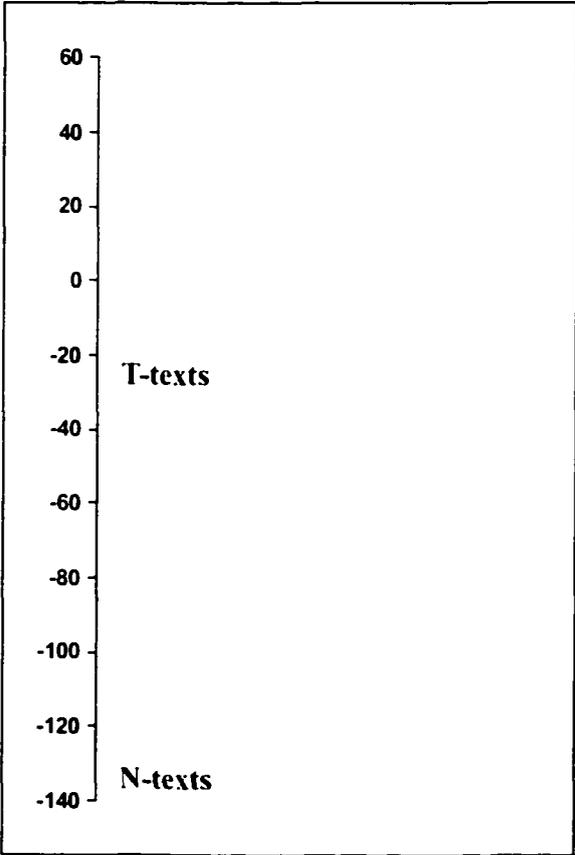
In sum, Factor 1 represents the interpersonal, interactional, and persuasive strategies of health brochures used to convince the reader to take action to reduce disease risk or seek treatment versus the more densely integrated informational focus of brochure sections on the description of disease and disease processes. I define this factor, or dimension, as *Persuasive versus Informational*.

As can be seen in Figure 4.1, both text types have negative factor scores on this dimension (N-text score = -138; T-text score = -26). This suggests that both types have a strong informational focus overall, and are characterized by a greater frequency of the

features with negative loadings. In my discussion of the recall protocol in Part II of this chapter, it is shown that readers' recall responses were lower on items related to informational categories from both types of texts. The high informational focus of health brochures (of both text types) may therefore be a problematic aspect of these texts, in terms of impact on knowledge and attitudes.

Figure 4.1

Mean Factor Scores for Factor 1: Persuasive vs. Informational



The factor score for the N-texts is much higher, meaning they contain a greater number of the negative features than the T-texts. This could be interpreted in two

different ways. One would be to assume that the N-texts are much more informational and less persuasive than the T-texts, and that there is a greater attempt to maintain distance between person and disease and between reader and writer. Another possibility is that the linguistic features underlying this functional dimension are different for English and Spanish. Biber's (1995) cross-linguistic comparisons demonstrate that functional dimensions are not always realized by the same linguistic features across languages. For example, the speech act analysis above demonstrates the use of the *SE* passive in conjunction with other features as a persuasive rather than informational strategy in the N-texts. Further cross analysis is required to determine how Factor 1 should be interpreted.

It is also necessary to remember that some of the features with high loadings are associated with characteristic differences between the written forms of two different languages, which also explains the very different factor loadings of the two text types.

Interpretation of Factor 2

Factor 2 is presented in Table 4.6. It consists of 13 positive features with factor loadings of greater than or equal to 0.40, and 2 less salient features with weights of greater than or equal to 0.30. The 2nd person informal verb conjugations, imperatives, personal pronouns and possessive pronouns are similar to the formal forms in Factor 1 in that they signal active participation by both author and reader. However, the use of the informal personal forms (corresponding to *tú*) establishes a different relationship based on greater trust and familiarity between correspondents (*tú*-forms also have the potential

of being interpreted as showing a lack of respect, depending on the sociocultural context, as mentioned in the speech act analysis).

Table 4.6
Informal Interpersonal vs. Impersonal

FACTOR 2	
Linguistic feature	Load
2nd person informal pronouns	.81
2nd person informal verb conjugations	.73
2nd person informal possessives	.64
2nd person informal imperatives	.62
3rd person possessive pronouns	.57
Total subjunctive forms	.52
Present subjunctive	.52
Total subordinate clauses	.50
<i>QUE</i> clauses	.50
Adverbial clauses	.49
Coordinating clauses	.46
Total verbs	.42
Infinitive nominals	.40
Infinitives	.31
Possibility modals	.30
Demonstrative determiners	-.61
Imperfect	-.41
Total nouns	-.38
3rd person personal pronouns	-.36

The use of the informal forms indexes solidarity between the author and reader, diminishes distance between conversants, and interjects a greater sense of dialogue and participation. The frequency of usage of second person informal verb conjugations is higher for the N-texts (96 instances compared to 31 instances in the T-texts, a ratio of 3 to 1 after normalizing word count). In addition, although the use of explicit personal pronouns is lower for the N-text corpus overall (see Factor 1), there are 5 instances of the

second person informal personal pronoun (*tú*) in that corpus compared to one instance in the T-text corpus (a 7 to 1 ratio after normalization). The N-texts also contain fewer possessive pronouns overall (see Factor 1), but contain 36 second person informal possessive pronouns (*tú* and *tus*), while the T-texts contain 23 instances of the latter (a 3 to 1 ratio). Imperatives are more common overall in the T-texts (see Factor 3 and discussion above on speech acts), but the *tú* command is more frequent in the N-texts (34 instances) than in the T-texts (13 instances), which represents a 6 to 1 ratio.

The high loading of the third person possessive pronouns is difficult to interpret: its correlation with the second person forms seems to run counter to their interpersonal function. However, a thorough text search provides an explanation for this apparent discrepancy. The third person is frequently used in conjunction with the simple present and progressive tenses to describe disease processes, symptom development, and future consequences, creating distance between people and illness while presenting persuasive evidence, and the possessive pronoun often refers back to inanimate nouns. The examples below from the N-text corpus demonstrate this use within an interpersonal, informal context:

¡Háblales [informal imperative] del condón!. **su** [third person possessive] uso correcto es una de las formas efectivas de prevenir el SIDA.
(Talk to them about the condom, its correct use is one of the most effective ways to prevent AIDS.)

¿Cómo **puedes** [second person informal conjugation] controlar la diabetes? **Su** [third person possessive] control es el punto clave para prevenir complicaciones...**su** [third person possessive] aparición es gradual...
(How can you control diabetes? Its control is the key to preventing complications...its appearance is gradual.)

El alcohol y las drogas aumentan el riesgo de adquirir el SIDA: bajo **sus** [third person possessive] efectos **puedes** [second person informal conjugation] tomar decisiones equivocadas.

(Alcohol and drugs increase the risk of getting AIDS: under their influence you may make bad decisions.)

The interpretation of all factors depends on remembering that the health brochure plays a dual role: it is used to both inform and persuade. The process of persuading often involves reinforcing logical, cohesive connections between idea units, and the third person possessive is one of the features serving this objective. It does not interfere with the overall interpersonal function of the other positive features of Factor 2.

Suggestions for future action to diminish risk are achieved in a more direct manner through the use of the second person forms (as discussed), infinitives (as seen in the examples provided under Factor 1), infinitive nominals, and necessity and possibility modals (necessity modals did not load on as a salient feature in any of the three factors). The following examples from the N-text corpus demonstrate the implementation of these variables to achieve an interpersonal style:

Aunque sólo una vez **hayas** [second person informal conjugation] tenido contacto sexual te **puedes** [second person informal conjugation, possibility modal] contagiar.

(Even if only once you have had sexual contact you can become infected.)

Cualquier persona puede realizarse la prueba, pero **recuerda** [second person informal imperative] que es una decisión personal y voluntaria.

(Any one can be tested, but remember that it is a personal and voluntary decision.)

Después de todo, ¿Quién mejor que **tú** [second person informal personal pronoun] para tocar el tema?

(After all, who better than you to talk about it?)

Proteger [infinitive nominal] es decisivo...**Mantener** [infinitive nominal] físicamente activo conlleva un sinnúmero de beneficios...

(Protecting yourself is an essential decision...Keeping yourself physically active brings about innumerable benefits)

No importa si **eres** [second person informal conjugation] hombre o mujer...las precauciones que **debes** [second person informal conjugation, necessity modal] tomar son iguales.

(It doesn't matter whether you are a man or a woman...the precautions you must take are the same)

Total verbs, total subjunctive forms, and present subjunctive all contribute to a conversational style, and a general underlying purpose of establishing dialogue with the reader. The *QUE* clauses (similar to *that*-clauses in English) can, in some cases, be indicative of interpersonal correspondence (Biber, 1995). Coordinating clauses are more characteristically Spanish relative to English (see Factor 1), and would be expected to be highly correlated with the positive features of this factor. The adverbial clauses reinforce logical, cohesive connections between propositions, and serve the overall interactional function, as well.

Factor 2 also contains two negative features with weights of greater than |0.40| and two others with weights of greater than |0.30|. One of the features, the demonstrative determiner, is likely an "English-transfer feature" characteristic of T-texts (the T-text corpus contains 41 compared to 26 in the N-texts, representing a 2 to 1 ratio). In English, this feature is commonly used to refer back to information, indicate informational relations, and provide cohesion. It often stands out awkwardly as an "overused structure" in English-Spanish translationese, and for this reason was included in the multidimensional analysis. An informative area of future research would involve a contrastive analysis of this feature through the comparison of concordances of parallel texts to determine how informational relations are marked in the two languages (and carried over from one to the other in translation and L2 writing).

Explicit third person pronouns are more common overall in the T-texts, and a text search shows that they are generally used to refer to people, not inanimate objects. It may be for these reasons that they do not correlate with the third person possessives, which are associated with second person pronouns, and tend to refer back to inanimates. In contrast to the second person forms, which serve an informal, direct, interpersonal function, the third person pronouns express conceptual distance from people.

Total nouns and imperfect verb forms also serve an impersonal, less interactive, less direct style. It should also be noted that there are a total of 7 instances of the imperfect aspect in the entire set of health brochures, all of them in the T-texts. All past tense forms are extremely rare in the health brochure of both text types, so the fairly high loading of the imperfect in this factor is probably due to its association with the T-texts.

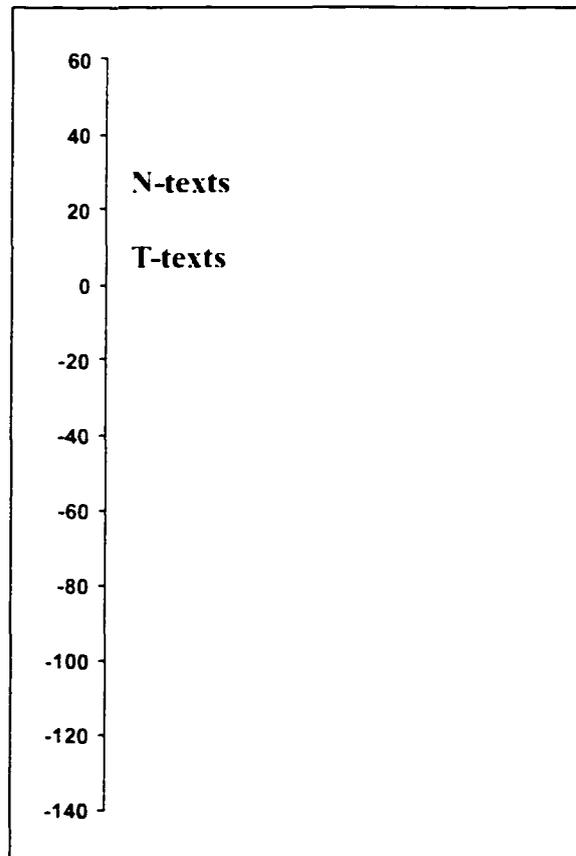
It is clear that the positive features of Factor 2 serve the function of informal, interpersonal dialogue, in contrast to the negative features, which underlie a more detached expression of information. I define this text dimension *Informal Interpersonal versus Impersonal*.

Figure 4.2 shows that both text types have positive factor scores on this dimension, with informal, interpersonal interaction serving the overall objectives of the health brochure (N-text score = 27; T-text score = 12). However, the positive features are more characteristic of the N-texts, which contain a higher frequency of informal forms referring to reader-as-*tú*. It can therefore be concluded that, although the N-texts have a greater informational focus than the T-texts, as demonstrated by the loadings on Factor 1, the interactional persuasive sections are of a more informal nature.

Again, some of the loadings, including coordinating clauses and demonstrative determiners, appear to be more closely associated with language (Spanish versus translationese) than text function.

Figure 4.2

Mean factor scores for Factor 2: Informal Interpersonal vs. Impersonal



Interpretation of Factor 3

Factor 3 is presented in Table 4.7. There are 6 positive linguistic features on Factor 3 with a loading greater than 0.40, and an additional 5 with loadings of greater than 0.30. Some of the positive features on this factor point once again to a verbal,

Table 4.7
Group Persuasion vs. Formal Direct Persuasion

FACTOR 3	
Linguistic feature	Load
Total progressive forms	.55
Present progressive	.53
Preterite	.51
3rd person verb conjugations	.49
1st person plural conjugations	.43
Simple present tense	.42
Relative clauses	.37
Predicative adjectives	.36
1st person plural pronouns	.36
<i>QUE</i> clauses	.34
1st person plural possessives	.30
Total imperatives	-.60
2nd person formal imperatives	-.60
Present participial phrases	-.55
2nd person formal verb conjugations	-.44
Adverbs	-.38
Adverbial clauses	-.36

interactive style: third person verb conjugations, the simple present tense, total progressive forms, and present progressive (it is logical that total progressive forms and the present progressive should be highly correlated, given that no past progressive forms and only a few instances of future progressive forms were found in the entire corpus). Progressive forms are used in both text types to describe the current circumstances of the

reader, and thus serve to identify with her/him, as in the following examples from both corpora:

Una relación formal es señal de que no sólo la **está haciendo** [present progressive] nada más por hacerlo, sino porque se cuida y a la vez le cuida.
(A formal relationship is a sign that (she/he) is not only doing it to do it, but because she/he takes care of herself/himself and at the same time she/he takes care of you.)

De este modo **estarás cumpliendo** [future progressive] mejor con tu responsabilidad de madre o padre.
(In this way you will be better meeting your obligations as a mother or father.)

Si **estamos intentando** [present progressive] bajar de peso, tenemos que evitarlas.
(If we are trying to lose weight, we have to avoid them.)

As further confirmation of the interpersonal focus of these forms, note in the above examples that the author chooses either to address the reader directly using a second person pronoun, or utilizes a first person plural form. The latter show a positive loading on this factor, along with first person plural pronouns and possessives. The first person plural forms corresponding to *nosotros* establish direct communication between writer and reader, while lending a greater feel of solidarity and collective identity than either *tú* or *usted*. This enhances the reliability of content, as it is viewed from a group perspective (see comments in speech act analysis on collectivist societies and appeal to group identity). The *nosotros* forms can also be used to avoid directly addressing the reader, making the writer seem less authoritarian. *Nosotros* verb forms are extremely rare in the T-texts (5 instances) while they are fairly common in the N-texts (47 instances). This represents a ratio of 6 to 1 after normalizing the word count, which serves to explain the higher factor score of the N-texts on this factor.

The other positive features on this factor include predicative adjectives, which are used to portray the author's stance (Kessapidu, 1997), and relative clauses and QUE clauses, which, as mentioned previously, are not uncommon in interactional communication. These three features contribute to the overall interpersonal function of Factor 3.

The positive feature that is the most difficult to interpret is the preterite, which has a high loading of 0.51. It would seem that the preterite would load onto the negative end of this particular factor, which shows positive high figures on simple present and progressive verb forms. The high loading may be due to the idiosyncrasies of this particular corpus, and future analyses with a larger number of health brochures will reveal whether there is an actual correlation between these forms in the health brochure. The frequency of preterite forms in both texts is similar, with a mean of approximately 1.5 instances per text for both text types. It is used principally to refer to past health-related behavior and to the medical history of the reader (often in conjunction with the present perfect):

Si has tenido relaciones sexuales con alguien que **recibió** [preterite] una transfusión antes de 1985...

(If you have had sexual relations with someone who received a blood transfusion before 1985...)

¿**Tuvo** [preterite] usted varicela como niño?

Did you have chickenpox as a child?

Factor 3 has 4 linguistics features with negative loadings of greater than |0.40| and 2 with loadings of greater than |0.30|. Imperatives and second person formal imperatives carry the highest weight. Previously I mentioned that the frequency of total imperatives is

higher in the T-text corpus: there are 117 instances in the T-texts corpus, of which 85 are *usted* commands (second person formal). The N-texts contain 64 command forms, with 29 being *usted* commands. After normalizing word count, there is a 2 to 1 ratio of T-text total imperative forms to N-text total imperative forms, and a 3 to 1 ratio for *usted* commands.

Again, *usted*, or second person formal, forms signal respect and social distance, and indicate the active participation of a specific author and reader. Imperative forms are used to demand, not suggest, action from the reader, and they index authority. The T-texts have a greater tendency to demand, through the imperative, that certain action be taken, as was already illustrated in the speech act analysis.

The examples under the interpretation of Factor 2 show that the N-texts also use command forms to demand action. However, there is a greater frequency of infinitive forms and *nosotros* forms implemented for a softer, less authoritarian style.

The participial phrases, adverbs and adverbial clauses, which also have negative weights on this factor, modify the imperative verbs forms, as in the following examples:

Quite el condón, **cuidando** [participial phrase] de no tocar...
(Take off the condom, being careful not to touch...)

Sígale estrictamente, **recordando** [participial phrase] las indicaciones para reducir la cantidad de alcohol.
(Adhere to it strictly, remembering the instructions to reduce the amount of alcohol.)

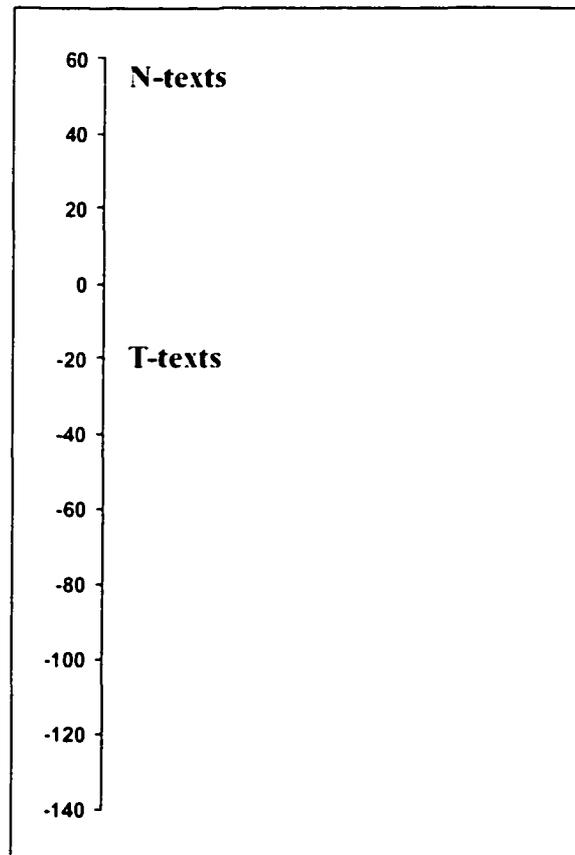
Baje **de** [adverbial] peso.
(Lose weight.)

Consulte **con** [adverbial] su médico
(Consult with your doctor.)

Factor 3 represents linguistic features which serve an underlying interpersonal function of persuading through the establishment of group identity versus an underlying interpersonal function of persuading through directness. I define this dimension as *Group Persuasion vs. Formal Direct Persuasion*.

Figure 4.3

Mean factor scores for Factor 3: Group Persuasion vs. Formal Direct Persuasion



As Figure 4.3 shows, the N-texts have a positive factor score on this dimension, while the T-texts have a negative score (N-text score = 56; T-text score =

-20). As demonstrated in the discussion of the first three factors, both text types are at the same time persuasive and informational. They achieve these functions in different ways, however. Factor 3 shows that the N-texts tend to use fewer direct persuasive strategies, and to appeal more often to group identity. The T-texts, on the other hand, tend to greater directness, and to presuppose authority on the part of the author in their persuasive strategies.

Overview of Multifeature-Multidimensional Analysis

The factor analysis of the health brochure corpus has proven to be an extremely useful tool for unveiling characteristics of the health brochure and of the two text types. The relationships between the variables are quite complex due to the dual role of this register. Results suggest that regardless of text type, the health brochure has a strong informational focus combined with interactional, persuasive strategies. Both text types are more informational than persuasive, as shown by factor scores on Factor 1. That is, of the dual functions of informing and persuading, informing takes priority. Note, again, however, that the N-texts implement the *SE* passive, a feature often associated with informational purposes, also as a means of persuading. Such cross-linguistic differences call for further exploration.

Factor scores also demonstrate important differences between the N-texts and T-texts. Scores on Factor 1 show that the N-texts have a greater informational focus than the T-texts, meaning that they contain more features used for packing large amounts of information. Factors 2 and 3 indicate that the N-texts are characterized by more informal

direct persuasive strategies than the T-texts, and often assume a more collective perspective of health, demonstrated through reference to group identity. The T-texts, on the other hand, are much more likely to use formal direct persuasive strategies.

The texts also show differences related to more general characteristics of Spanish and English-Spanish translationese. The N-texts show higher frequencies of coordinators, coordinating clauses, commas, coordinators-as-commas, and have longer sentences and greater lexical density (type-token ratio). The T-texts contain more explicit pronouns, and demonstrative determiners.

It is clear that further research is necessary that takes a detailed look at the different organizational macrostructures, or sections, of the N-texts and T-texts, to determine the correlations of linguistic features within those structures. Breaking the corpus down into organizational structures would provide for a clearer picture of the distribution of features between the two text types, and aid in the interpretation of the relationships between these very complex variables.

As Biber (1985, p. 342) points out, multifeature-multidimensional investigations must be considered exploratory, especially until sufficient analyses have been conducted in a particular domain. In future research, factor analyses on this register may extract a greater number of factors, and allow for the inclusion of more linguistic features in their interpretation. Also, this type of analysis tells only part of the story. As an example, reflexive verbs in this analysis did not load on to any factor. However, a review of the concordances of reflexive forms in the N-texts and T-texts reveal very different uses for this verb form. In the N-texts, every instance of the reflexive is in the infinitive form, and

is of the type mentioned previously referring to recommended action (e.g. cuidarse [take care of oneself], contagiarse [get infected]). In the T-texts, the reflexive occurs in a greater variety of tenses and is mainly used to refer to disease processes: (e.g. the verbs desarrollarse [develop] and acumularse [accumulate]). Thus, use of the reflexive also demonstrates a difference in directness and indirectness between the two text types. The example of the reflexive is provided here simply to demonstrate the complexity of the variables in this analysis, and the exploratory nature of the results.

Genre Analysis-Results

It is at the macro-organizational level that the two text types are most similar to each other. Through a cross-comparison of the two subcorpora I noted that the majority of the texts are organized according to a superstructural schema, consisting of the following macropropositions: (1) PROBLEM, (2) IDENTIFICATION OF PROBLEM, (3) SOLUTION.

I also identified 11 discriminative elements, or moves for this particular genre, which are subservient to the overall superstructure. Table 4.8 shows that the macroproposition PROBLEM involves four moves.

Move 1 identifies the disease to be discussed; Move 2 details the cause of the disease (bacteria, virus, genetic disorder, etc.); Move 3 describes the transmission mechanisms (how the disease is spread or develops); and Move 4 explains the risk factors for developing the disease.

IDENTIFICATION OF PROBLEM is made up of two moves: Move 5 describes disease signs and symptoms, and Move 6 explains how the disease is diagnosed, including test results.

Table 4.8
Superstructural Organization of the Health Brochure

PROBLEM	
Move 1:	Disease Topic
Move 2:	Cause
Move 3:	Transmission mechanisms
Move 4:	Risk Factors
IDENTIFICATION OF PROBLEM	
Move 5:	Symptoms of disease
Move 6:	Diagnosis
SOLUTION	
Move 7:	Repetition of Risk Factors
Move 8:	Prevention and Control
Move 9:	Treatment
Move 10:	Moraleja
Move 11:	Obtaining Further Information

The macroproposition SOLUTION repeats the risk factors in Move 7 (not present in all brochures), given that they are related to Prevention and Control (Move 8). The latter move explains how to prevent disease (protect yourself and others), and Move 9

describes available treatments. Move 10 provides a brief exhortation, described further below. Move 11 invites the reader to inquire further about the disease.

The top-down organizational structure serves a persuasive function: the problem (in this particular genre, the problem is a disease) is presented first to establish urgency and need for immediate action. Then come particular signs of the problem, including symptoms and test results. This relates the problem to the reader, increasing the sense of urgency and pressure to respond to the problem. At this point, a solution is provided, whether it be prevention measures or treatment. Two other moves are included: the first is what I identify as the "moraleja" or moral, which constitutes an exclamation, expression or saying exhorting the reader to do something. The last move constitutes a reference to a health institution or other entity to obtain more information, including address and/or telephone number.

Similarities and differences in the macrostructures of the N-texts and T-texts are discussed in the next section.

Genre Analysis-Discussion

Both the N-texts and T-texts show a fairly strict adherence to the overall superstructure defined above. Very little manipulation of the moves is seen. In both texts it is common to see a "fusion" of Topic, Cause, and Transmission Mechanisms. Not all texts repeat the risk factors under SOLUTION. Both text types use illustrations as a strategy to more effectively relay information to the reader.

In the majority of cases, moves are marked by headings in question form. In this respect, the texts show very little difference. Most heading questions are impersonal, expressed in the simple present, often in passive voice:

¿Qué es la diabetes?
(What is diabetes?)

¿Cómo se controla?
(How can it be controlled?)

As regards the few existing personal questions used as headings, a difference exists between the two text types that could easily be predicted upon consideration of the results of the previous speech act and multifeature-multidimensional analyses: the N-text headings contain references to first person and second person informal forms, as in the following examples:

¿Cómo **puedo** [first person singular conjugation] hacer para convencer a mi pareja de que use el condón?
(What can I do to convince my partner to use a condom?)

¿Y cómo nos **podemos** [1st person plural conjugation] contagiar?
(And how can we get infected?)

¿Qué **puedes** [second person informal conjugation] hacer para perder peso?
(What can you do to lose weight?)

The T-text questions, on the other hand, address the reader-as-*ud*:

¿**Puede** [second person formal conjugation] usted saber cuándo está alta su presión?
(Can you know it when you have high blood pressure?)

Although the two text types are very similar at the macro-level, there are some differences worth noting. First, there is a difference in text density, as defined by sentence length and the way the texts appear in layout. In the N-texts, a whole move often

consists of only one sentence. The higher density of the moves is confirmed by the higher type-token ratio of the N-text subcorpora (15 types per 100 tokens compared to 13 types per 100 tokens in the T-texts).

Table 4.9
Examples of Move 8: Prevention and Control

N-text	T-text
<p>¿Cómo se puede evitar el contagio?</p> <p>1) No teniendo relaciones sexuales (abstinencia), teniendo relaciones sexuales con una sola pareja que no esté infectada y que a su vez sólo tenga relaciones sexuales contigo (fidelidad mutua), evitando el intercambio de fluidos corporales mediante prácticas de sexo sin penetración (sexo seguro), o usar una barrera que impida ese intercambio, como lo es el condón de látex, el cual, empleado regular y correctamente, evita el contagio. 2) Sólo utilizando en las transfusiones sangre o componentes que hayan sido previamente analizados y libres de virus. 3) También el VIH se puede transmitir de una madre infectada a su hijo, ya sea durante el embarazo, el parto, o bien durante la lactancia, por medio de la leche.</p>	<p>¿Cómo se previene el SIDA?</p> <ul style="list-style-type: none"> • Use un condón cada vez que tenga relaciones sexuales. • No comparta agujas o jeringas al inyectarse drogas. • Una mujer infectada que está embarazada puede infectar a su bebé. • Las transfusiones después del 1985 no son peligrosas.

The T-texts, on the other hand, utilize shorter, choppy sentences, and are characterized by frequent use of bulleted lists of symptoms and risk factors. Often a move will consist of nothing more than a list of this type. The T-text subcorpus contains a total of 47 lists, compared to only 15 in the N-texts. This contributes to a layout in which the text appears

less dense and more spread out on the page. The passages in Table 4.9 illustrate these differences.

One other interesting distinction between the two text types involves the content of the "Moraleja." In this move the T-texts generally exhort the reader to remember certain key concepts from the brochure, or to follow its advice:

¡Siga el plan del tratamiento y vencerá a la TB!
(Follow the treatment plan and you will overcome TB!)

¡Hágalo hoy por su salud y su familia!
(Do it today for your health and your family!)

The Moraleja move in the N-texts is usually a popular saying or expression, or a line written in a similar style:

Poco a poco se anda lejos.
(Little by little one walks far.)

Al año de edad, con todas las vacunas contar.
(At age one, vaccines are a must.)

Será lo que tu mente pueda concebir, lo que tu esfuerzo pueda conquistar.
(What your mind can imagine your efforts can realize.)

Cuando no se puede respirar nada más importa.
(When one can't breathe nothing else matters.)

In sum, the superstructure of the health brochure, and the 11 subservient moves, contribute to the persuasive character of the health brochure, and this character is enhanced by the semantic and linguistic correlations of the microfeatures discussed in detail in the previous analyses.

The very similar superstructural organization of the two text types may be indicative of a certain amount of influence of the U.S. health brochure on the same genre

in Mexico. It would be very interesting to conduct a contrastive study of the history of the health brochures in both countries.

Part II: Field Testing of Texts

Participant Background Information

Self-Reported Prior Knowledge about Disease

On the background information form, subjects were asked about their familiarity with the four disease topics (AIDS, TB, diabetes, and high blood pressure). Thirty-four, or 63% reported that they had read about, taken classes, or otherwise were familiar with the topic of AIDS, thirty-seven, or 69% indicated a familiarity with diabetes (twenty-two, or 41% of subjects reported that they have diabetes or have a family member with the disease), seventeen, or 31% claimed knowledge about tuberculosis, and thirty-one, or 57% about high blood pressure.

Health Information Sources and Preferences

Tables 4.10 and 4.11 show responses to questions concerning where informants obtain health information. Of those reporting prior knowledge about disease, brochures were mentioned as the most common source of information, followed by magazines, books, and "other" (including word-of-mouth from friends and family, consultations with health professionals, health classes at school and clinics, and television). When asked where they normally obtain information related to health and disease prevention, subjects

reported television as the most common source, followed by brochures, magazines, health professionals, books, radio, and family and friends.

Table 4.10
Sources of Health Information
(For Informants Reporting Prior Knowledge)

Source	Number of Informants
Brochures	29
Magazines	17
Books	14
Other	14

Table 4.11
Sources of General Health Information
(As Reported by Informants)

Source	Number of Informants
Television	35
Brochures	29
Magazines	19
Health professionals	19
Books	15
Radio	14
Family and friends	10

As shown in Table 4.12, the subjects in this study indicated that they would prefer to refer to books as sources of health information, followed by television, brochures, magazines, radio, and health professionals (some subjects indicated more than one preference).

Table 4.12
Health Source Preferences of Informants

Source	Number of Informants
Books	32
Television	23
Brochures	21
Magazines	17
Radio	9
Health Professional	1

Pretest/Posttest Protocol Results

Knowledge

Statistical analyses of the first section (knowledge) of the pretest/posttest protocol were conducted using SPSS.

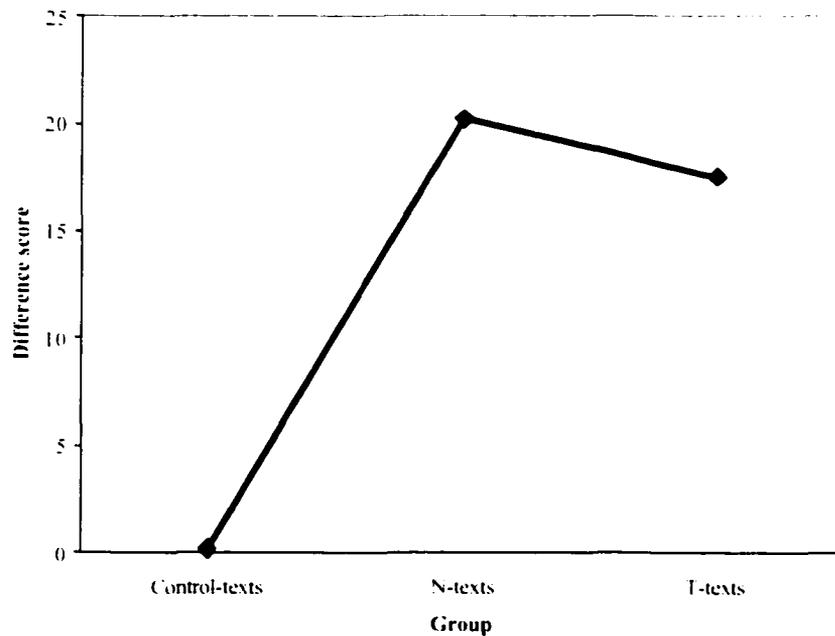
A one-way analysis of covariance (ANCOVA) was conducted to determine whether there were significant mean differences among the three text-type groups (control texts, T-texts, and N-texts) in terms of post-test scores. The

variable PRETEST SCORE was used as a covariate to ensure that all of the text groups were equated during the ANCOVA. Significant group differences were found.

$F(2,50)=9.80$, $p<.0005$. Post hoc tests revealed that the mean scores for both the N-text group and the T-text group were significantly higher than the mean score for the control group. In other words, both N-texts and T-texts positively impacted knowledge in subjects. Although the mean scores for the N-text group were generally higher than the mean scores for the T-text group overall (see Figure 4.4), the post hoc results did not indicate that these mean score differences between the N-text and T-text groups were significant.

Figure 4.4

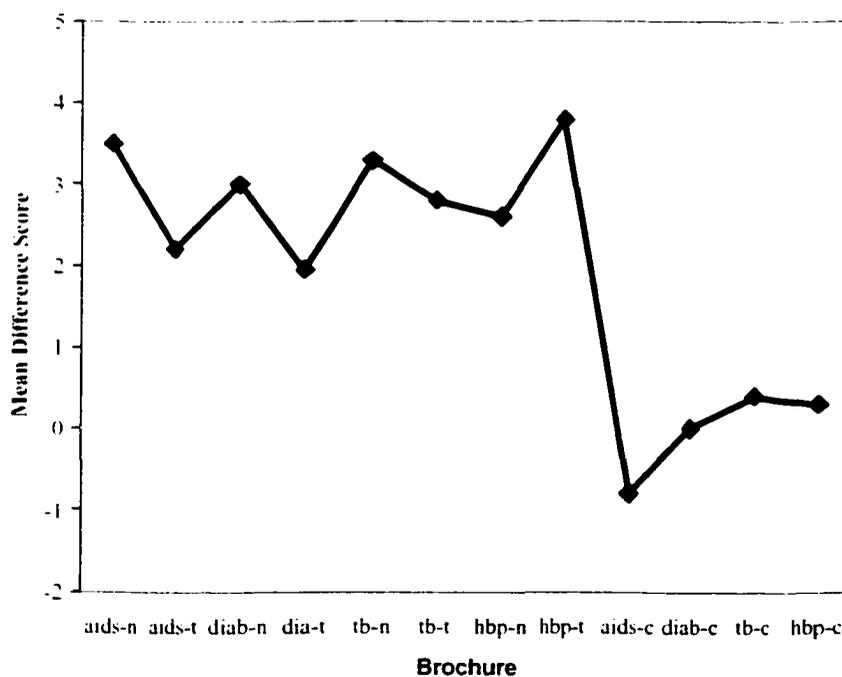
Pretest-Posttest Mean Difference Score (%) by Group



Participants scored higher on posttests, and, as shown in Figure 4.5, showed greater change between pretest and posttest scores after reading N-texts on AIDS, diabetes, and TB. However, Figure 4.5 also shows that, in the case of the texts on high blood pressure, those reading the T-texts showed greater improvement in scores between pretest and posttest, and higher posttest scores (see discussion of high blood pressure brochures below). No ANCOVAs were done with the individual subject areas (AIDS, TB, diabetes, and high blood pressure) because the sample sizes were too small.

Figure 4.5

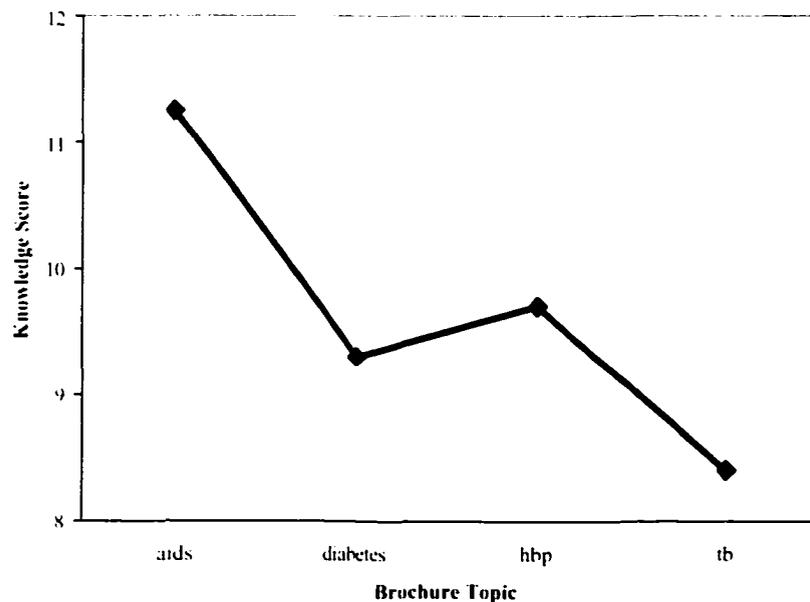
Pretest-Posttest Mean Difference Score by Brochure



Positive correlations (Pearson's r) were found to exist between pretest knowledge score and posttest knowledge score ($r = .537$, $p < .01$), and between pretest knowledge score and pretest-posttest difference score (how much the test score changed between pre and post) ($r = .444$, $p < .01$). Positive correlations between pretest and posttest knowledge scores were also found to exist within groups: as Figure 4.4-4.5 show, the pre and posttest scores for the control group did not show much change: 85% of the variance in scores in pre and post tests was shared for this group, as would be expected. However, for the N-text group, 34% of the variance in scores was shared by the group, indicating that it would be more difficult to predict a subject's posttest score from a pretest score in this group. For the T-text group, only 20% of the variance was shared by this group, making

Figure 4.6

Mean Pretest Knowledge Score by Topic



posttest scores even less predictable. These results would appear to signal a possible difference between the N-text and T-text groups, although the small sample size does not allow for generalizations.

Another important point concerning this data is that at pretest, subjects scored highest on the AIDS test knowledge section, as would be expected based on the results of the interviews and recall protocols (discussed below). The lowest pretest knowledge scores were seen on the TB pretest (Figure 4.6).

Attitudes

A correlation was found to exist between knowledge and attitudes overall on pretest scores ($r=.504$, $p<.01$). As was the case for the knowledge scores, the pretest attitude scores for AIDS ($n=13$) were also the highest. In fact, 100% of the informants taking the AIDS pretest knew that it is possible for anyone to take measures to protect herself/himself from AIDS, and that AIDS is a very serious disease. Fewer (69%) believed that there are "safer forms of sex", although this increased to 92% after reading the brochures. 62% indicated that they would not be afraid to hug someone with AIDS, and this increased to 85% after reading.

In the case of diabetes ($n=14$), 67% believed that they could be at risk for diabetes, and this increased to 79% after reading. 71% believed that diabetes does not interfere with how much one is able to enjoy life, and this only increased to 79%, which represents a change in attitude of only one subject. 86% believed that there are many

ways to control diabetes, and this increased to 100% on the posttest (one subject). 50% believed that it is very difficult for diabetics to lead normal lives, and the brochures actually seemed to have reinforced this belief, as only one subject changed the answer. The problem may lie in the wording of the item (how does one define "normal"?). 93% felt that doctors can do a lot to treat and help diabetics (at pre and post).

As for high blood pressure (n=12), the brochures seemed to have had a definite impact on attitudes. 67% felt that it was a serious condition at pretest, as compared to 100% at posttest. 33% believed that they could possibly get high blood pressure someday, whereas at posttest, 92% believed that they could be at risk. At pretest, 83% believed that there are many steps that people with high blood pressure can take to control their condition and stay healthy, and 100% were convinced of this after reading. 67% believed that high blood pressure can be prevented, and isn't simply "bad luck", whereas 100% felt this to be true at posttest. In addition, 75% believed that doctors can do a lot to treat high blood pressure, and this increased to 100% on posttest.

The attitudes of the tuberculosis group (n=15) did not seem to be influenced positively by the reading of the brochures. 53% believed that they could get TB by spending time with a person with the disease, and this only increased to 67% at posttest. Subjects did show an overall change in the belief that they should be concerned about TB, increasing from 53% at pretest to 87% at posttest. As for the last three items on the attitude section, the brochures actually produced the opposite effect of that intended. Interestingly, 80% believed that TB sufferers can survive, and this decreased to 67% on the posttest. A similar pattern was seen in the case of the belief that TB sufferers are able

to spend time with friends and family: the belief was held by 47% at pretest and by 40% at posttest. A decrease was also seen in that at pretest 87% felt that doctors would be able to help them if they had TB, and at posttest only 80% believed this.

As was the case for the mean difference in pre/post knowledge scores, the mean difference in pretest-posttest attitude scores of the subjects reading the N-texts was higher overall. However, due to the number of items in the attitude sections, no ANCOVAs were conducted. No correlation was found to exist between group and attitude difference score.

Pretest Posttest Protocol Discussion

The pretest-posttest results presented above show some interesting patterns that point to the potential impact of brochures on knowledge and attitude in readers, certainly justifying similar quantitative field testing of health brochures on a larger scale. Although statistical analyses did not demonstrate significant mean differences between the N-texts and T-texts, there was an overall pattern of higher scores on the posttests and on pretest-to-posttest difference scores among subjects who read the N-texts for AIDS, diabetes, and tuberculosis. The across-the-board tendency for these three topics, especially when considered in combination with the results of the recall and interview data discussed below, warrants further investigation with a greater number of subjects.

The texts on high blood pressure were an exception to the pattern: the T-text of the pair had a slightly greater impact on knowledge, according to the posttest and pretest-to-posttest difference scores. Unfortunately, it is impossible to speculate as to why this

might be so, given that both high blood pressure brochures presented difficulties during testing sessions. First, the average time taken to read the texts was longer than had been anticipated from the results of the pilot study in Sunland Park, appearing to produce fatigue in some readers. Secondly, the term *hipertensión* (hypertension) turned out to be problematic: one subject expressed doubt about the meaning of the term after his testing session was over (his scores were not included in the analyses). The other informants were confused about the term on the pretest. This occurred even after I had explained that it was another term for more popular expressions, such as *presión alta* during our discussions of the background information forms. *Hipertensión* appears throughout the N-text, and constitutes the title of that brochure. The T-text also clearly defines the term. Nevertheless, the word proved to be a major stumbling block for readers during testing, although I did not run into this problem during the pilot study. This demonstrates how crucial it is to test materials before using them with the target populations who will be reading them, with as many people as possible. Focus groups would be an excellent method for determining appropriateness of terminology.

The positive correlation between pretest knowledge score and posttest knowledge score is not surprising: subjects who scored higher on the pretest would be expected to score higher on the posttest, given that higher scores indicate greater pretest knowledge (albeit "passive" knowledge, since subjects indicated a lack of knowledge about AIDS on background information forms). Text reading may have triggered recall of stored information. There exist several possible explanations for the positive correlation between pretest knowledge score and pretest-posttest difference score. It could indicate

that subjects differed in their experience and familiarity with this type of test, meaning that the test format was not the most appropriate for this population: the recall protocol and interviews described below uncovered much more useful and relevant information regarding text impact and readers' attitudes and expectations. However, these approaches require much more time and are difficult to conduct with large numbers of subjects.

Another possible explanation for the positive correlation between pretest knowledge score and pretest-posttest difference score is that subjects may have differed in the amount they actually knew about these diseases. I had to depend on self-report when asking subjects about previous knowledge, which is not always reliable (Shumaker, Schorn & Ockene, 1990). Results show, for example, that pretest scores for AIDS were very high: 46% of informants scored between 12 and 15 (out of 15) on the AIDS pretest, and 77% scored 10 and above. These scores indicate that subjects were unaware of how much they actually knew prior to reading. As they went through the process of taking the tests and reading the brochure, those with previous AIDS knowledge were probably able to recall prior knowledge (priming effect), and scaffolding was facilitated. The AIDS knowledge base of this particular group was surprising, considering that Latinos show a higher incidence of this disease. Of course, knowledge is not the only factor affecting behavior and lifestyle changes. But it is encouraging to see that efforts to disseminate information, especially through television programs (see reading preferences above) are effective, at least in the sense of stimulating awareness. In future studies I plan to select texts on diseases and risk factors that have been more neglected in the media and public health, including tuberculosis (pretest scores were lowest for this topic), cholera and other

infectious diseases, CVD risk factors (including cholesterol and high blood pressure), tobacco, and alcohol. These topics will reduce confounding factors, such as prior knowledge, and will allow for a more direct evaluation of text impact on the reader.

Results also show that positive correlations between pretest and posttest knowledge scores were found to exist within groups. As was expected, the control group scores showed little change: those who scored high at pretest scored high at posttest and those who scored low at pretest scored low at posttest. Variance in scores for the two experimental groups showed that there was greater variability within the T-text group: it would be more difficult to predict posttest scores from pretest scores for the T-text group than for the N-text group. This indicates an inherent difference in the impact of these two text types, which could be related to the linguistic features discussed previously. Variance in scores within groups would be a crucial factor to consider in future studies with a larger sample size.

As discussed in Chapter 2, Part II, studies show that there is a positive correlation between knowledge and attitudes. The results of this study are consistent with those findings : higher knowledge scores predicted higher attitude scores, and changes in knowledge scores predicted changes in attitude scores. The pretest scores on attitude followed the pattern of the knowledge scores for all topics: for example, at pretest, subjects showed a greater amount of awareness of personal vulnerability, severity of illness, and prevention effectiveness for AIDS than for the other three topics. They scored lowest on attitude for tuberculosis. Impact on attitudes (as measured by posttests) also varied by topic: the brochures on high blood pressure had a very positive impact on

attitude, especially as regards personal vulnerability. The tuberculosis brochures, on the other hand, actually seemed to have the opposite effect. Perhaps the tuberculosis brochures instilled greater fear in the readers, resulting in a negative attitude, despite changes in knowledge. As will be discussed in the sections on recall and interview, fear strategies may in some cases have a negative effect on the reader, preventing recall, and producing feelings of helplessness.

Pretest-posttest mean difference in attitude scores was higher for the N-text group, which is not surprising, since there was a correlation between knowledge and attitude. Again, although the difference was not significant, this general tendency would be worth investigating in a study involving more subjects. In addition, it would be useful to include more items in the attitude section.

It is also important to note that measuring attitude is tricky business. The informants frequently asked for clarification of the instructions for the attitude section of the tests. The very notion of pronouncing one's attitude or feeling about something as "true" or "false", or of choosing a level of disagreement or agreement with a given statement, as in the case of Likert scales, can affect the face validity of a test, especially when testing a group of informants who are not familiar with testing formats of this type.

This experimental segment of the study constituted a pilot study from which to launch future research. The results of the present analysis, especially when considered in light of the results obtained through the recall and interviews (below), are encouraging for this approach, although some important changes would need to be made in research design. First, the study should be extended to include more subjects per topic. The

principle behind including four topics is to demonstrate the effect of text type (N-text or T-text) on the reader, regardless of topic. However, the current study only allowed for 4 or 5 subjects per subgroup, obviously affecting statistical power. Second, test-retest reliability would need to be conducted on the testing instruments, especially to determine whether this type of test constitutes a valid construct to be used with Spanish-speaking populations of Mexican origin. Also, additional attitude items would need to be included on the test. Third, to reduce the amount of prior knowledge informants bring to testing sessions, more "obscure" topics should be selected, as mentioned previously.

Table 4.13

*Total Number of Idea Units per Category
Recalled by Informants (n=14)*

Category	Idea Units (Total=114)	%
Cause of Disease	8	7%
Disease Transmission Mechanisms and Risk Factors	46	40%
Symptoms and Diagnosis	25	22%
Prevention, Control, and Treatment	35	31%

Recall Protocol Results

The 14 informants orally recalled a total of 114 categorized idea units (these do not include those listed under "Other" and "Inferences"). Out of these, 7% were from the category of Cause of Disease, 40% from Disease Transmission Mechanisms and Risk Factors, 22% from Symptoms and Diagnosis, and 31% from Prevention, Control and Treatment (see Table 4.13). As shown in Table 4.14, the difference in average percentage recall score for each type of text was small: 28% for the N-texts and 27% for the T-texts. 59 of the 114 idea units, or 52%, were recalled by the N-text group, and 55 of the 114 idea units, or 48%, were recalled by the T-text group. This data would leave us to believe that there was no real difference in impact on recall between the two text types. However, some important differences are revealed by taking a closer look at recalled items from the different categories.

Table 4.14
Recall Results: N-texts vs. T-texts

N-texts (n=7)	T-texts (n=7)
<u>Number of idea units recalled (Total=114)</u>	
59	55
<u>Average percentage recall score</u>	
28%	27%

Table 4.15 reveals the number of idea units recalled from each category overall (n=14), according to text. Tables 4.15 and 4.16 summarize the data presented in each of

the following four sections. (Refer to Table 3.3 in Chapter 3 for total idea units in each category listed on the scoring sheets).

Table 4.15
Number of Idea Units from Each Category Recalled per Text

<u>Category</u>	<u>Text</u>					
	<u>AIDS</u>		<u>Diabetes</u>		<u>TB</u>	
	<u>AIDS-N</u> (n=3)	<u>AIDS-T</u> (n=3)	<u>Diabetes-N</u> (n=2)	<u>Diabetes-T</u> (n=2)	<u>TB-N</u> (n=2)	<u>TB-T</u> (n=2)
Cause of Disease	0	1	4	2	0	1
Disease Transmission Mechanisms and Risk Factors	20	15	3	0	0	8
Symptoms and Diagnosis	1	6	7	7	0	4
Prevention, Control, and Treatment	6	6	8	3	10	2

Cause

Subjects scored lowest on Cause of Disease for all three topics, regardless of text type, with only six recalling idea units from this category: One subject recalled that TB is caused by a germ (T-text), another mentioned that AIDS is caused by "VIH", although she did not mention that it was a virus (T-text), another recalled that the pancreas has some connection to diabetes, although he was unable to elaborate on that connection (T-text), and three mentioned that diabetes is hereditary (2 reading the N-texts, and 1 reading

Table 4.16
Percentage of Idea Units Recalled from
Each Category according to Text Type

<u>Category</u>	<u>Percentage of total items recalled</u>	
	<u>N-texts</u>	<u>T-texts</u>
Cause of Disease	7%	7%
Disease Transmission Mechanisms and Risk Factors	39%	42%
Symptoms and Diagnosis	14%	31%
Prevention, Control, and Treatment	41%	20%

the T-texts). One of these subjects also recalled the fact that diabetes can involve a shortage of insulin resulting in high levels of sugar (2 idea units from the N-text). The percentage of total items recalled from this category for the N-texts was 7%. The same was true for the T-texts.

Disease Transmission Mechanisms and Risk Factors

In the category of Disease Transmission Mechanisms and Risk Factors, zero idea units were recalled by the two informants on the TB N-text. In the case of the TB-T text, both informants recalled four out of the five idea units related to the transmission of that

disease. Subjects recalled zero idea units on the diabetes T-text, and 1 out of 3 and 2 out of 3 respectively on the diabetes N-text. Most of the recalled material for the AIDS texts were from this category, with subjects scoring 9, 4, and 7 out of 13, respectively (74% of recalled material) for the N-texts and 4, 6, and 5 out of 13 (54% of recalled material) for the T-texts.

The percentage of total items recalled from this category for the N-texts was 39%. The percentage for the T-texts was 42%.

Symptoms and Diagnosis

Under the category of Symptoms and Diagnosis, no idea units were recalled for the TB-N text, and informants scored 1 out of 7 and 3 out of 7 respectively on the TB-T text. Informants scored equally well on both the N-text and the T-text for diabetes (informants scored 3 out of 8 and 4 out of 8 respectively for the N-text, and 3 out of 8 and 4 out of 8 respectively for the T-text). Very few of the symptoms of AIDS were recalled by informants, with only 1 being recalled by the N-text informants, and two each by the T-text informants.

The percentage of total items recalled from this category for the N-texts was 14%. For the T-texts, the percentage was 31%.

Prevention, Control, and Treatment

In the category of Prevention, Control, and Treatment, informants recalled more idea units from the N-text than from the T-text for TB (six out of eight and four out of

eight for the N-text versus zero out of eight and two out of eight for the T-text). The same was true for the diabetes texts: both N-text informants scored four out of seven, while the T-text informants scored three out of seven and zero out of seven, respectively. All six informants for AIDS scored two out of three in this category.

The percentage of total items recalled from this category was 41% for the N-texts, and 20% for the T-texts.

Recall-Discussion

A close look at results reveal ways in which particular features of the texts and text type impacted the reader.

Cause

It was surprising that recall scores in the Cause category were so low across topics considering that there were more idea units overall in this category than any other (Table 3.3). In fact, as Table 3.3 shows, nearly half of the material from the diabetes brochures is dedicated to describing the cause, development, and progress of this disease. The low scores cannot be explained by the organization of the material in the brochures (i.e. the cause is described first and so is more easily forgotten at time of recall) given that in all six brochures information related to cause is embedded throughout the text. And yet it is clear that this category of information is for some reason less salient, and less accessible to the reader. Possible explanations for the low scores deal with 1) vocabulary, 2) foregrounding of information, and 3) the way the reader perceives her/his role in society.

1) Vocabulary: The vocabulary used to describe disease cause and progression may not be part of the daily, working vocabulary of the reader. Terms such as *crónica*, *páncreas*, *hormona*, *virus*, *bacteria*, *pulmones*, though perhaps familiar (e.g. they might be recognized by readers on a word recognition task), may not necessarily be understood in the context of the brochure. As mentioned in the literature review, Appel and Lantolf (1994) contend that readers can be expected to recall only what they have understood. Descriptions of how the virus, HIV, effects the immune system, the TB bacteria infects the lungs, or a drop in insulin production causes diabetes may involve vocabulary that is unfamiliar, leading to poor recall.

However, it should be noted that one of the most interesting, yet paradoxical, revelations brought about by conducting this exercise with informants was that recall of an idea unit did not always indicate an understanding of it. (This would actually appear to be contrary to Appel and Lantolf's assertions). For example, one informant recalled that the pancreas is involved in the development of diabetes (this counted as one idea unit). He knew how to pronounce the word *páncreas* without looking at the written word, and, upon my probing, indicated that he knew it was one of the body's organs. But his knowledge and understanding stopped there: he did not seem to have a clear idea of its role in the body and certainly not of its role in the development of diabetes. This is a useful example of how recall of idea units is not necessarily indicative of a clear understanding of a text. The importance of overall cohesion and coherence as an indication of text comprehension in recall is discussed further below.

2) **Foregrounding:** Another important factor to note is that the information in health brochures related to risk factors, transmission, and prevention tends to be foregrounded through the use of strategies for establishing fear and/or solidarity, as well as instilling a sense of urgency (see previous text analyses). Generally, descriptions of the cause of disease involve a more neutral, technical register. The information may therefore be less salient to the reader, which could also contribute to low recall.

3) **Reader's perceived role:** The reader's perceived role concerning the control and monitoring of her/his own health may also bear on what and what is not recalled. Readers may be less likely to recall more technical information, such as the cause of disease, because they may perceive such details as being outside their own realm of responsibility and within that of health professionals. It is possible that their reading involves scanning and searching for materials that they consider a priority, for example, information that can help them answer such questions as "what are the symptoms?" and "how can I protect myself?"

The low scores on recall in this category point to a void or gap in the general knowledge base of this population.

Disease Transmission Mechanisms and Risk Factors

Subjects recalled more idea units from this category than from any other, overall. This is not surprising, given the strong connection between disease transmission mechanisms and prevention for AIDS and TB. The T-text informants recalled slightly

more overall. However, individual impact varied according to text type and topic, as seen in the results.

Recall scores indicate that the TB T-text had a greater impact on knowledge about disease transmission mechanisms than did the TB N-text (as mentioned in the results, neither of the informants on the TB N-text recalled idea units from this category). Close scrutiny of the two texts indicates why this might be. Both texts describe coughing as one of the main transmission mechanisms for tuberculosis. The T-text includes the possible transmission mechanisms, including coughing, in a bulleted list subtitled "Se pasan asi" ("The germs are passed from one person to another by...") on the second page of the brochure. In addition, coughing is mentioned twice (persistent cough, coughing with blood) in a subtitled, bulleted list of symptoms on the first page. Coughing is the only transmission mechanism mentioned in the TB N-text (and is therefore the only one included on the score sheet), and is mentioned twice. However, it is not foregrounded through the use of subtitles or lists, but appears two times embedded in other information. Both texts include images of people coughing. It appears that the subtitled, bulleted lists in the T-texts were effective in making salient this transmission mechanism as well as others (the two informants each mentioned some of the other listed transmission mechanisms in their recalls). However, this does not explain why the N-text respondents did not mention the very important idea of coughing as a transmission mechanism in TB. One possible explanation is that the symptom of coughing was "overshadowed" by the extremely serious consequences of untreated TB described at the beginning of the N-text. These include sterility, mental retardation, deformed bones, and respiratory failure, all

supported by illustrations. In fact, both N-text informants emphasized the gravity of TB during the recall task, stating several times that it was extremely dangerous, and each referred to the horrible consequences of the untreated disease. Further research may show that fear strategies are not an effective means of impacting behavioral change in Mexican, Spanish-speaking populations. It is possible that such an "overshadowing" effect of negative information may prevent the reader from focusing on more relevant information.

The diabetes T-text was less effective in impacting recall in this category. This may be due to the fact that the text contains no clear headings, even though it is divided into separate sections with illustrations. A noticeable difference between the two text types in the category of risk factors is vocabulary. To provide an example, one important characteristic of diabetes is that it is often hereditary. Therefore, a person with family members with the disease may be at increased risk. The common term *hereditario* is not used in the translation (T-text), but the term *gen* (gene) is. It is possible that the writers of the English original rejected the term "hereditary" in English, believing that "gene" was a shorter, simpler term. Perhaps they were concerned with "word and sentence length", as is the trend in health communication today (see discussion in the Chapter 2, Part II). It seems likely that because the N-text uses the more common (high frequency) term *hereditario* that the two informants were able to recall this essential information (the score sheet accepted reference to either "diabetes as hereditary" or as "being in a person's genes" for this idea unit). This is an excellent example of how carry over of supposedly "simple" vocabulary equivalents from English into Spanish may be problematic.

Informants reading the AIDS texts recalled more idea units from the category of AIDS transmission factors and risk factors than from any other category. The three AIDS N-text informants recalled more idea units overall than those reading the T-text. In both the T-text and the N-text there is a section subtitled "¿Cómo se transmite el VIH?" ("How is AIDS transmitted?") followed by a paragraph discussing mechanisms of transmission of the virus. These two paragraphs provide an excellent example of some of the linguistic differences (see analyses in Chapter 4, Part I) that may affect the comprehensibility, and thus the recall, of a text. The N-text contains the long sentences typical of Spanish (average of 21 words per sentence in the N-text versus 14.8 words per sentence in the T-text). In addition, the T-text sentences contain linguistic features that are found in higher frequency in English-to-Spanish translations, as demonstrated by my earlier corpora analyses, including present participial phrases and explicit pronouns. The T-text paragraph is divided up into four bulleted pieces of information, which, in combination with the short sentences, results in much choppier and stilted discourse than the N-text paragraph. (It was noted before that bulleted lists in T-texts seemed to have a positive impact on recall. However, those lists, from the TB T-texts, mainly consisted of isolated words and phrases, and were accompanied by illustrations). It should also be noted that in the AIDS N-text paragraph, the transmission mechanisms are signaled by the sentence "Únicamente de tres formas" ("In three different ways"), and each mechanism is numbered throughout the paragraph. The choppy, stilted language used in the T-text may be, once again, the result of an attempt to meet the needs of readers of low literacy levels in the original English.

Symptoms and Diagnosis

The T-texts proved to be more effective overall in impacting recall on Symptoms and Diagnosis. Persistent cough is one of the principal symptoms of TB, and, as mentioned previously in the discussion of "Disease Transmission Mechanisms and Risk Factors", the TB T-text foregrounds coughing by mentioning it as both a symptom and transmission mechanism three different times in two subtitled, bulleted lists. In addition, the brochure dedicates an entire, detailed section to testing for TB titled "El examen de la piel para TB es sencillo" ("The TB skin test is simple"). This section is accompanied by an illustration of a man having the test done. On the other hand, the TB N-text contains one short paragraph that refers to the test, but with no details.

Informants did equally well on recall of the symptoms and diagnosis of diabetes. An interesting point in this regard is that the N-text contains a bulleted list of symptoms with the subtitle "¿Cómo se manifiesta la diabetes?" (Literal translation "How does diabetes manifest itself?"), whereas the T-text contains cartoon illustrations of most of the symptoms (e.g. a cartoon figure yawning to demonstrate fatigue as a symptom). Both seemed to be equally effective. This and previous observations seem to support the idea that for translated texts bulleted lists of isolated words and phrases have a positive impact on recall if they are supported by illustrations. For N-texts, however, bulleted lists have a positive impact on recall with or without illustrations.

All subjects performed poorly on the recall of symptoms and diagnosis of AIDS (remember that $n=3$ for the AIDS texts, as indicated in Table 4.15). The T-text contains a bulleted list of seven AIDS symptoms (no illustrations), whereas the N-text only

mentions one, that is, the development of other, rare diseases. Both brochures include one of the most important pieces of information related to AIDS prevention: the fact that a person can be infected with the virus and have no symptoms. Yet none of the informants included this in their recalls. A review of the texts indicates that this may be due to the same phenomenon that prevented the recall of information under "Cause": the information is technical, and assumes a prior basic understanding of terminology and concepts related to different types of microbes and how they infect the body (disease processes). For example, if a person does not know what a virus is when reading the text, this may cause confusion about the difference between SIDA, the disease, and VIH, the agent that causes the disease. This would lead to the conclusion that AIDS materials need to be more direct and less technical about bringing home the idea of what it means to be HIV-positive without yet having symptoms, as in the following assertion: "People with HIV may not look or act sick. But they can still make you sick."

Prevention, Control, and Treatment

For TB, all of the information recalled by the N-text informants was from the Prevention, Control, and Treatment category. The informants reading the TB T-text, on the other hand, scored very low in this category. The idea units in this category deal with the fact that medication is available for tuberculosis, and that it is crucial to follow the doctor's directions in taking medicine if the disease is to be cured. Despite a large illustration of a doctor handing medication to a patient, and two sections dedicated to treatment titled "¡La mayoría de los casos de TB pueden ser curados!" ("Most TB cases

are curable"), and "Los medicamentos para la TB son la única forma de curar la enfermedad" ("TB can only be cured by taking medication"), only one of the T-text informants mentioned medicine during recall. The explanation for this may lie, once again, in the technical vocabulary and register used to describe the treatment process: the text refers to "germs becoming active again", and "developing a resistance" to the antibiotic, both disease processes that may not be familiar to the reader. The N-text, on the other hand, also provides illustrations, and the text is not as technical. There is no reference to drug resistance, active and inactive bacteria, or other disease processes. The text simply states that there is a medication to cure the disease, and encourages following the directions of health professionals in taking it. It also explains that in taking the medication, TB can be cured, and family members and friends can be protected from getting sick. Another important point is that the T-text uses fear strategies to encourage proper medication management ("If you don't take the medication as prescribed, you may get very sick, the germs will develop resistance to the drug, you may never get well, and you may get others sick"), whereas the N-text uses much more positive strategies (If you take the medicine as prescribed, you will get well and protect others, and you will once again lead a healthy and productive life). Remember that in the TB N-text itself, fear strategies are also used at the beginning of the text by providing illustrations and reference to the severe potential consequences of TB, possibly resulting in an overshadowing of the symptoms of TB. The low scores in Prevention, Control, and Treatment for the T-text also seem to support the idea that positive, non-fear producing strategies seem to be more effective with Mexican populations.

The N-text for diabetes was also more effective in this category, according to recall scores. The reason for this is obvious: the N-text dedicates a separate section to control and prevention titled "¿Cómo se controla la diabetes?" ("How is diabetes controlled?"), which contains a bulleted list of control and prevention measures. In the T-text, control and prevention are embedded throughout the text, leaving it to the readers to synthesize the material themselves.

Informants did well in this category for both AIDS texts. Once again, this is not at all surprising, considering that for AIDS, knowledge about disease transmission and risk factors assumes knowledge about prevention, and informants performed well on recall in the former category. Also, in the results of the pretest/posttest protocol, we saw that subjects' overall scores on the AIDS pretest were very high. This and the background information forms and interviews indicate that subjects already had a strong general knowledge about AIDS transmission and prevention (good news!), meaning that the prior knowledge they brought to the reading of the texts may have contributed to good recall performance.

Coherence and Cohesion in Recall

In terms of *amount* of information (defined as idea units) recalled, the two text types did not differ significantly. Individual differences between texts, and even between sections of texts, did exist, as the above discussion of the data shows: the numbers do seem to highlight features of health brochures, as well as differences between N-texts and T-texts, that may impact recall in readers.

However, perhaps the most interesting revelation made through the analysis of the recalls relates to the way informants responded. Informants who were asked to recall information from N-texts expressed themselves through discourse that was much more cohesive and coherent than that of the T-text informants. The latter tended to provide listings of words and phrases, without establishing clear relationships between the idea units through the use of cohesive devices. In other words, it was not clear that they had established clear associations between the concepts and ideas during the reading of the text.

I provide the following recall transcripts of four of the informants to illustrate my point. (My own translations into English follow in parentheses. The translations follow the original closely, and are rather literal). The T-text informants both scored higher than the N-text informants on recall, but their dialogue is less cohesive and fluent:

Diabetes N-text informant transcript:

Bueno, la diabetes es una enfermedad que **surge** en muchas personas. **Es** hereditaria. Puede haber síntomas en la persona afectada. **Por ejemplo**, muchas veces **esa** persona siente desganada, **o le** da mucha hambre, **o siente** mucha sed...y hay muchas maneras diferentes...muchos **síntomas** en algunas personas. Es **una enfermedad** que puede ser controlada con la insulina. **Pero** necesita uno ir a la clínica más cercana para **hacerse un chequeo** para saber si realmente **tiene diabetes**. **Después se puede** tratar con **la insulina, como dije**, y **también** comiendo bien y haciendo ejercicios.

(Okay, diabetes is an illness that shows up in many people. It is hereditary. The person with the disease may have symptoms. For example, that person may feel tired, or be very hungry, or very thirsty...and there are many different ways...many symptoms in some people. It is an illness that can be controlled with insulin. But it is necessary for one to go to the nearest clinic for a checkup to find out if she/he has diabetes. Then it can be treated with insulin, as I said, and also by eating well and doing exercise)

TB N-text informant transcript:

La tuberculosis es una enfermedad contagiosa. **Es** progresiva y **causa** la muerte si no es tratada a tiempo...**pero** si **se detecta** a tiempo **es** curable. Hay medicamentos que **los** recetan a los enfermos de **tuberculosis** en el sector salud. Es importante no dejar de tomar **los medicamentos** que **los** recetan a uno **hasta que informen** que ya está **uno** totalmente curado. **También** existe una vacuna para los niños. Es muy importante **vacunar** a los **niños** cuando están pequeños para evitar **la tuberculosis**. **La vacuna** se pone en un brazo, no **es** dolorosa, **nada más que** haya limpieza en la parte donde se va a hacer **la vacuna**. Es aconsejable no rascarse la manchita roja que se ve de **la vacuna**. (Tuberculosis is a contagious disease. It is progressive and results in death if it is not treated in time...but if it is detected in time it is curable. There are medications that are prescribed to tuberculosis patients in the health sector. It is important not to stop taking the medication that is prescribed until they inform one that she/he is completely cured. Also, there is a vaccine for children. It is very important that children be vaccinated when they are little to prevent tuberculosis. The vaccine is injected into the arm, it isn't painful, it is just important that the area where the vaccine is to be injected is clean. It is advisable not to scratch the red area that can be seen after the vaccine)

Diabetes T-text informant transcript:

Bueno, las verduras tienen un alto nivel de proteínas para ayudar a la sangre...que tengamos más poder. Que muchas personas suelen tener diabetes y no **lo saben**. Que un examen sería bueno para asegurarse que **la diabetes** no comience. Que la glucosa es un tipo...se puede decir que la glucosa es un tipo de...una sustancia que va para **la sangre**...y que...y que no toda **la glucosa** entra directamente en **la sangre**...**mucha** se queda como estancada y **eso** produce...eso puede producir...**la diabetes**. No...que no pueda estar muy bien **la sangre**...algo así entendí...¿Qué más? **El colesterol**...decía que...el colesterol...ayuda a **la diabetes también** a que **se desarrolle**...algo así entendí...¿Qué más decían?...Haciendo ejercicio y llevando una...comiendo comidas que no estén muy altas en calorías...**no comas** muchas grasas, muchos azúcares, muchas cosas altas en calorías, y comer comida saludable...otra manera de saber si uno tiene **diabetes**...**mira borrosa, que no se sienta fuerte, sienta sin fuerza**...que **agarre muchos catarros muy seguidos**...eso yo sé también...¡ah! y mucha sed...**da** mucha sed...**también** dificultad para leer también...por la vista...ya no me acuerdo más. Las formas de que puede saber uno que tiene **diabetes**...hay más...bueno, eso es todo lo que recuerdo. (Okay, vegetables have a high level of protein to help the blood...so that we have energy. That many people tend to have diabetes and they don't know it. That an examination would be good to make sure that diabetes doesn't start. That glucose is a type...one could say that glucose is a type of...a substance that goes to the blood...and that...and that not all of the glucose enters directly into the blood...a lot stays like stuck and that causes...that can cause...diabetes. No...that the blood can't be very good...something like that is what I

understood...What else? Cholesterol...it said that...cholesterol...also helps diabetes to develop...something like that is what I understood...What else did they say?...Doing exercise and following a...eating foods that are not very high in calories...don't eat [second person familiar command] a lot of fat, a lot of sugar, a lot of things high in calories and eat healthy food...another way for one to know if she/he has diabetes...[subject unclear] sees blurry, that doesn't feel strong, feels a lack of strength...that gets colds very often...I know that, too...oh! and very thirsty...it makes you very thirsty...also, difficulty reading, also...because of vision...I don't remember anything else. The ways in which one can find out that she/he has diabetes...there's more...okay, that's all I remember)

TB T-text informant transcript:

Lei que la tuberculosis es una enfermedad contagiosa...y se puede contagiar uno estando en contacto con uno que tiene **tuberculosis** y podemos saber...con los gérmenes activos...porque uno tose mucho...y porque tose muchas veces y con sangre y, este, pierden peso. Hay una prueba que se puede hacer en la piel y, este, y se puede hacer uno chequeos...con el doctor para ver si tiene uno **tuberculosis**. Muchas veces no sabemos. Y, este, es recomendable chequearse muchas de las personas o que trabajan en como las prisiones, en los hospitales, en los auxilios de ancianos...uno se puede contagiar más pronto porque **los gérmenes del tuberculosis** activo están a veces en el aire. Hay tratamientos...hay **medicamentos**. **Tiene** que tomar unos **medicamentos** que indican los doctores...porque a veces si no **los toma** es más difícil de **curarse**. Y pues, yo leí que **también** que **se puede** transmitir cuando toma uno una bebida de un vaso que toma una persona que tiene **tuberculosis**...y no sé más.

(I read that tuberculosis is a contagious disease...and one can get it by being in contact with another who has tuberculosis and we can know...with the active germs...because one coughs a lot...and because she/he coughs often and with blood, and, um, they lose weight. There is a test that can be done on the skin and, um, and one can get checkups...with the doctor to find out if she/he has tuberculosis. A lot of times we don't know. And, um, it is recommended to get a check up a lot of the people who work in places like prisons, hospitals, homes for the elderly...one can get it faster because the active tuberculosis germs are sometimes in the air. There are treatments...there are medications. [subject not clear] Have to take the medication that is prescribed by the doctors...because sometimes if [subject not clear] don't take it, it is more difficult to get well. And, well, I also read that it can be spread when one takes a drink from a glass that another person with tuberculosis is drinking...and I don't know anything else)

The diabetes N-text recall transcript shows that the respondent produced oral discourse using a number of cohesive devices that establish a connection between one sentence and the next, providing a relationship between what was being stated and what

was stated before. The diabetes N-text respondent, for example, used 17 cohesive devices (in bold) for 88 words of text (from categories defined for English by Halliday and Hassan, 1976), including eight reference devices (given that Spanish is a PRO-drop language, conjugated verbs referring back to a prior subject were counted in addition to pronouns), 4 lexical cohesive devices (repetition of topics and subtopics), 1 subordinate conjunction opener (*después*), and 5 conjunctions. These devices connect the concepts presented by the informant, providing for a cohesive, albeit brief, oral recall. In addition, even though the discourse provides a very limited amount of information, resulting in a low recall score, its topical structure lends a feel of overall coherence. The topic of the paragraph, diabetes, is divided into three subtopics: definition, symptoms, and control. Each subtopic is supported by at least one sentence of explanatory material. In addition, further coherence is achieved through the use of discourse markers, such as *bueno* (Okay) to signal the beginning of the discourse, *como dije* (as I mentioned before), and *también* (also) (These are in bold and underlined).

Similarly, the TB N-text, although lacking in idea units, flows easily. For 121 words of texts, it contains 7 reference devices, 2 substitutions, 8 lexical cohesive devices, and 2 conjunctions, all of which pull the text together as a cohesive whole (cohesive devices in bold). (The lexical cohesion is maintained through redundancy in vocabulary, rather than through substitution. This makes the text sound somewhat repetitive, but it is still cohesive). This informant also uses a topical structure consisting of topic (tuberculosis) and subtopics (definition, treatment, and prevention). Two discourse

markers, *también* (also) and *nada más que* (but note that) also add to the coherence of the text (These are in bold and underlined).

The T-text informants tended to provide lists of idea units with no clear connections or associations established between concepts. The most common cohesive device used, if it can even be considered as such, is lexical repetition. This amounts to repeating a vocabulary item over and over again, but not necessarily in clear reference to what comes before or after the item. A large number of conjunctions (*y* and *o*) are also used: these are generally used to introduce new idea units, rather than relate idea units to other information in the text. In the diabetes T-text, the subordinating conjunction *que* is used in a similar way to introduce new idea units. This probably constitutes an example of ellipsis from *decía que...* (the text said that...) to *que* (that...). The conjunctions and subordinating conjunction *que* also serve as cohesive devices within sentences, but not between them. At several points in the text, verbs are conjugated in a haphazard fashion with no clear antecedent (see underlined verbs in the T-text samples-note that these verbs may refer back to *uno* (one) in a previous place in the text). The two T-text samples contain 220 and 172 words respectively.

The differences in cohesion and coherence seen in the recalls may derive from the way the two types of texts are processed, although this can only be determined through further research with many more subjects. The observations here are purely descriptive and based on only six subjects per test type. However, they point to the possibility of important differences in the way readers synthesize information from N-texts and T-texts. It may be that some of the linguistic, pragmatic, and organizational features revealed

through the text analyses in Part I conflict with the expectations of T-text readers. These deviations may make it difficult not only to retain information, but also to synthesize and categorize idea units and establish clear relationships between them.

Other and Inferences

As described in Chapter 3, the recall score sheets contained sections designated as "Other" and "Inferences and Other Comments". The "Other" section was used during the scoring process to note down recalled items particular to the assigned brochure. These idea units consisted mainly of information from bulleted lists (those accompanied by illustrations, in the case of the T-texts), and statements related to the severity of disease, which were often repeated several times by informants:

Es progresiva y causa la muerte
(It is a progressive and fatal disease)

Es una enfermedad muy peligrosa
(It is a very dangerous disease)

Te puedes alargar la vida, pero no te puedes curar
(You can prolong your life, but there's no cure)

In the "Inferences" section, ideas and concepts inferred from the text by the reader were noted down, in addition to other comments. Some comments demonstrated that the informant had prior knowledge about the topic (perhaps triggered during the reading process), something that the background information was not successful at probing (another example of the problems inherent in using self-report in research). As an

example, one informant reading the AIDS N-text stated "Se me hace que el condón muchas veces se rompe y que hay peligro" (I think I remember that condoms can break, and that can be risky), and another reading the TB-T text stated, "Muchas personas son alérgicas al test de la piel" (Many people are allergic to the skin test).

Six of the subjects reading N-texts added on to their recall protocols by drawing conclusions based on their readings, talking about what they could do to protect themselves, expressing concern for family and friends who might be at risk for contracting the disease, and even "moralizing":

No usar condones es un riesgo para la persona, ya sea hombre o mujer
(Not using condoms is risky for anyone, for men and women alike)

Allí dice que es recomendable el condón...pero la fidelidad con la pareja y no tener sexo fuera de la casa...así se previene.
(It says here that condoms should be used...but being faithful to your partner and not having sexual relations outside of that relationship...that's how to prevent AIDS)

El libro no dice que hay que tener un solo pareja, pero es necesario.
(The brochure doesn't say to only have one partner, but it is necessary)

Mi hijo comparte bebidas con sus amigos...a lo mejor tiene tuberculosis ¿no?
(My son shares drinks with his friends...he might get TB that way, right?)

Por ejemplo, si uno...si uno no hace ejercicios...como mi hermano...es muy gordo y no hace nada...a lo mejor tiene diabetes.
(For example, if a person...if a person doesn't exercise...like my brother...he's very overweight and doesn't do anything...he might have diabetes)

No me gusta ir a las clínicas porque allí hay mucho de...muchas de esas cosas y uno puede contagiarse.
(I don't like to go to the clinics because there's a lot of...a lot of those things and you can could get infected).

The fact that these additions were only made by readers of N-texts may indicate, as did the more coherent and cohesive recalls, that N-texts facilitate the synthesizing of concepts, and, thus, the ability to draw conclusions and make inferences.

Interviews-Results

As discussed in Chapter 3, the open-ended, semi-structured interviews were based on the questions in Table 3.4. The interviews with the 12 informants went very smoothly. They showed great enthusiasm in participating, and provided useful information about readers' perceptions of health brochures. Previous discussions during the completion of the background information forms had already provided the opportunity to talk in a relaxed atmosphere, and to establish rapport. They had also provided valuable information on how the respondent "construed the general characteristics of the interaction" (Lincoln and Guba, 1985). As mentioned previously, I had worked to dispel the notion that I was there to provide medical advice during those discussions. During the first two interview sessions I conducted, however, the informants seemed to feel obligated to praise the brochures and not provide criticism. I thought this might be because the brochures were assumed to be "mine", thus making it appear rude to criticize or comment on how they might be improved. Therefore, before posing the questions in subsequent interviews I explained that the brochures were not mine, and that any comments were fair game. I also clarified, once again, that the informants were there as partners in my study, and as full-fledged consultants. This helped to elicit more information and induce careful observation on the part of the informants.

Text Preference

I interviewed twelve informants, eight females and four males. Each read one of the pairs of brochures, and compared the N-text and T-text to each other. In response to question one, which of the two brochures they would choose to give someone, nine of the informants said they would recommend the N-text, and three preferred the T-text. Three out of four informants choose the TB N-text, three out of three chose the AIDS N-text, two out of four chose the diabetes N-text, and the one informant reading the HBP brochure preferred the N-text. The variables they considered in the process of choosing a brochure included language, content, and illustrations.

In response to question one, four of those who chose N-texts commented that their choice was based, in part, on the fact that the brochure was in Spanish. Their statements are notable, given that *both* of the texts in each pair were in Spanish. Two of these informants later elaborated on what they meant: one who chose the TB N-text explained that the Spanish of the TB T-text would not be understandable for people without an education, and another informant explained that the AIDS T-text was "algo diferente...o no se entiende en español lo que dice" (somehow different...or one can't understand what it says in Spanish). Seven of the subjects who preferred the N-texts also made the following observations about the texts they choice (referenced texts appear in parentheses, and an English translation is provided below each statement, also in parentheses):

Es mejor explicado (HBP-N, TB-N)
(It explains better)

Está muy completo (HBP-N, AIDS-N)
(It's more complete)

Es más extenso (AIDS-N)
(It's more exhaustive)

...es más explico (AIDS-N)
(It's more detailed)

Explica un poquito mejor...es más fácil de entender (Diabetes-N)
(It's explains a little better...it's easier to understand)

...porque aquí me explica un poquito mejor (TB-N)
(...because in this one it explains a little better)

The three who preferred the T-texts did not mention language as an important variable in their decision. Interestingly, two of these informants stated later in their interviews that the language and vocabulary in the very texts they had chosen were not accessible to those without an education.

Choice of text was also based on content: five of those interviewed stressed that they focused on information on prevention and how to protect oneself from disease in making their selection. The three who chose T-texts did not mention content as a particular contributing factor, although they did discuss content elsewhere during the interview.

Another variable discussed by interviewees was number and quality of illustrations. In fact, eight of the informants mentioned illustrations as causing them to favor one text over the other. Five of these preferred the N-text. One informant, however, after reading the TB texts, pointed out that the T-text was better in that it had more illustrations, even though she still favored the N-text. Quality of illustrations was the only

reason given for choice by the three informants who selected T-texts, in response to question 1.

Emergent Categories

As discussed in Chapter 3, the transcribed data was unitized into pieces of information consisting of one sentence, or in some cases, several sentences, which were then sorted into categories of ideas through a process of emergent category designation.

Ten categories, or themes, emerged from the data, as follows:

- 1) General praise for brochures
- 2) Rationale for information needs
 - a) individual needs
 - b) needs of Mexican population
- 3) Physical appearance of brochure
- 4) Brochure content
 - a) content comparison
 - b) questioning validity of content
 - c) summary of content
- 5) Family
- 6) God/Faith/Religion
- 7) Identity
- 8) Social Issues
- 9) Language

10) Fear

In the following presentation of the results, I provide examples of units from each of these categories. The English translation (my own) follows each unit of data in parentheses. If the unit or quote refers to a particular text, that text is indicated in parentheses after the Spanish text. Otherwise, the topic of the text pair is indicated.

Quotes were included from all twelve participants.

General Praise for Brochure. In response to question 1 (which brochure would the informant recommend to another person needing information about the disease), all of the informants made sure, first of all, to praise their "preferred" brochure (the one they would choose to share with others):

(1a) Y me gusta más este porque te...porque aquí me explica un poquito mejor (TB-N)

(And I like this one more because...because it explains things a little better)

(1b) Es excelente...(Diabetes-N)

(It's excellent)

(1c) Porque está muy completo....tiene bastante información...porque viene mucha información. (HBP-N)

(Because it's very complete...it has quite a bit of information...because it has a lot of information)

(1d) Para mí este es más explícito...es excelente...es excelente (AIDS-N)

(To me, this one seems to have more details...it's excellent...it's excellent...)

(1e) Es muy importante...este, es que necesito leérmelo bien, pero se me hace un folleto muy, muy bien....o sea, que me da más información. (TB-N)

(It's very important...um, I need to read it thoroughly, but it seems to me that this brochure is very, very good...I mean, it provides more information)

Informants always made sure to praise the other text as well, however. Many of the statements seem to constitute a politeness strategy, or a way of presenting a positive

face before selecting a text. Subjects also may have felt the need to demonstrate that they had carefully considered both brochures by commenting that, according to their assessment during reading, both texts were good, important, contained useful information, etc.:

(1f) Este, el otro...también me parece muy importante...(TB-N)
(This one, this other one, also seems very important)

(1g)...y de este pues, todo es muy importante...(Diabetes-N)
(...and the content of this one...is all very important)

(1h) Pues los dos están...tienen buena información...(HBP)
(Well, both...contain good information)

(1i) Entonces me gustó mucho los dos...los dos me gustaron porque los dos me hablaron de tuberculosis. (TB)
(So, I liked both of them very much...I liked both because they both discuss tuberculosis)

(1j) Aunque también me gusta...también está muy bien [TB-N] ¿verdad? Pero esto [TB-T] se lo daría. Me gusta más. (TB)
(Although I also like this one [TB-N]...it's also very good, don't you think? But I would give them this one [TB-T]. I like it more)

(1k) Están bien informados los dos...o sea están bien informados los dos, pero este tiene mejor...mejor...enseñanza...es más fácil de entender. (Diabetes-N)
(Both have good information...that is, both have good information, but this one has better...better...teaching...it's easier to understand)

(1l) Bueno, pienso yo que los dos están muy bien. Pero este...yo escogería este. (Diabetes-T)
(Well, I think that both of them are very good. But I would choose this one)

Rationale for Information Needs. After praising the brochures, respondents went on to further justify their choice. They sometimes did this voluntarily with no prodding. However, it was often the case that I would need to ask them again to explain the basis for their choice, and remind them of their role as consultant. As part of their response,

they would explain their own need personally for the information, as well as discuss why the Mexican population in particular needed the information. In other words, they provided a rationale for the existence of the brochures.

For example, in response to question 1, one participant, after "praising" the brochures, recounted an event in her life in which she thought her daughters had been exposed to tuberculosis. The story seems to show how "close to home" this disease is, pointing to the clear personal need to know about it:

(2a) Porque a mis hijas cuando estaban chiquitas les...este...una muchacha...una niña tenía tuberculosis y me hablaron por teléfono que fuera a revisarlas porque la niña con quien se juntaban tenía tuberculosis...yo las...llevé con su doctor y gracias a Dios que no tenían nada...las volví a llevar cuando el doctor me dijo y gracias a Dios que no...(TB)

(Because when my daughters were little...um...another girl had tuberculosis and they called me on the phone and told me to take them in to be checked because the girl they played with had tuberculosis...and I took them to the doctor, and thank God they didn't have anything...I took them back again when the doctor said to, and thank God no...)

Others mentioned the previous gaps in their knowledge related to the disease, and some summarized what the brochure had taught them personally:

(2b) La cosa que no sabía es que hay dos tipos de presión. No recuerdo bien...uno que va encima y una que va debajo. Eso es lo que no sabía y también, o sea, la manera en que me puedo ayudar a prevenir es lo que viene aquí muy bien explicado en este folleto. De esto no sabía mucho. (HBP-N)

(What I didn't know is that there are two types of pressure. I don't remember exactly...one that goes on top and another that goes on the bottom. That I didn't know either, that is, how I can help myself to prevent the disease...that's what's described well in this brochure. I didn't know anything about that)

(2c) Aprendí algo...en primer lugar, yo pensaba que no se curaba, y aquí dice que sí, se puede curar...que no tenía cura y dice aquí que sí. (TB-N)

(I learned something- first of all, I thought that it couldn't be cured, but here it says it can be cured....I thought there was no cure and it says here that there is a cure)

(2d) No sé que aprendí nuevo. Que en algunos debe ser hereditario...(Diabetes-T)
(I don't know what new things I learned...that in some people it's hereditary)

(2e) Los detalles no los sabía...no sabía que el páncreas era parte de donde se produce la insulina. (Diabetes-N)
(I didn't know the details...I didn't know that the pancreas was part of where insulin is produced)

(2f) Yo que casi de eso no...no me enfocaban eso ¿ves? (TB)
(I almost never...I never focused on this, you know?)

Informants also pointed out the needs of the Mexican population to receive the type of information presented in the brochures:

(2g) A veces ignoramos mucha de la información que viene en estos folletos. (Diabetes)
(We are sometimes unaware of a lot of the information in these brochures)

(2h) Porque para las personas que de una manera u otra tienen recursos para pagar a un doctor o tienen la aseguración o algo, ellos no necesitan estar leyendo folletos, porque automáticamente ya tienen cita con el doctor. (Diabetes)
(Because for people who have resources of some kind or another to pay the doctor, or have insurance or something, they don't need to be reading brochures because they can automatically get a doctor's appointment)

(2i) Yo creo que esto es lo que necesitamos más. (AIDS)
(I believe that this is the type of information we [people from Mexico] need most)

(2j) Está bueno este...este libro porque es lo que necesitamos...en español y, este, estas enfermedades...necesitamos saber...(AIDS-N)
(This brochure is good because it's what we need...in Spanish...and, um, these diseases...we need to know...)

(2k) Necesitamos más...no nos informan...no tenemos información. (TB)
(We need more...we aren't informed...we don't have information)

Physical Appearance of Brochure. All of the participants made observations about the physical characteristics of the brochures, and this seemed to be an important variable in their choice of text. Most of the comments were related to the illustrations, given that I

had controlled for color and size (although a few did mention that they liked the color, and others mentioned that the size was "convenient"):

(3a) Pues será que como porque trae este también dibujos y nosotros...y más o menos nos están mostrando la función de la glucosa y la insulina y las células y todo eso...por los dibujos que vienen aquí...por eso...(Diabetes-T)
 (Well, it must be because this one also has illustrations and we...and they more or less show us how glucose and insulin and the cells and all that work...the illustrations here show us...that's why...)

(3b) [Con los dibujos] me doy una idea más clara a lo mejor del funcionamiento de alguna parte del organismo. (HBP-N)
 ([The illustrations], for example, give me a clearer idea of how some part of the body works)

(3c) Y luego como trae retrato, la persona al leer se da cuenta porque no no más es letra, sino también trae su retrato. Aquí como ejemplo está tosiendo...a decir si toses, te pega la tuberculosis...aquí está viendo la persona que está tosiendo la persona ¿verdad? (TB-T)
 (And then, since it has illustrations, a person understands because it doesn't have just writing, it also has illustrations. Here, as an example, he's coughing...to show that if you cough, you can get tuberculosis...here you see the person is coughing, right?)

(3d) Y de leer de figuras también se da uno una idea clara de que está mal esto...cómo se puede hacer, o por qué. (TB-N)
 (And by reading the illustrations a person also gets a clear idea that this [disease] is bad...what a person can do, or why)

(3e) Pero, por ejemplo este otro, este, esto lo único que tiene es, que como poner aquí una persona...que es muy famosa en México, la gente de México se va por lo que ve. (Diabetes-T)
 (But, for example this other one, um, the only thing it has is, putting a person here...a person who is very famous in Mexico...people in Mexico go for appearances)

(3f) Este es el único que hace nomás hacer el gancho, porque vemos a Cantinflas...o un chiste de Cantinflas...y cuando ya nos hemos dado cuenta de que no viene ningún chiste de él decimos, "Ay, no, yo no quiero leer." Porque no son chistes...(Diabetes-T)
 (About this one, the only thing it does is hook people in, because we see Cantinflas...or a caricature of Cantinflas...and when we realize that there are no

Cantinflas jokes in the brochure we say, "I don't want to read it." Because there are no jokes)

(3g) Porque aquí están diciendo con las fotografías, cuando come uno, en el estómago, la glucosa en el estómago...(Diabetes-T)
(Because here they are saying with the photographs [illustrations], when a person eats, the stomach, the glucose in the stomach...)

(3h) Entonces, una persona se va y dice, "¡Ah! Aquí está Cantinflas." (Diabetes-N)
(So a person says, "Oh! Here's Cantinflas!")

(3i) Entonces es importante que tenga esta persona, este personaje, porque es Cantinflas y como en México es muy querido, era muy querido cuando vivía, entonces, aquí, que pusieran, está bien, que pusieran así este niño...(Diabetes-N)
(So it's important that they have this person, this celebrity, because it's Cantinflas and since he is well loved in Mexico, he was loved when he was alive, so, here, the fact that they put him in the brochure, that's good, that they used that person [niño (little boy)=affectionate term])

(3j) Nomás que se entiende mejor en este porque tiene menos letras y más dibujos...más dibujos...como...explican. (TB-N)
(It's easier to understand in this one because it has less writing and more illustrations...more illustrations...that explain)

Critique on Brochure Content. The informants also compared content to justify their selections. They made statements about one brochure having "more information" or "more details" than the other one:

(4a) Bueno, me apareció que era un folleto muy educativo para prevenir la tuberculosis y que da mucha más información para prevenir la enfermedad. (TB-N)
(Well, it seemed to be a very educational brochure to me, for preventing tuberculosis, and it provides a lot of information for preventing the disease)

(4b) Y pues, tiene también domicilios de dónde acudir para más información...en cambio el otro folleto no tiene nada. (AIDS-N)
(And, well, it provides addresses for places you can go to get more information...the other brochure, on the other hand, says nothing about that)

(4c) Porque pues allí tiene más explicado la definición del SIDA y tienen más preguntas que, pues, que nos pueden servir más. (AIDS-N)
 (Well, in that one the definition of AIDS is explained better, and there are more questions which, well, they can be more useful to us)

(4d) Porque hablan así como puedes saber tú como tienes la tuberculosis...(TB-N)
 (Because they talk about how you can know that you have tuberculosis...)

(4e) Pero incluso viene una dieta...que podemos hacer que nos beneficia a las personas con la presión alta...me parece excelente. (HBP-N)
 (Because they even include a diet...that we can follow that will benefit those of us with high blood pressure...I think it's excellent)

Content was also discussed in response to question two (What recommendations would the informant make for improving the text that she/he chose?) and three (What questions about the disease does the informant have that the two texts do not answer or address?). Some subjects simply stated that they couldn't think of any way to improve on or add to the brochures. However, others suggested that there was still a lot more to learn, and also expressed concern about being expected to simply accept what the brochure said: in other words, why should they believe the texts? Where was the proof?:

(4f) Pues están muy bien explicado pero yo creo que todavía hay más información...es un pedacito de la mucha información que se ha recabado y falta por acabar. (TB)
 (Well, they explain things well, but I think that there is still a lot more information...this represents a small part of all the information that has been discovered, and remains to be discovered)

(4g) Pues, por ejemplo la duda que tenía con usted que puede ser el contacto con utensilios, ¿no? Utensilios y de baño...de eso de dar a entender...pues porque....por ejemplo yo sabía que los mosquitos no pican a solamente a una persona...hay unos mosquitos pues que si se mueren a picar a una persona, pero otros que siguen viviendo, y vuelven a picar a otros. O sea...eso, no sé ¿no? Por ejemplo un mosquito que va allí y pique a uno que tenga SIDA, y va después y pique a uno normal. ¿Cómo está confirmado? (AIDS-N)
 (Well, for example, there are the concerns that I discussed with you before, including contact with eating utensils, you know? Utensils and the toilet...this needs to be clarified...because...for example...I knew that mosquitoes don't bite

only one person...there are mosquitoes that do die after biting a person, but others continue living, and they bite other people. I mean...that. I don't know, right? For example, a mosquito goes and bites someone with AIDS, and then goes and bites a normal person)

(4h) Pues si está confirmado todo eso. (TB-N)
(Well, whether or not this is all confirmed)

(4i) Eso hay que explicarlo. Nada más lo dice pero no lo confirman ni nada.
(AIDS-N)
(That needs to be explained. It is just stated, but they don't confirm it or anything)

In addition to comparing content, informants provided brief summaries of what their selected text said about the disease. Generally they did this after praising the text: these segments seemed to constitute what stood out in their minds as most important:

(4j) Que tiene uno que cuidarse....que si la tuberculosis si es muy peligrosa (TB-N)
([It says] that you should take care of yourself...that tuberculosis is very dangerous)

(4k) Dice que tiene uno que cuidarse...porque, pues, es imposible de saber quién es la que tiene tuberculosis y quién no...no sabemos..(TB-N)
(It says that you should take care of yourself...because, well, it's impossible to know who has tuberculosis and who doesn't...we don't know)

(4l) Pues, es que uno no sabe ni quién está enfermo...no sabe ni quién está contagiado ni nada de eso...(AIDS-N)
(Well, the thing is a person doesn't even know who is sick...who has contracted the disease or any of that...)

(4m) Y luego dice que cuando se ponen drogas y con las inyecciones...se infectan con...pues la gente...los drogadictos son los que tienen posibilidad de que se infecten más seguidos...(AIDS-N)
(And then it says that when they inject drugs...they get infected with...well, people...the drug addicts are the ones who are more likely to get infected...)

(4n) Que en algunos debe ser hereditario y otras veces es por estrés, cansancio, algo así, y, este, y ¿por qué la diabetes? O sea el cuerpo no produce suficiente...insulina...y todo eso... (Diabetes-T)

(That in some people it is likely hereditary and in other cases it's stress, exhaustion, something like that, and, um, and, what causes diabetes? That is, the body doesn't produce enough...insulin...and all that...)

(4o) Dice como trabaja la insulina, como penetra, y luego, las reacciones que hace...(Diabetes-T)

(It says how insulin works, how it penetrates, and later, its reactions...)

(4p) Habla de si eres positivo o negativo, si estás enfermo de tuberculosis. (TB-N)

(It talks about whether you are positive or negative, whether you have tuberculosis)

The comments most relevant to this study had to do with family, God, identity, social issues, language, and fear arousal.

Family. One of the themes that emerged from the data, especially in response to question 1, was how the diseases related to family:

(5a) Y también que tiene que cuidarse entre las mujeres y los niños...toda la familia (TB-N)

(And also that women and children have to take care of themselves...the whole family)

(5b) Entonces sí, es muy importante que puede hablar con los jóvenes, con nuestros hijos, si es necesario, porque yo he hablado con los jóvenes así que yo los veo así, este, con miedo...(AIDS)

(Then it is very important to be able to talk to youth, to our children, if necessary, because I've talked to kids and so I see them, um, as being scared...)

(5c) Porque yo también tengo hijos, y tengo uno de 13 años, y...es el más chiquito, pero de todas maneras, a mi me da miedo, y pienso y pienso mucho...y ahora que está en aquella escuela...digo...pienso...es muy peligroso...(TB)

(Because I also have kids, and I have a son who is 13, and...he's the youngest, but at any rate, I'm scared, and I think and I think a lot...and now he is in that school...I mean...it's really dangerous...)

(5d) Mi hermano tiene amigos...este...anda con ellos...y le digo que tenga mucho cuidado y que piense bien lo que hace. (AIDS)

(My brother has friends...um...he hangs out with them...and I tell him to be very careful and to think about what he does)

God. Informants often referred to their faith in God during the interviews. They frequently gave thanks to God for their health and the health of their loved ones, and asked for protection (note that, although several of the sites where informants were recruited were churches, these types of comments were expressed by people from all of the different testing locales):

(6a) Y gracias a Dios que no tenían nada...las volvi a llevar cuando el doctor me dijo y gracias a Dios que no...(TB)
(And thank God they didn't have anything...I took them back to the doctor when he told me to, and thank God no...)

(6b) Que mejor piensen las personas en la vida que Dios les da, que piense muchas cosas positivas...(AIDS)
(People should think about the life God gave them, and think positive thoughts...)

(6c) Dios está conmigo y me va a ayudar que mis hijos sigan muy buen camino.
(TB)
(God is with me and is going to help me so that my children stay on the good road)

(6d) Gracias a Dios...tiene diabetes...pero está bien. (Diabetes)
(Thank God...she has diabetes...but she's fine)

(6e) ¡Dios nos proteja! (TB)
(May God protect us!)

Identity. Statements in this category demonstrate how informants view themselves and others. They included and excluded themselves from groups and categories, constructing and reconstructing their identity, and that of others, throughout the interview:

(7a) Y luego dice que cuando se ponen drogas y con las inyecciones...se infectan con...pues la gente...los drogadictos son los que tienen posibilidad de que se infecten más seguidos...porque ellos andan en la calle...ellos luego se pasan el microbio unos con los otros...porque a veces están inyectando...uno se lo quita,

luego otro se lo pone y pienso yo....y luego las muchachas pues se meten con ellos y se besan (AIDS-N)

(And then it says that when they inject drugs...they get infected with...well, people...the drug addicts are the ones who are more likely to get infected...because they hang out in the street...later they spread the microbe to each other...because sometimes they inject drugs...one takes it [the needle] out, the other sticks it in, and I think...and then the girls get together with them, and they kiss)

(7b) Por ejemplo un mosquito que va allí y pique a uno que tenga SIDA, y va después y pique a uno normal. (AIDS-N)

(For example, a mosquito goes and bites someone with AIDS, and then goes and bites a normal person)

(7c) Yo creo que esto es lo que necesitamos más. (HBP)

(I think this is what we need most)

(7d) Está bien porque es en español sobre todo. Y hay muchas cosas que nosotros queremos saber, pero los folletos sólo se ven en inglés...y una que otra palabra entendemos pero no todo. Y eso es lo más importante...que esté en español para nosotros. (TB-N)

(It's good because it's in Spanish and above all. And there are a lot of things that we want to know, but the only brochures are in English...and we understand a word or two, but not everything. And that's the most important thing...that it's in Spanish for us)

(7e) ...que como poner aquí una persona...que es muy famosa en México, la gente de México se va por lo que ve. (Diabetes-T)

(...putting a person here...a person who is very famous in Mexico...people in Mexico go for appearances)

(7f) Entonces...está más bien para mí, que no viene a ser para las personas sin educación....(Diabetes-T)

(So...[the Diabetes-T brochure] is for me, it's not for people who don't have an education)

(7g) Entonces para mi esto no sirve. Me duele mucho porque es mi país...pero por esto estamos como estamos en mi país. Por falta de información, por falta de conocimientos para poder, este, atraer a más gente a que esa información sea segura....ya sea de diabetes, cáncer, hipertensión, cualquier otra enfermedad. No tenemos los medios de comunicación para que nos informen como debe ser. (Diabetes-T)

(So this one is useless by my standards. It hurts to say it because it's my country...but for that reason we are where we are in my country. Because of a lack of information, a lack of knowledge to be able to, um, attract people so that

information is trustworthy...whether it be diabetes, cancer, high blood pressure, or any other disease. We don't have the means of communication that we should have for them to inform us)

(7h) Y para un adulto...vamos a decir que pusieran un personaje que los adultos ven o simplemente que marcaran una persona como Benito Suárez. Entonces sí. Poner una persona mayor, una personaje de México... necesitamos más...(Diabetes-T)

(And for an adult...let's say that they use a celebrity that the adults notice or that they simply used a person like Benito Suárez. Then, yes. Use an adult person...a Mexican celebrity...we need more)

(7i) Entonces es importante que tenga esta persona, este personaje, porque es Cantinflas y como en México es muy querido, era muy querido cuando vivía, entonces, aquí, que pusieran, está bien, que pusieran así este niño...(Diabetes-N)
(So it's important that they have this person, this celebrity, because it's Cantinflas and since he is well loved in Mexico, he was loved when he was alive, so, here, the fact that they put him in the brochure, that's good, that they used that person [niño (little boy)=affectionate term])

(7j) Entonces las personas entre el público vamos a decir [TB-T] no está accesible a todas las personas con educación y sin educación. Es para los que tienen educación. (TB-N)

(So those of us in the community are going to say that the information [in the TB-T brochure] is not accessible to everyone, to those who have an education and those who don't. It's for those who have an education)

(7k) A mí me parece muy bien como está...está entendible para las personas como yo...que somos de México, hablamos español o castellano. (AIDS-N)

(To me it seems very good, how it's...it's understandable for people like me...those of us from Mexico, who speak Spanish or Castillian)

Social Issues. Although this category overlaps with others, including that of identity, units in this category refer to the social issues related to health and health information. They emerged at different points throughout the interviews, but especially as a response to questions 2 and 3:

(8a) Entonces sí, es muy importante que puede hablar con los jóvenes, con nuestros hijos, si es necesario, porque yo he hablado con los jóvenes así que yo los veo así, este, con miedo...(AIDS)

(Then it is very important to be able to talk to youth, to our children, if necessary, because I've talked to kids and so I see them, um, as being scared...)

(8b) Entonces las personas entre el público vamos a decir [TB-T] no está accesible a todas las personas con educación y sin educación. (TB-N)

(So those of us in the community are going to say that the information [in the TB-T brochure] is not accessible to everyone, those who have an education and those who don't)

(8c) Entonces, se trata de dar información a gente de escasos recursos...es lo que necesitamos más...para las personas de escasos recursos. (Diabetes)

(So, it has to do with getting information out to people who lack resources...it's what we need most...for people who lack resources)

(8d) Porque para las personas que de una manera u otra tienen recursos para pagar a un doctor o tienen la aseguranza o algo, ellos no necesitan estar leyendo folletos, porque automáticamente ya tienen cita con el doctor. ¿Por qué? Porque le va a cobrar por una cosa o otra. Entonces ellos están previniendo enfermedades...están llevando en sí...se los están llevando de una manera u otra. Entonces...las personas de pocos recursos necesitan...necesitan leer. (Diabetes)

(Because for people who have resources of some kind or another to pay the doctor, or have insurance or something, they don't need to be reading brochures because they can automatically get a doctor's appointment. Why? Because they're going to be charged for one thing or another. So they're preventing disease...they're taking care of it themselves...they're doing what they need to somehow or another. So...people with few resources need...need to read)

(8e) Hay mucha gente que no tiene nada...no tienen recursos, no tienen información, no tiene nada. (HBP)

(There are a lot of people who have nothing...no resources, no information, nothing)

Language. In response to question 4 (which asked informants to discuss or comment on the language of the text), as well as during other parts of the interview, informants evaluated the language of the brochures. Their evaluations may not appear to

be sophisticated at first glance, but a close look at the data reveals some important ways in which the brochures impacted the readers:

(9a) Tiene unas palabras...que también le explican a uno...que tiene uno que tener cuidado con... (TB-N)

(It has some words...that they also define...that a person should be careful with...)

(9b) ...aparte, no hay tanta información en español así...no hay mucha...(HBP-N)

(...besides, there's not very much information like this in Spanish...there's not much)

(9c)...está muy bien el vocabulario. Me llamó la atención porque a veces vienen hasta faltas de ortografía o mal escritos...y no vi nada mal...vi todo bien...sí, sí...me explicó bien. (Diabetes-N)

(The vocabulary is good. I noticed because sometimes there are spelling errors or things that are poorly written...but I didn't see anything bad...everything seemed good...yes, yes...it explained things well)

(9d) A veces, mal escritas [sic] o algo diferente...o no se entiende en español lo que dice...o sea...no está bien explicado en este [AIDS-T]...y aquí [AIDS-N] está muy bien explicado...está muy bien la información. (AIDS-N)

(In some places [in AIDS-T], poorly written [sic] or something different...or you can't understand in Spanish what it says...that is, it's not explained well in this one...and in this one [AIDS-N] it's very well explained...the information is good)

(9e) Está bien porque es en español sobre todo. Y hay muchas cosas que nosotros queremos saber, pero los folletos sólo se ven en inglés...y una que otra palabra entendemos pero no todo. Y eso es lo más importante...que esté en español para nosotros. (TB-N)

(It's good because it's in Spanish above all. And there are a lot of things that we want to know, but the only brochures are in English...and we understand a word or two, but not everything. And that's the most important thing...that it's in Spanish for us)

(9f) Ninguno de los dos tuvo problemas para leerlos...todos están muy claros...la letra muy bien hecha. Como escrito...están muy bien hechos. (TB)

(I didn't have problems reading either of the texts...they're both very clear...the writing is very good. In terms of how they are written...they're very good)

(9g) A mí me parece muy bien como está...está entendible para las personas como yo...que somos de México, hablamos español o castellano. (AIDS-N)

(To me it seems very good, how it's...it's understandable for people like me...those of us from Mexico, who speak Spanish or Castilian)

(9h) Porque en este caso, aquí las personas hicieron estos folletos para informar utilizando palabras que nosotros [los inmigrantes] no vamos a entender.

(Diabetes-T)

(Because in this case, in this brochure they made these brochures to inform using words that we [immigrants from Mexico] are not going to understand)

(9i) Como por ejemplo, eso de enfermedad crónica: la palabra *crónica*. Si es una persona que no tiene ni la primaria, no va a saber lo que quiere decir *crónica*.

(Diabetes-T)

(Like, for example, this about chronic disease: the word *chronic*. If it's a person who hasn't even passed *primaria*, they're not going to know what *chronic* means)

(9j) Las personas que no tienen educación ven este folleto y lo empiezan a leer, y no van a tener vocabulario extenso, no van a saber que...lo mismo. Aquí tampoco lo conocen el verdadero idioma...ellos usan las palabras que están acostumbrados a oír....diferentes que los que inmigraron aquí. (Diabetes-T)

(People without an education see this brochure, and they begin to read it, and they're not going to have an extensive vocabulary, they're not going to know...the same. Here they don't know the true language, either...they use words that they are used to hearing...that are different from the ones used by those who immigrated here)

(9k) Es más extenso el segundo folleto y pues tiene muchas palabras claves y están en negrilla...y sirven mucho porque es la idea principal ¿no? (AIDS-N)

(The second brochure is more extensive and has many of the key words in bold...and this is useful because they represent the principal ideas, you know?)

(9l) Pues yo creo que en las dos [el lenguaje] es muy claro, ¿no? Este [AIDS-N] está mejor porque si hay una palabra rara, enseguida lo definen muy bien para no tener dudas, y en el segundo, por ejemplo... está muy bien definiéndolo todo.

(AIDS-N)

(Well, I think that in both cases [the language] is very clear, you know? This one [AIDS-N] is better because if there's a strange word, they immediately provide a good definition so that there's no doubt about what it means, for example...it's good about defining everything)

Fear. Finally, one of the categories that emerged from this interview data is the expression of emotions of fear. These were made in reference to the infectious diseases, tuberculosis and AIDS, with the exception of the high blood pressure subject, who

expressed her concern that she might have high blood pressure (she also expressed her fear of "knowing" or finding out):

(10a) Y yo pienso que todo eso es muy peligroso para ellos...es peligroso...(TB)
(And I think that all of that is very dangerous for them...it's dangerous)

(10b) A mi me da miedo, y pienso y pienso mucho...(TB)
(It scares me, and I think and I think a lot...)

(10c) Es una enfermedad muy peligrosa. (AIDS)
(It's a dangerous disease)

(10d) Me da miedo. (HBP: TB)
(It scares me)

(10e) ¡Qué miedo! (TB)
(How scary!)

(10f) No sé, ¿lo tengo yo? No sé. No quiero saberlo...ir a la clínica...(HBP)
(I don't know...do I have it? I don't know. I don't want to know...go to the clinic...)

Interviews-Discussion

The interviews were conducted in an attempt to determine whether informants preferred one text type over another, and, in the case that such a preference was shown, to unveil the features of the texts taken into consideration in text selection. I also wanted to probe informants' perception of texts; that is, the features of this particular genre that they notice consciously and not so consciously, for both text types. In other words, what are the readers' expectations when they sit down to read a health brochure? What characteristics and aspects of the text do they notice, what gaps in information do they mention, and how well are their expectations met? Their responses, as presented through the examples in the 10 emergent categories in the previous section, provide valuable

information not only about text-type preference, but also about the development of health education materials as they relate to these categories.

Results show that the twelve subjects interviewed expressed an overall preference for the N-texts. The categories indicate that each readers' choice of text was based on all or some of the following factors: a general feel that one text read better than the other; an evaluation of the illustrations contained in the brochures; content; whether the brochure met the personal and social needs of the readers and their community, and other issues related to language.

When asked why they chose a particular N-text, subjects described their "gut reactions", including vague comments such as the text "contains good information", or "is more complete", or "explains things better." Readers justified their preferences by suggesting that the corresponding T-text was somehow different, and expressed a general feel of the N-texts being explained better, being more complete and/or exhaustive, and containing more details (1a-1i, 1k, 4a, 4c). Two of the three informants who selected T-texts also stated that, despite their selection, the language level of their preferred text was not appropriate for "those who do not have an education" (7f, 9j). These comments, along with the assertion of four of the eight informants that their selection of N-texts was based on the texts being "in Spanish" (9b, 9d, 9e, 9g), may indicate that the N-texts met the expectations of the readers in ways that the T-texts did not. Perhaps deviations from normal textual patterns (see previous corpora analyses) produced the general impression that the T-texts were difficult to read (this being perceived by some subjects as being contributable to a formal, more "educated" register).

In addition to the "general feel" of the texts, the data show that readers also considered illustrations to be a very important component of health brochures. In fact, in eight out of the twelve cases, informants gave illustrations as one of the variables they had taken under consideration in text selection. They stated that the illustrations helped to demonstrate how diseases are spread and/or develop, and to highlight the gravity of the illnesses (3a-3e). It is relevant that the three informants who selected the T-texts told me that illustrations had the greatest impact on their choice: two of them indicated this as their only consideration (3a, 3c), although they discussed other aspects of the text upon further inquiry. This provides further support for what was revealed through the data from the recall protocol: translated texts have a more positive impact if they are supported by illustrations. This may indicate that deviations from normal text patterning in translated texts can be partially "remedied" if the text is expertly illustrated with drawings, diagrams, and tables, providing a bridge between intended meaning and the "linguistic curiosities" that are characteristic of translated texts. Of course, the interaction between language and format, including illustrations, has been discussed elsewhere in the health communication literature (Clark, AbuSabha, von Eye & Achterberg, 1999; Doak et al., 1995), and illustrations are most likely a useful tool to be used in N-texts, as well. However, cross-linguistic and cross-cultural differences in the significance and importance of illustrations in texts represents a much needed area of future research. Comments by the informants in this study do indicate that Spanish readers of health brochures place great value on illustrations, and feel that they support and help them in the reading process (3a-3j). Different illustrations "grab" people in different ways,

however. To demonstrate, an informant in this study criticized the illustrations of one of the brochures (diabetes N-text), stating that the caricature of Cantinflas, a Mexican comedian and celebrity, was used simply as a *gancho* or hook to get people to pick up the text (3f, 3g). She contended that people from Mexico were easily drawn in by appearances, and predicted that as soon as they began to read the text, and realized it wasn't humorous, that they would put it aside. Two other subjects praised the use of Cantinflas in the brochure, and referred to the now-defunct actor with great affection (3h, 3j). These conflicting perspectives demonstrate the need for further research into brochure appearance, and strategies used to attract readers, especially using cartoons and caricatures. The Cantinflas image in this study grabbed the attention of both interviewees, but with very different results.

Content was also clearly another factor influencing text choice, according to responses to question 1. The area of content that readers seemed to focus on most in making their decision was self-care and prevention. Similar to the results of the recall protocol, the interview data indicates that the informants in this study were concerned foremost with what they could do to prevent disease and protect themselves and their families, including where to go for more information, how a person can find out whether she/he has the disease, how and where to get tested, and other activities and actions for preventing disease (4b, 4d, 4e). It is crucial to note that during the discussions stimulated by the questions related to improving the brochures (question 2) and gaps in information about the disease (questions 3), informants expressed doubt about the text material, wanting to know whether what was said had been confirmed and could be supported and

verified. These concerns were expressed in particular by those reading the AIDS and TB texts (4f-4i). They questioned the authority of the texts, and did not simply accept their content as valid. Throughout the interviews, it was clear to me that these informants were very aware of their own need and that of the Mexican community to receive comprehensible health information. But they were not about to accept information from just anyone, or to view the content of the few available printed Spanish pamphlets as authoritative. This has obvious implications for those who develop health messages for minority-language populations, and points to the need to reevaluate the role of U.S. health institutions as educators in Latino communities.

How the reader's and author's identities are represented and indexed in health education literature affects how the reader perceives and responds to the text. The fact that the nature of the reader-author relationship is considered a given, rather than negotiated, as it might be in face-to-face interaction (as in doctor-patient interaction for example), and is based on norms of the dominant English-speaking community (see Chapter 4, Part I, speech act analysis), may explain the reactions and concerns of the informants in this study, especially as they relate to perceived legitimacy of the texts. Naturally, defining the reader-author relationship depends on understanding how readers perceive their own identity. Although informants did not specifically state that themes of family, God, and society influenced their selection of texts, concepts related to these themes surfaced as we discussed questions 1, 2, and 3. Their comments provide insight into readers' perceived identity, and the elements in their lives that surround and are

directly connected to health. They thus give us a glimpse of the interpretive framework Spanish readers bring to health education literature.

The allocentric nature, including *familismo*, of Mexican and Mexican American populations is well documented in the literature (Barker, 1992; Molina, Enid Zambrana & Aguirre-Molina, 1994; Triandis, Marín, Betancourt, Lisansky & Chang, 1982). *Familismo* involves a strong connection to and dependence on family. Marín and Marín (1991) describe *familismo* as including the value orientations of "reliance on relatives for help and support," and "the perception of relatives as behavioral and attitudinal referents" (pp. 13-14). Although I am aware of the need to apply such cultural constructs described in the literature with caution to avoid stereotyping, family relations and their connection to health indeed emerged as an important element in the discussion of disease prevention during my interviews with participants. Comments made by informants indexed their identity as part of a collective whole. As they discussed prevention and protection, they mentioned concern for family members and protecting each other, and the whole family needing to take care of itself. They also expressed the importance of providing counsel to children and siblings (5a-5d). As further evidence of the importance of family in health among informants, is the reaction to the first line of the TB N-text, which reads, "Y en el caso de la tuberculosis: jóvenes, adultos, mujeres y niños deben cuidarse" (And in the case of tuberculosis, young people, adults, women, and children should protect themselves). A total of six informants read the TB N-text for the recall and interview portions of this study. All six of them mentioned this information, and connected it in some way to family (as in quote 5a). The incorporation of family issues and prevention is

called for in Spanish health materials. A laudable attempt to do this has been seen in the *fotonovela* style literature that has recently become popular (these are comic strips that tell stories about people dealing with disease and disease prevention). However, no serious investigating has been done to evaluate these materials, and my guess is that the *fotonovela* comic strip represents a genre that will be effective for only certain segments of the population, depending on gender and educational and socioeconomic status. Family themes could be appropriately incorporated into other types of literature, as well. For example, informants in this study indicated a preference for books as a print material source on issues of health. During our discussions they expressed a need for "more sophisticated" forms of health literature, such as reference books and self-help guides.

Some of my informants also freely made reference to God and their religious beliefs during interviews, showing clearly that their identity is closely linked to their Christian faith (6a-6e). None of the brochures in my corpora contain religious text or symbols. Further research is necessary to determine the effectiveness of religious images, symbols, and references in health brochures for some audiences within the Latino community. Results of such investigations could demonstrate the essential potential role of churches in the preparation of health literature for their communities.

Informants also used vocabulary and grammar as tools to construct and reconstruct their identities during the interviews. Striking was the contrast established by informants between *los enfermos* (sick persons) versus *los normales* (normal people) (7b); *los drogadictos* or *los que andan en la calle* (drug addicts or those who hang out in the streets) versus *yo nosotros* (I/we) (7a); *los educados* (the educated) versus

yo nosotros (Lwe) (7f, 7j). Looking back at the results of the attitude section on the posttests, recognition of the fact that anyone is at risk for diabetes and TB was 79% and 67% at posttest, respectively. These relatively low scores are surprising considering that participants in the recall protocol recalled more units overall from Disease Transmission Mechanisms and Risk Factors than from any other category. The contrasts established by the interviewees between "us" and "them" may provide an explanation for this discrepancy: although people have knowledge about transmission mechanisms and how disease is spread or develops, there is still a strong "identity factor" at work influencing whether a person considers herself/himself at risk. When people perceive themselves as belonging to a collective group constituting those who are healthy, normal, clean, or otherwise immune to illness, perception of susceptibility may be difficult to change, regardless of knowledge.

On the other hand, subjects clearly identified with the Mexican community by using the first person plural pronoun *nosotros* in their discussion of social issues related to the dissemination of health information within that community (7c, 7d, 7h). They made mention of the problem of low socioeconomic status (8c, 8d, 8e), and its negative influence on access to resources and information. As discussed previously, they also suggested that education plays a major role in access to health information, and the T-texts and some of the N-texts were described as being too difficult for those without an education. Although they did not refer to their own lack of resources or education, the subjects clearly aligned themselves with a community that faces those struggles. In fact, during the interviews I felt that informants' statements and comments in some cases

pointed to a real conflict of identities. In some cases, a sense of pride and solidarity was indexed in comments about the Mexican community (7h, 7i, 7k). Other statements indicated a low value associated with being Mexican or Mexican American (7e, 7g, 9j).

Another interview topic of significance to this study was language. Most observations about language were made in response to question 2 (suggestions for improving the texts), and question 4 (subjects were asked to comment specifically on the language of the texts). As I already noted, informants demonstrated awareness of the lack of health information available in Spanish, and were very enthusiastic about and receptive of my study, especially when they saw the brochures in Spanish. In fact, several informants, before critiquing the texts, stated that the best thing about both texts was that they were in Spanish (9b, 9e, 9g). The positive impact of efforts to provide people with health materials in their language, or in the language they feel most comfortable with, cannot be underestimated: it begins as soon as the literature is handed to the patient or client. Attempts to provide Spanish speakers with print information in clinics and hospitals in this country should be applauded. However, my experience (including these interviews) shows that Mexican and Mexican American populations constitute a literate community, and they do consciously notice and react to *mal escritos* (poor writing and spelling errors) (9f, 9k, 9l). One participant expressed surprise at not finding spelling errors in the texts he read, given his past experiences with this genre (9c). Informants also demonstrated a more subconscious awareness of problems, or "linguistic curiosities" in the texts when they discussed their gut reactions after reading, as mentioned previously, although none of them elaborated with any sort of metalinguistic analysis. Their language

assessments were limited to comments on vocabulary. For example, they commented on the extensiveness of vocabulary and on the difficulty of certain words for uneducated persons (9a, 9c, 9h-9l). A few interesting comments were made about the variety of Spanish used in the T-texts: It was suggested by one subject that Spanish speakers in this country do not know true Spanish, and that the words they use are different from those used by recent Mexican immigrants (9j). Another person (who preferred the diabetes T-text) contended that the language used in the text would not be understandable to immigrants, but was for Spanish-speakers who had lived all of their lives in the U.S. (9h). She maintained that this was why the T-text was difficult to read: it was targeted to non-immigrants. This struck me as strange at first, given that she had shown preference for the T-text (diabetes). But her subsequent comments shed light on the issue. She assumed correctly that the brochure with the Cantinflas caricature was published in Mexico, and was very critical of the use of the cartoon to attract readers (3f, 3g, 7h). During her evaluation of the two texts she also revealed she had rejected the N-text because she thought it was from Mexico, and assumed that it would be the inferior of the two (even though I had never mentioned the fact that one was from Mexico and one from the U.S.) (7g). She harshly criticized the Mexican health system, and the lack of education in Mexico. Her suggestion that the language used in the T-text was not "true Spanish", was, then, contradictory to her previous statements, demonstrating clearly a conflict of identities, as mentioned earlier. The observations made by these two subjects, in addition to those made by the subjects who chose N-texts because "they were in Spanish", as

mentioned before, seem to indicate that readers do tune into differences between the two types of texts, even if they are unable to define or describe them.

One last theme, apparently unrelated to text selection, that emerged from the interview data is fear. Participants expressed how dangerous the diseases were (10a, 10c), and their fear of the diseases (10b, 10d, 10e, 10f). Most of the comments were made about tuberculosis, perhaps because it was the disease that subjects knew the least about, as indicated by pretest results. Also, the brochures explain that TB is highly contagious, and this may have instilled concern and fear in the readers. "Fear appeal" is a common persuasive strategy used in designing health messages. It involves the use of language that "emphasizes the harmful physical or social consequences of failing to comply with message [public announcement, brochure, etc.] recommendations" (Maibach & Parrott, 1995, p. 65). The obvious conclusion that can be drawn from the comments made by interviewees is that any intentional use of fear appeal in one or both of the brochures was successful in that it aroused fear in these informants. However, since subjects read both brochures, it is impossible to know whether both texts, one text, or the combination of reading the two texts, aroused fear in the readers. The important question in relation to designing health messages is whether fear appeal constitutes an effective strategy when targeting Spanish-speaking populations. There have been a large number of studies conducted, with conflicting results, to determine the effectiveness of fear arousal in influencing health-related behaviors. Most researchers agree that fear arousal in health messages is very persuasive, and has a strong potential for promoting more positive health-related behaviors, especially when combined with recommendations or solutions

("action components") that are easy and effective (Maibach & Parrott, 1995; Shumaker, et. al., 1990). However, there has been no research done to determine the effectiveness of such strategies among Mexican populations. There cannot be an automatic assumption that different sociocultural groups will respond to fear or threats in the same way.

Remember that the recall responses among participants in this study seem to indicate that negative content, including especially the terrible consequences of disease, has a negative effect on recall of essential potentially behavior-changing information, such as prevention and treatment. Cross-cultural research in fear arousal is a much neglected area. Cultural models of fear and behavior change should be informed by studies in medical and linguistic anthropology, and should incorporate the investigation of cross-cultural differences in perceptions of illness, taboos about discussing future death and illness, and the effects of fear on behavior.

CHAPTER 5

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

Overview of Findings, Limitations and Challenges

This exploratory research analyzed a corpus of texts from many different angles, providing a comprehensive view of how they are structured and organized. Two subcorpora of texts, or text types, were compared, revealing significant differences at both micro and macro levels. A subset of texts from both subcorpora was field tested with the aim of measuring and assessing impact on readers, in addition to readers' perceptions of the texts.

Part I: Text Analyses

Overview of Findings

The study fulfilled its aim of answering the research questions posed in Chapter I related to micro- and macro- linguistic differences and similarities between translated and non-translated health brochures (Part I, Text Analyses).

At the microlinguistic level, the quantitative and qualitative corpus analyses describe the linguistic realization of the persuasive interactional goals of the two text types. The T-texts are characterized by the use of formal directive speech acts to encourage, threaten, and promise. In the N-texts, preference is shown for the usage of commissives and representative speech acts to achieve the same interactional goals. When directive speech acts are used, the informal imperative is used. Differences in the

sociocultural contexts in which the two text-types were formed and produced, including the expectations and presuppositions concerning interpersonal relationships brought to the text by both author and reader, may explain the distinct patterns in speech act usage. I posit that the illocutionary force of the directive speech acts in the T-texts may not produce the perlocutionary effect intended due to discrepancies in the perceptions of the author and reader related to situation and social relationships.

The less direct, more informal character of the N-texts runs counter to studies describing the deference afforded health professionals in Mexico, and the formal relationship that exists between doctor and patient, with the doctor taking on an authoritarian role (similar to English-speaking doctors in the U.S.). This discrepancy might be attributed to the emphasis in Mexican society on individuals as members of a whole, which leads to the author taking on a more interpersonal approach signaling camaraderie and solidarity.

At the macrolinguistic level, the multifeature-multidimensional analysis determined 3 factors representing clusters of linguistic features serving a particular communicative function. These factors are defined as: Persuasive versus Informational; Informal Interpersonal versus Impersonal; and Group Persuasion versus Formal Direct Persuasion. Each factor contains features with positive and negative loadings which exist in complementary fashion.

The interpretations of Factors 1-3, as discussed in Chapter 4, take into account the dual role of the health brochure of persuading and informing, in addition to transfer of English features. The analysis suggests that, regardless of text type, this particular

register places greater emphasis on informing than persuading. However, factor scores show that the informational focus of the N-texts is much greater. It is important to remember, though, that this is due in part to the implementation in the N-texts of commissive speech acts associated with the passive voice (*SE* passive). The passive voice is often considered an "information packing" device, but in the N-texts it is also used to persuade when it correlates with other linguistic features, such as reflexive verbs and action verbs related to self-care and prevention (see Tables 4.2 and 4.3). These findings demonstrate a weakness in many corpus studies which focus simply on quantitative similarities and differences across registers in terms of isolated linguistic features, without considering their correlations with other grammatical structures, and, especially their semantic associations.

Factors 2 and 3 indicate that when direct imperative forms are used in the N-texts, a preference is shown for informal forms (addressing the reader-as-*tú*), while the T-texts use formal forms (addressing the reader-as-*usted*). This result agrees with the findings of the speech act analysis. The N-texts also appeal more often to group identity (in further support of the reasoning behind the more relaxed, interpersonal relationship revealed in the speech act analysis).

The multifeature-multidimensional analysis uncovered differences between text type related to language, regardless of function. English transfer features include explicit pronouns and demonstrative determiners, which, according to my own observations, are typical of English-Spanish translationese (for this reason they were included in the factor

analysis). These features of translationese have not been addressed in the literature, however.

The N-texts show higher frequencies of certain characteristically Spanish features, such as coordinators, coordinating clauses, commas, and coordinators-as-commas. They also have longer sentences and greater lexical density. The N-text features support previous studies indicating that Spanish is characterized by a "loose association of ideas," relative to English (Connor, 1996; Montaña-Harmon, 1991).

The two text types were most similar at the level of macropropositions, or large chunks of texts. They both adhere to a superstructural schema which contributes to the persuasive character of the health brochure: PROBLEM-IDENTIFICATION OF PROBLEM-SOLUTION. I noted 11 moves common to both text types, which are subservient to this overall superstructure. These moves address the issues of identifying the topic (disease), cause of disease, transmission mechanisms and disease processes, risk factors, symptoms, diagnosis, prevention, and control.

Several differences were noted between the two text types at the macropropositional level: (1) The T-texts contain more bulleted lists, and the text layout appears less dense, while it is not uncommon for the N-texts to contain moves that are very dense, often consisting of only one sentence. (2) The majority of moves are marked by impersonal questions as headings. In the case of the few existing personal questions, the N-texts prefer to address the reader in the informal second person, or utilize the first person. The T-texts address the reader-as-*usted* (second person formal). (3) The Moraleja at the end of N-text brochures are Spanish sayings or proverbs, while in the T-text they

consist of one or two-line exhortations to remember key elements of the brochure or to follow its advice. The latter two differences demonstrate, once again, the more formal direct nature of the T-texts.

Limitations and Challenges of the Text Analyses

One of the most important issues to consider in any corpus study is that of representativeness, that is, how well the corpus under study represents a particular register (or language). Again, the purpose of this study was to describe a corpus of health brochures, and not to speak to the nature of health writing in general, or to global characteristics of the Spanish language. Therefore, this research can only be considered exploratory, and the clusters of features and functions described are associated only with this particular corpus. More analyses are required to determine whether the findings presented here can be generalized to other corpora of this same register.

Another limitation to this study is the scarcity of corpus investigations involving Spanish which could serve as comparable studies: caution must be taken in basing the interpretation of linguistic frequencies and correlations in Spanish on findings from studies involving English texts. Despite the development of corpus resources in Spanish (see Chapter 2), it is still underrepresented in corpus linguistic research.

It should also be noted that corpus linguistics has been criticized because of the subjective nature of data interpretation. In addition, it has been argued that corpora constitute only textual traces, or products, of discourse processes, that are removed from their sociocultural settings (Stubbs, 2002; Widdowson, 2001). Again, for each study, the

researcher is faced with the challenge of determining the amount of relevant context for answering proposed research questions. In this particular study, it was necessary to consider context at a number of levels, including co-text, intertext, text, and sociocultural and cognitive contexts (see discussion of context in Chapter 2).

Recommendations for Future Research

As stated previously, my interpretations of the functions of linguistic features identified in the health brochure corpus do not represent absolutes for health brochures in general. Further research of a corpus consisting of more texts is necessary to provide a more complete account of the functions of the features in this register. Future factor analyses may reveal more factors, which will provide a clearer picture of similarities and differences between the two text types. In addition, a detailed analysis of the distinct sections, or moves, would provide data for a more accurate form-function mapping.

The findings of the speech act analysis point to the need for more research on the sociocultural context in which health brochures are embedded in both countries: what is the perceived relationship between brochure author and reader? What expectations exist concerning appropriate patterns of interaction? Also, how does the status of the T-text author as an "outsider" influence readers' reactions? All of these questions warrant further investigation, grounded in cross-cultural communication and critical discourse theory. In addition, a closer look at the use of threats versus promises (commissive speech acts) in the two text types may point to differences in preferred persuasive strategies (see references to fear appeal elsewhere in this study).

Another fascinating area of research would be a diachronic study of the health brochure in Mexico in the United States. Such a study would speak to the questions posed in the previous paragraph, and provide insight on the influence (if any) of the U.S. health brochure on the Mexican health brochure.

Part II: Field Testing of Texts

Overview of Findings

This study also addressed the research questions posed in Chapter I related to impact of texts on the reader, readers' perceptions of and response to the texts, and whether the readers preferred one text type over the other (Part II, Field Testing of Texts).

Participants indicated health brochures as their main source of information about the disease topics included in Part II (AIDS, diabetes, tuberculosis, and high blood pressure). They reported television as their principal source of health information in general, followed by brochures. These responses show the important role of the brochure in health information dissemination. It is important to note, however, that informants indicated a preference for television and books over brochures for educating themselves about health.

The pretest/posttest protocol constituted a pilot study conducted to evaluate knowledge and attitude changes after health brochure readings. The purpose was to determine whether the two text types differ in their effectiveness in promoting such

changes in readers. An overall pattern of higher scores was seen on the posttest and pretest-to-posttest difference scores among subjects who read the N-texts for AIDS, diabetes, and tuberculosis. This tendency warrants further research, as discussed later, especially when considered in light of the results of the recall protocol and interviews.

The recall task proved to be a useful tool in unveiling differences in N-text and T-text features, based on readers' responses. The results suggest that: (1) Much of the information contained in health brochures is either considered irrelevant or is not understood by the reader. As mentioned previously, health brochures tend to have a highly informational focus, including technical information on cause of disease and disease transmission mechanisms (see Table 3.3). Very little of the content falling under these categories was recalled by informants. (2) It is possible to foreground information in such a way as to inadvertently overshadow other essential content. As an example, participants in this study focused on content implemented to appeal to fear in the reader rather than on how to prevent and control disease. (3) Bullets and lists are an effective means of presenting information in health brochures. Informant responses in this study seem to show that this constitutes an effective strategy in both text types. However, if brochures are translated, lists should consist of single words or short phrases, accompanied by relevant illustrations. (4) Application of established health brochure guidelines (e.g. CDC guidelines discussed later in this chapter), such as the use of "short words and sentences", and transfer of these features into Spanish, has the potential of negatively affecting comprehension, because it often involves the transfer of unusual forms, including unfamiliar vocabulary items. (5) The linguistic features of T-texts

discussed in Part I appear to negatively affect the ability of readers to synthesize information and draw inferences. Readers of N-texts produced more cohesive and coherent recalls.

The interview sessions involved one-on-one discussions with participants, during which they read an N-text and a T-text on the same topic. They were asked to select the one they preferred. Nine out of 12 of the participants chose the N-texts, and 3 chose the T-texts. During the interviews, informants discussed their expectations about language, content, physical characteristics (layout, illustrations, etc.) and representation of self:

- (1) Those who chose the N-texts expressed their expectations about language patterns by commenting on the T-texts not being "in Spanish", and as being inappropriate for people who are educated in Mexico.
- (2) As regards content, informants were concerned foremost with prevention and self-care, including protecting themselves and others, where to go for more information and to have tests done, and other activities for prevention and control. This confirms the recall responses which suggest that informants focus more on the categories of *Symptoms and Diagnosis* and *Prevention, Control and Treatment* during reading, and ignore, or perhaps scan, the more technical information.
- (3) Informants felt that illustrations were extremely helpful to them in interpreting the brochures. In fact, the three informants who indicated a preference for the T-texts stated that they preferred the texts because of the illustrations.
- (4) Informants' perception of self and society emerged through the interview process, reflecting the linguistic characteristics of the N-texts described in the text analyses in Part I. They clearly aligned themselves with Mexican society, using first person plural forms, and referred to their community's need for health

information. Participants also showed a strong sense of *familismo* and membership in a collectivist society, including the desire to not only protect and help themselves, but family members and friends, as well. Another topic related to identity included the role of God in protecting people's health. These perceptions and beliefs reflect the sociocultural context surrounding the Mexican health brochure.

Limitations and Challenges of Field Testing

The greatest challenge in field testing texts is, of course, recruiting and involving participants. This is difficult to accomplish in such a way that both researcher and participants benefit from the session. My hope is that this research will serve to improve the dissemination of health information in Spanish, and that informants felt they were able to learn something valuable in the process, as I was.

The one-on-one testing, recall, and interview sessions were time-consuming. However, the findings here demonstrate the wealth of information that can be obtained from readers: they provide a richer, more holistic view of the texts than isolated text analyses.

Space was also a limited resource: finding quiet, comfortable places to sit down for sessions was a challenge. Fortunately, many generous people provided the tables, chairs, rooms, etc. for conducting this research.

Another issue that needs to be addressed in future research of this type is that of self-report. As discussed in Chapter 4, many participants demonstrated knowledge about a disease after stating previously they knew nothing about it. This led to some problems

in evaluating the results of tests. In the future, more obscure health topics should be included in order to create more equitable conditions in terms of self-reported knowledge of disease.

Testing of attitudes also proved to be difficult with this particular group. As mentioned before, measuring attitude is always problematic, and the formats used may not be familiar to this particular population. Attitudes may be best measured through interviews and focus groups.

Recommendations for Future Research

The pretest/posttest experimental study constituted a pilot study from which to launch future research. Some important changes would need to be made in the research design: (1) The study should include more subjects per disease topic. (2) Testing instruments need to be assessed for test-retest reliability to determine whether this type of assessment constitutes a valid construct to be used with this particular population. (3) Inclusion of topics that have not been so widely disseminated would help to avoid confounding factors such as false self-report and passive knowledge. (Note, however, that indications of previous knowledge about AIDS in this group speaks positively of current efforts to get information out within Mexican communities. It appears, based on comments by participants, that the television may play a key role in this process).

As I have discussed several times, results from both the recall protocol and the interviews show that technical content from the brochures is either ignored or considered irrelevant. Future research should address this issue to determine whether knowledge of

technical information (such as the definition of *virus* versus *bacteria*) affects health behavior. If it does play a role in influencing actions, then the way such information is presented in brochures needs to be reevaluated (for both text types). If it does not, then perhaps less space should be dedicated to this information, and more emphasis should be placed on factors such as prevention, control, and treatment.

In addition, there is a gap in the general sociocultural research with respect to the effects of fear appeal in Latino communities. It cannot be assumed that different sociocultural groups will respond to fear or threats in the same way. Cross-cultural research in fear arousal constitutes a much needed area of research in health communication and education.

Implications and Recommendations

This research contributes to a number of different fields, including translation studies, translator training, contrastive rhetoric, genre analysis, corpus linguistics, and health education.

The health brochure is an example of a text type requiring a covert translation, in House's (1998) sense. Its purpose is not to educate the "target world" about the "source world", but rather to inform the reader about life-threatening disease, and persuade her/him to take action to prevent disease. For this reason, the health brochure must meet the expectations and rules of the target discourse community at every contextual level. One of the basic areas of research in translation deals with the concept of equivalence. The findings of this study contribute to studies in translation in demonstrating the

meaning and complexity of equivalence at these different contextual levels, including co-text, inter-text, text, and sociocultural context.

Translator training can also benefit from the findings presented here. Translator training has traditionally centered around the source text, with a focus on approximating original meaning. The analysis of translated texts in this study clearly demonstrates the need to train translators in how to do formative research related to the intended translation reader. An example is the observation of the use of *usted* as an overall strategy for avoiding informal interaction with the reader: this approach indicates a superficial view of or a haphazard guess at who the reader is expected to be.

Translator trainers would also benefit from the use of parallel texts in the classroom. The use of cross-linguistic pairs that constitute equivalent genres (see Hartmann, 1980) would be an extremely useful tool in the classroom, especially if concordancing tools are made available to the student for conducting comparisons of content, grammar, linguistic realizations of pragmatic intentions, and organizational structures between the two text types. Such classroom investigations would not require specialized knowledge in statistics.

Parallel texts would also serve as a useful tool to the professional translator. They could be used in combination with other more traditional types of reference texts to work toward an equivalence that goes beyond the level of the individual word.

This study is also unique to studies in contrastive rhetoric in that it compares translationese to first language writing. It points to factors influencing how translators attempt to compose effective English-to-Spanish translations versus factors influencing

those preparing texts originally in Spanish. It is also significant in that Spanish is underrepresented in contrastive rhetoric research.

There are also very few Spanish studies within genre analysis and corpus linguistics. This investigation contributes to the scarcity of linguistic information on Spanish texts at both the micro and macro levels.

This research bears many implications for health communication and the development of health messages. First of all, in the process of collecting and reviewing hundreds of brochures from many different clinics and hospitals, I found that most of them have significant problems, including very literal word-for-word translations, glaring typographical and grammatical errors, and that they certainly miss the mark in terms of cultural and linguistic appropriateness. This translates into enormous costs for those investing in the brochures without meeting the intended objective of communicating information to clientele. As further confirmation of this, some of the informants in this study expressed surprise at not finding spelling and other types of errors in the brochures they read for the purposes of this study.

Second, analyses of the two text types and findings based on the recall protocol and interviews provide justification for adhering to the following guidelines in the development of health messages: (1) The most effective approach to developing health brochures is to avoid the use of translations altogether. Health educators dedicate a great deal of time and effort to developing messages through formative research, and, in some cases, field testing. Translations based on their research with dominant-language groups cannot be expected to meet the needs and expectations of the target, language-minority

discourse community. (2) All health messages should be field tested with individuals from the target discourse community. The methods presented here show promising results for probing the effects of texts on the reader, and for revealing strengths and weaknesses of texts. (3) The use of bulleted lists is an effective approach for getting across some of the information presented in health brochures (such as symptoms and risk factors), although care should be taken to avoid a choppy, uncoordinated text through overuse of lists. (4) Readers make use of illustrations and diagrams, and they should be included in brochures to aid in synthesizing information and stimulating later recall. (5) Fear appeal may not be an effective strategy with Mexican populations. Field testing of texts should note differences in impact of positive (promises) and negative (threats) persuasive strategies. (6) If the decision is made to use translations (as a last alternative), it is essential to make sure the translator is experienced (a complex topic which is beyond the scope of this study), and that she/he is involved in formative research related to the intended audience (readers of the translations). (7) Guidelines provided for English brochures, such as "use words with one or two syllables when you can", "make sentences 8-10 words", and "limit paragraphs to 3-5 sentences" (CDC, 1999) are not applicable across languages. As the analyses in this research shows, their application could possibly lead to difficulty in reading comprehension if applied to Spanish (or other languages).

In the course of this study, I evaluated a corpus of health brochures from a number of different perspectives. It is clear that the two text types, translated and non-translated brochures, share the same communicative purpose, and many of the same linguistic and structural features. They also differ in important ways, perhaps the most

significant being in the realization of pragmatic function. There is still much to learn about these two text types, but now much that was hidden from view is open to further investigation. My hope is that this research contributes to the knowledge of language for its own sake, and to the fields of applied language experts, such as translators and health communicators. Above all, may it benefit those who made the greatest contribution to its completion: members of the Mexican community.

APPENDICES

Appendix A: List of Health Brochures in Corpus

Appendix B: Informed Consent Form

Appendix C: Pretests/Posttests

Appendix D: Background Information Form

APPENDIX A:

List of Health Brochures in Corpus

N-texts:

1. Centro de Investigaciones en Salud Pública. ¡Lo hicimos bien! Siempre Con...Don para hacer el amor: enfermedades sexuales v SIDA.
2. Centros de Información para la Salud (CISAL). Secretaria de Salud Pública, Comité Estatal de Prevención y Control del SIDA (COESIDA), Hermosillo, México. No nuble su VIDA: Protéjase del SIDA: Información para evitar el SIDA.
3. Centros de Información para la Salud (CISAL). Secretaria de Salud Pública, Dirección General de Servicios de Salud, México, Hermosillo y Nogales, México. ¿A mí? ¡Sí, a ti también!: Información para evitar el SIDA.
4. Centros de Información para la Salud (CISAL). Secretaria de Salud Pública, Dirección General de Servicios de Salud, México, Hermosillo y Nogales, México. La mujer v el HIV-SIDA.
5. CIBA-GEIGY, Sistema Nacional de Salud, Ciudad de México, DDF. Cuidemos los pies v manos.
6. CONSIDA, México. Hombre: El SIDA no se ve, hasta que te da.
7. CONASIDA, Juntos para la Salud, Secretaría de Salud, México. Hablar del SIDA con tus hijos no es tan fácil.
8. CONASIDA, Juntos para la Salud, Secretaría de Salud, México. Jóvenes v SIDA.
9. Dirección General de Medicina Preventiva, Dirección de Normas de Prevención y Control de Enfermedades Crónico-degenerativas, Departamento de Control de Diabetes Mellitus. Diabetes.
10. Gobierno del Estado de Sonora, Secretaria de Salud Pública. La Prueba del SIDA.
11. Gobierno del Estado de Sonora, Secretaria de Salud Pública. Tu participación es indispensable para la eliminación del sarampión.
12. Hospital del Seguro, Nogales, México. ¿Qué es la diabetes?
13. Instituto Mexicano del Seguro Social, Seguridad y Solidaridad Social, Secretaria General, Coordinación General de Comunicación Social. Hipertensión

14. Instituto Mexicano del Seguro Social, ISSSTE, Medicina Preventiva, Fomento de la Salud, Ciudad de México, DDF. Para prevenir la tuberculosis hay que estar bien informados: La prevención es tu mejor opción.

15. tel SIDA, México. Información básica sobre SIDA.

16. tel SIDA, México. Aquí entre nos...

T-texts:

1. American Diabetes Association. ¿Está usted en riesgo de diabetes?

2. American Heart Association. La presión alta: Control, riesgo, tipo de vida, peso.

3. American Heart Association. ¿Por qué hacer ejercicio?

4. American Lung Association. El Señor Germen de tuberculosis.

5. American Lung Association. ¡Tos! ¿Tuberculosis?

6. Channing L. Bete Co., Inc., South Deerfield, MA. La diabetes--información para todos.

7. Channing L. Bete Co., Inc., South Deerfield, MA. TB--lo que usted debe saber.

8. ETR Associates, Santa Cruz, CA. Condomes: Piénselo.

9. ETR Associates, Santa Cruz, CA. Lo que debes saber sobre el VIH.

10. Journeyworks Publishing, Santa Cruz, CA. El VIH y el sexo.

11. National Institutes of Health, National Heart, Lung and Blood Institute and Office of Minority Health. ¡Póngase en acción--prevenga la alta presión!

12. Novo Nordisk Pharmaceuticals, Inc. Conceptos básicos sobre la diabetes.

13. San Francisco AIDS Foundation, San Francisco, CA. SIDA: Cable de salvamento: Informarse es la mejor defensa contra el SIDA.

14. U.S. Department of Health and Human Services, CDC. Tuberculosis: ¡Entérese!

15. U.S. Department of Health and Human Services, Food and Drug Administration Communications Staff. Cómo protegerse contra el SIDA.

16. U.S. Department of Health and Human Services, National Institutes of Health. Aprenda sobre la tuberculosis.

APPENDIX B:
Informed Consent Form

DECLARACIÓN DE CONSENTIMIENTO DE PARTICIPACIÓN

El impacto de la literatura de promoción de salud

Investigadora Principal: Holly E. Jacobson

Fecha: 15 de marzo 1999

SE ME PIDE QUE LEA LA INFORMACIÓN A CONTINUACIÓN PARA VERIFICAR QUE ESTOY INFORMADO DE LAS CARACTERÍSTICAS DE ESTA INVESTIGACIÓN Y EN QUE CONSISTE MI PARTICIPACIÓN. SI CONSIENTO EN ELLO. AL FIRMAR ESTE DOCUMENTO ESTARÉ INDICANDO QUE HE SIDO INFORMADO SOBRE LA INVESTIGACIÓN Y QUE CONSIENTO EN PARTICIPAR. LOS REGLAMENTOS FEDERALES EXIGEN QUE SEA INFORMADO Y QUE DECLARE POR ESCRITO MI CONSENTIMIENTO ANTES DE PARTICIPAR EN ESTA INVESTIGACIÓN. DE FORMA QUE ENTIENDA EN QUE CONSISTE Y LOS RIESGOS QUE PUDIERA SUPONER MI PARTICIPACIÓN Y DECIDA DE FORMA LIBRE E INFORMADA PARTICIPAR O NO PARTICIPAR.

Propósito: Se me invita a participar de forma voluntaria en el proyecto de título arriba indicado. El propósito de este proyecto es recoger información sobre folletos de salud escritos en español y determinar cómo la información que contienen afecta los conocimientos de las personas sobre la salud.

Participantes: Se me invita a participar porque este proyecto incluye adultos de México que son nativohablantes del español. Aproximadamente 60 personas participarán en este estudio.

Método: Si consiento en participar, se me pedirá que haga lo siguiente: la investigadora me hará preguntas sobre cierto tema relacionado con la salud, como por ejemplo la diabetes. También se me pedirá que lea un folleto que habla sobre ese mismo tema. Después tendré una entrevista con la investigadora en que me preguntará sobre mis opiniones relacionadas con el tema y el folleto. Todo el proceso tomará aproximadamente 30 minutos.

Riesgos: Mi participación en este estudio no supone ningún riesgo para mí.

Beneficios: Un posible beneficio de esta investigación es que con mi participación tendrá la oportunidad de aprender más sobre temas relacionados con mi salud. También, los conocimientos resultantes de este estudio pueden servir para desarrollar mejores fuentes de información de salud para las comunidades hispanohablantes.

Confidencialidad: Las respuestas y las entrevistas de los participantes se grabarán y archivarán en papel y cintas de audio. La información que se recoja durante mi participación en este estudio por Holly E. Jacobson, candidata al doctorado en la Universidad de Arizona, se mantendrá en absoluta reserva. Si se publica o informa sobre los resultados de este estudio, mi identidad no se dará a conocer.

Obligaciones monetarias y compensación por participación: No se requiere ningún pago por mi parte, ni se me remunerará económicamente por mi participación.

Puedo conseguir más información de la investigadora principal, Holly E. Jacobson, M.A.,

llamando al (520)621-7391. Si tengo preguntas sobre mis derechos como sujeto de investigación, puedo llamar al Comité de Sujetos Humanos al (520)626-6721.

ANTES DE CONSENTIR EN PARTICIPAR EN ESTE PROYECTO FIRMANDO ESTE DOCUMENTO SE ME EXPLICARON LOS MÉTODOS, INCONVENIENTES, RIESGOS Y BENEFICIOS Y HE RECIBIDO RESPUESTAS A MIS PREGUNTAS. ENTIENDO QUE PUEDO HACER PREGUNTAS EN CUALQUIER MOMENTO Y QUE PUEDO RETIRARME DEL PROYECTO EN CUALQUIER MOMENTO SIN CAUSAR RESENTIMIENTOS. LA INVESTIGADORA O EL PATROCINADOR PUEDEN TERMINAR MI PARTICIPACIÓN EN ESTE PROYECTO POR RAZONES QUE SE ME EXPLICARÍAN. SI MIENTRAS SE ESTÉ LLEVANDO A CABO ESTE PROYECTO SE PONE EN EVIDENCIA ALGUNA INFORMACIÓN NUEVA QUE PUEDA INFLUIR EN MI DESEO DE SEGUIR PARTICIPANDO ME INFORMARÁN DE LA MISMA INMEDIATAMENTE. ENTIENDO QUE ESTA DECLARACIÓN DE CONSENTIMIENTO ESTARÁ ARCHIVADA EN UN LUGAR DESIGNADO POR EL COMITÉ DE SUJETOS HUMANOS Y QUE EL DERECHO DE ACCESO A LA DECLARACIÓN SERÁ LIMITADO A LA INVESTIGADORA PRINCIPAL, HOLLY E. JACOBSON, O A OTRO REPRESENTANTE AUTORIZADO DEL PROGRAMA INTERDISCIPLINARIO DE DOCTORADO DE LA ADQUISICIÓN Y ENSEÑANZA DE SEGUNDAS LENGUAS. ENTIENDO QUE NO RENUNCIO A NINGUNO DE MIS DERECHOS LEGALES AL FIRMAR ESTA DECLARACIÓN. SE ME ENTREGARÁ UNA COPIA DE ESTE DOCUMENTO FIRMANDO.

Firma del participante

Fecha

Confirmación del Investigador

He explicado detalladamente al participante las características de este proyecto. Con el presente certifico que a mi mejor saber y entender la persona que firma esta declaración de consentimiento y acuerdo entiende claramente en qué consiste y las responsabilidades, beneficios y riesgos que supone su participación y que su firma es válida. Ningún problema médico u obstáculo de idioma o educación ha imposibilitado este entendimiento.

Firma de la investigadora

Fecha

APPENDIX C:
Pretests/Posttests

AIDS-pretest/posttest

Encuesta de Salud

Lea cada frase y marque "verdadero" si usted cree que lo que dice es verdad y marque "falso" si cree que no es verdad. Si no está seguro si es verdad o no, marque "no sé". MARQUE SOLAMENTE UNA RESPUESTA.

1. Hay una enfermedad que se llama SIDA.

VERDADERO FALSO NO SÉ

2. El VIH es un virus.

VERDADERO FALSO NO SÉ

3. Me puedo contagiar el SIDA estando al lado de una persona que tiene la enfermedad.

VERDADERO FALSO NO SÉ

4. Es siempre peligroso compartir jeringas con otras personas.

VERDADERO FALSO NO SÉ

5. Todas las personas que tienen SIDA son homosexuales.

VERDADERO FALSO NO SÉ

6. Es peligroso agarrar la mano de una persona que tiene SIDA.

VERDADERO FALSO NO SÉ

7. Una mujer embarazada que tiene SIDA puede pasar la enfermedad a su futuro bebé.

VERDADERO FALSO NO SÉ

8. Una persona puede contagiarse del SIDA al usar baños públicos.

VERDADERO FALSO NO SÉ

9. Una persona puede tener el VIH sin saberlo.

VERDADERO FALSO NO SÉ

10. Los mosquitos transmiten el virus del SIDA.

VERDADERO FALSO NO SÉ

11. Uno corre el riesgo de contagiarse del SIDA al compartir con enfermos vasos y utensilios de comer.

VERDADERO FALSO NO SÉ

12. Es siempre posible reconocer a las personas con el VIH porque parecen enfermas.

VERDADERO FALSO NO SÉ

13. El virus del SIDA se encuentra en la sangre, el semen y en los fluidos vaginales de las personas infectadas.

VERDADERO FALSO NO SÉ

14. Solamente los hombres se pueden infectar con el virus del SIDA.

VERDADERO FALSO NO SÉ

15. El SIDA sólo se produce en personas que están contagiadas con el VIH.

VERDADERO FALSO NO SÉ

16. El uso de condones ayuda a prevenir el SIDA.

VERDADERO FALSO NO SÉ

17. Uno puede hacerse un análisis para saber si tiene el virus del SIDA.

VERDADERO FALSO NO SÉ

**Lea cada una de las siguientes frases y conteste "estoy de acuerdo" si está de acuerdo con lo que dice, conteste "no estoy de acuerdo" si no está de acuerdo, o "no sé" si no está seguro.
MARQUE SOLAMENTE UNA RESPUESTA.**

1. El SIDA es una enfermedad muy común.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

2. Creo que cualquier persona puede protegerse del SIDA.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

3. Creo que el SIDA es una enfermedad muy grave.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

4. Hay mucho que pueden hacer las personas para prevenir el SIDA.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

5. Hay unas formas de hacer el amor (tener relaciones sexuales) que son más seguras que otras.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

6. Tendría miedo de abrazar a un enfermo de SIDA.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

Por favor, conteste también a las siguientes preguntas:

1. Los baños de sol ayudan a mantener la piel sana y joven.

VERDADERO FALSO NO SÉ

2. El humo del cigarrillo nomás afecta al que lo está fumando.

VERDADERO FALSO NO SÉ

3. Hacer ejercicio diariamente ayuda a prevenir la depresión.

VERDADERO FALSO NO SÉ

4. Las frutas y vegetales proporcionan mucha fibra alimentaria.

VERDADERO FALSO NO SÉ

5. Un adulto sano no necesita dormir más de cinco horas diarias.

VERDADERO FALSO NO SÉ

Diabetes-Pretest/Posttest

Encuesta de Salud

Lea cada frase y marque "verdadero" si usted cree que lo que dice es verdad y marque "falso" si cree que no es verdad. Si no está seguro si es verdad o no, marque "no sé".

MARQUE SOLAMENTE UNA RESPUESTA.

1. La diabetes es una enfermedad.

VERDADERO FALSO NO SÉ

2. Los diabéticos son personas que sufren de diabetes.

VERDADERO FALSO NO SÉ

3. La diabetes es en muchos casos hereditaria.

VERDADERO FALSO NO SÉ

4. Tener mucha sed puede ser un síntoma de diabetes.

VERDADERO FALSO NO SÉ

5. El tener que orinar mucho puede ser una señal de que una persona tiene diabetes.

VERDADERO FALSO NO SÉ

6. Las personas con diabetes nunca deben hacer ejercicio.

VERDADERO FALSO NO SÉ

7. Para alguna gente, una forma de ayudar a prevenir o controlar la diabetes es perdiendo peso.

VERDADERO FALSO NO SÉ

8. La diabetes es una enfermedad contagiosa.

VERDADERO FALSO NO SÉ

9. La alimentación es importante para controlar la diabetes.

VERDADERO FALSO NO SÉ

10. Muchos diabéticos tienen que tomar medicamentos o inyectarse insulina.

VERDADERO FALSO NO SÉ

11. Si la diabetes no se controla se pueden producir otros problemas de salud.

VERDADERO FALSO NO SÉ

12. Un síntoma de diabetes es el exceso de energía.

VERDADERO FALSO NO SÉ

13. Las personas con sobrepeso tienen menos riesgo de desarrollar diabetes.

VERDADERO FALSO NO SÉ

14. Una persona puede saber si tiene diabetes o no haciéndose unos análisis en una consulta médica.

VERDADERO FALSO NO SÉ

15. Hay solamente un tipo de diabetes.

VERDADERO FALSO NO SÉ

16. Un síntoma de diabetes es la falta de apetito.

VERDADERO FALSO NO SÉ

17. Los diabéticos producen demasiada insulina.

VERDADERO FALSO NO SÉ

Lea cada una de las siguientes frases y conteste "estoy de acuerdo" si está de acuerdo con lo que dice, conteste "no estoy de acuerdo" si no está de acuerdo, o "no sé" si no está seguro. MARQUE SOLAMENTE UNA RESPUESTA.

1. La diabetes es una enfermedad muy común.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

2. Pienso que es imposible que yo pueda desarrollar diabetes.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

3. Si me dijeran que tengo diabetes ya no podría disfrutar de la vida.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

4. Hay mucho que un diabético puede hacer para controlar su enfermedad.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

5. Es muy difícil para un diabético llevar una vida normal.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

6. Hay mucho que los doctores pueden hacer para tratar la diabetes.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

Por favor, conteste también a las siguientes preguntas:

1. Los baños de sol ayudan a mantener la piel sana y joven.

VERDADERO FALSO NO SÉ

2. El humo del cigarrillo nomás afecta al que lo está fumando.

VERDADERO FALSO NO SÉ

3. Hacer ejercicio diariamente ayuda a prevenir la depresión.

VERDADERO FALSO NO SÉ

4. Las frutas y vegetales proporcionan mucha fibra alimentaria.

VERDADERO FALSO NO SÉ

5. Un adulto sano no necesita dormir más de cinco horas diarias.

VERDADERO FALSO NO SÉ

Tuberculosis-Pretest/Posttest

Encuesta de Salud

Lea cada frase y marque "verdadero" si usted cree que lo que dice es verdad y marque "falso" si cree que no es verdad. Si no está seguro si es verdad o no, marque "no sé". **MARQUE SOLAMENTE UNA RESPUESTA.**

1. La tuberculosis es una enfermedad.

VERDADERO FALSO NO SÉ

2. Hay personas que sufren de tuberculosis.

VERDADERO FALSO NO SÉ

3. La tuberculosis nunca se puede contagiar.

VERDADERO FALSO NO SÉ

4. La tuberculosis es en muchos casos hereditaria.

VERDADERO FALSO NO SÉ

5. Tomar medicamentos es la forma más segura de proteger de la tuberculosis a los familiares de un enfermo.

VERDADERO FALSO NO SÉ

6. La tuberculosis se transmite por la picadura del mosquito.

VERDADERO FALSO NO SÉ

7. La tuberculosis afecta principalmente a los pulmones.

VERDADERO FALSO NO SÉ

8. Si la tuberculosis no se trata desaparece poco a poco como la gripa.

VERDADERO FALSO NO SÉ

9. Es imposible saber si uno tiene tuberculosis.

VERDADERO FALSO NO SÉ

10. La tuberculosis se transmite por la sangre.

VERDADERO FALSO NO SÉ

11. Solamente el doctor puede decidir cuándo un enfermo de tuberculosis puede dejar de tomar los medicamentos.

VERDADERO FALSO NO SÉ

12. Uno de los síntomas principales de la tuberculosis es la diarrea.

VERDADERO FALSO NO SÉ

13. Si la tuberculosis no se trata puede dañar a varios órganos internos.

VERDADERO FALSO NO SÉ

14. Si un análisis para tuberculosis sale positivo es posible que haya que recibir tratamiento.

VERDADERO FALSO NO SÉ

15. Algunas personas pueden padecer tuberculosis y no saberlo.

VERDADERO FALSO NO SÉ

16. En realidad no existe tratamiento efectivo contra la tuberculosis.

VERDADERO FALSO NO SÉ

17. La tuberculosis se transmite por la tos y el estornudo.

VERDADERO FALSO NO SÉ

Lea cada una de las siguientes frases y conteste "estoy de acuerdo" si está de acuerdo con lo que dice, conteste "no estoy de acuerdo" si no está de acuerdo, o "no sé" si no está seguro. MARQUE SOLAMENTE UNA RESPUESTA.

1. La tuberculosis es una enfermedad muy común.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO
NO SÉ

2. Si pasara mucho tiempo con una persona con tuberculosis no tendría ningún peligro de contagiarme.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

3. Yo no tengo que preocuparme por la tuberculosis.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

4. Una persona con tuberculosis no tiene esperanza de sobrevivir.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

5. Si tuviera tuberculosis tendría que alejarme de mi familia y mis amigos.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

6. El doctor no podría ayudarme mucho en caso de tuberculosis.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

Por favor, conteste también a las siguientes preguntas:

1. Los baños de sol ayudan a mantener la piel sana y joven.

VERDADERO FALSO NO SÉ

2. El humo del cigarrillo nomás afecta al que lo está fumando.

VERDADERO FALSO NO SÉ

3. Hacer ejercicio diariamente ayuda a prevenir la depresión.

VERDADERO FALSO NO SÉ

4. Las frutas y vegetales proporcionan mucha fibra alimentaria.

VERDADERO FALSO NO SÉ

5. Un adulto sano no necesita dormir más de cinco horas diarias.

VERDADERO FALSO NO SÉ

High Blood Pressure-Pretests/Posttests

Encuesta de Salud

Lea cada frase y marque "verdadero" si usted cree que lo que dice es verdad y marque "falso" si cree que no es verdad. Si no está seguro si es verdad o no, marque "no sé". **MARQUE SOLAMENTE UNA RESPUESTA.**

1. La hipertensión es una enfermedad.

VERDADERO FALSO NO SÉ

2. Los hipertensos son personas con hipertensión.

VERDADERO FALSO NO SÉ

3. Solamente la gente obesa tiene hipertensión.

VERDADERO FALSO NO SÉ

4. La actividad física recomendada por el doctor puede ayudar a las personas hipertensas.

VERDADERO FALSO NO SÉ

5. La alimentación es importante en la prevención de la presión arterial alta.

VERDADERO FALSO NO SÉ

6. Es posible reconocer a las personas con hipertensión porque siempre tienen síntomas.

VERDADERO FALSO NO SÉ

7. La presión alta solamente afecta a los hombres.

VERDADERO FALSO NO SÉ

8. La hipertensión es en muchos casos hereditaria.

VERDADERO FALSO NO SÉ

9. La hipertensión tiene cura.

VERDADERO FALSO NO SÉ

10. Una persona que se encuentra bien no tiene que preocuparse por la presión alta.

VERDADERO FALSO NO SÉ

11. Una persona delgada puede tener la tensión arterial alta.

VERDADERO FALSO NO SÉ

12. El estrés y las preocupaciones pueden subir la tensión arterial.

VERDADERO FALSO NO SÉ

13. La hipertensión sin controlar puede dañar los riñones, el corazón y otros órganos internos.

VERDADERO FALSO NO SÉ

14. Los medicamentos contra la hipertensión se pueden dejar de tomar en cuanto la tensión sanguínea se normaliza.

VERDADERO FALSO NO SÉ

15. Las personas con hipertensión deben reducir la cantidad de sal en su dieta.

VERDADERO FALSO NO SÉ

16. Para algunas personas, una buena forma de bajar la tensión de la sangre es perdiendo peso.

VERDADERO FALSO NO SÉ

17. Aprender a relajarse y estar tranquilo ayuda a bajar la tensión alta.

VERDADERO FALSO NO SÉ

Lea cada una de las siguientes frases y conteste "estoy de acuerdo" si está de acuerdo con lo que dice, conteste "no estoy de acuerdo" si no está de acuerdo, o "no sé" si no está seguro. MARQUE SOLAMENTE UNA RESPUESTA.

1. La hipertensión es una enfermedad muy común.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

2. La hipertensión es una condición grave que hay que tomar en serio.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

3. Es posible que yo tenga hipertensión.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

4. Hay mucho que pueden hacer los hipertensos para controlar su condición y mantenerse sanos.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

5. La hipertensión se produce por mala suerte y no hay nada que se puede hacer para evitarla.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

6. Hay mucho que los doctores pueden hacer para tratar la hipertensión.

ESTOY DE ACUERDO NO ESTOY DE ACUERDO NO SÉ

Por favor, conteste también a las siguientes preguntas:

1. Los baños de sol ayudan a mantener la piel sana y joven.

VERDADERO FALSO NO SÉ

2. El humo del cigarrillo nomás afecta al que lo está fumando.

VERDADERO FALSO NO SÉ

3. Hacer ejercicio diariamente ayuda a prevenir la depresión.

VERDADERO

FALSO

NO SÉ

4. Las frutas y vegetales proporcionan mucha fibra alimentaria.

VERDADERO

FALSO

NO SÉ

5. Un adulto sano no necesita dormir más de cinco horas diarias.

VERDADERO

FALSO

NO

APPENDIX D:
Background Information Form

Información sobre los participantes

La información que solicito aquí me ayudará a saber más sobre su experiencia con los idiomas, lo que me facilitará el análisis de los datos que recojo en mi estudio. Esta información permanecerá totalmente confidencial.

Nombre:

Fecha:

Sexo: hombre mujer

Edad: 18-29 30-39 40-49 50-59 más de 60

I. Lectura

1. ¿Fue a la escuela en México? Sí No ¿Qué grado completó?
2. ¿Fue a la escuela en los Estados Unidos? Sí No ¿Qué clases completó?
3. ¿Le gusta leer en su tiempo libre? Sí No
4. Si le gusta leer, ¿qué tipo de lectura prefiere? (Circule los que correspondan)
 revistas libros periódicos otros:
5. ¿Cuánto tiempo dedica cada día a la lectura?
 menos de 1 hora entre 1 y 2 horas más de 2 horas

II. Lenguas

6. ¿Habla inglés? Sí No
7. ¿Si habla inglés, ¿cuántos años hace que lo habla?
 menos de 1 año entre 1 y 2 años entre 2 y 3 años entre 3 y 4 años entre 4 y 5 años más de 5 años
8. ¿Ha asistido alguna vez a clases de inglés? Sí No
 Si ha asistido a clases de inglés, conteste las preguntas 9, 10 y 11, marcando los que correspondan:
9. ¿Durante cuánto tiempo tomó las clases?
 menos de 1 año entre 1 y 2 años entre 2 y 3 años entre 3 y 4 años entre 4 y 5 años más de 5 años
10. ¿Hace cuánto que dejó de asistir a las clases de inglés?
 menos de 1 año entre 1 y 2 años entre 2 y 3 años entre 3 y 4 años entre 4 y 5 años más de 5 años
11. ¿Dónde tomó las clases?
 México Estados Unidos

12. Si habla inglés, ¿con quién suele hacerlo? (Marque todos con quién habla inglés)

hermanos hijos padres amigos colegas del trabajo esposo/a extraños

13. ¿Habla otra lengua además de inglés o español? Sí No ¿Cuál?

14. ¿Cuando era pequeño/a hablaban sus padres con usted u otros familiares otra lengua además del español? Sí No ¿Cuál?

III. Salud

1. ¿Ha tenido usted ocasión de leer alguna vez sobre algunas de las siguientes enfermedades? (Marque todos las que correspondan)

- SIDA (AIDS) Cáncer
 Diabetes Enfermedades del corazón

2. Si marca algunas de las enfermedades mencionadas arriba, ¿dónde fue que ley— sobre ellas?

- de revistas otro:
 de folletos
 de libros

3. ¿De dónde normalmente consigue usted la información sobre salud y prevención de enfermedades? (Marque todos los que correspondan).

- de revistas de la televisión
 de folletos del doctor y personal sanitario
 de libros de los familiares y amigos
 del radio

4. Para aprender más sobre su salud y la prevención de enfermedades, ¿de cuáles de las siguientes fuentes **preferiría** conseguir la información? (Marque todos los que correspondan).

- de revistas de la televisión
 de folletos del radio
 de libros

5. ¿Ha tomado alguna vez clases sobre algunas de las siguientes enfermedades? (Marque todas las que correspondan)

- SIDA (AIDS) Cáncer
 Diabetes Enfermedades del corazón

REFERENCES

Aarts, B. (1999). Corpus linguistics. Chomsky and fuzzy tree fragments. In C. Miar. & M. Hundt (Eds.), Corpus linguistics and linguistic theory: Papers from the Twentieth International Conference on English Language Research on Computerized Corpora (ICAME 20) (pp. 5-13). Amsterdam: Rodopi.

American College of Physicians-American Society of Internal Medicine. (2000). No health insurance? It's enough to make you sick. Latino community at great risk. [White Paper]. Philadelphia, PA: Author.

American Medical Association. (1999). Health literacy: Report of the Council on Scientific Affairs. JAMA, 281, 6, 552-557.

Askehave, I., & Swales, J.M. (2001). Genre identification and communicative purpose: A problem and a possible solution. Applied Linguistics, 22, 2, 195-212.

Austin, J.L. (1962). How to do things with words. Cambridge, MA: Harvard University Press.

Barker, J.C. (1992). Cross-cultural medicine-changing the context of medical practice. Western Journal of Medicine, 157, 248-254.

Barlow, M. (2000). Concordancing with MonoConc Pro 2.0. Houston, TX: Athelstan.

Bernhardt, E.B. (1991). Reading development in a second language. Stamford, CT: Ablex Publishing Corp.

Bhatia, V.K. (1993). Analyzing genre: language use in professional settings. London: Longman.

Biber, D. (1985). Investigating macroscopic textual variation through multifeature/multidimensional analyses. Linguistics, 23, 337-360.

Biber, D. (1988). Variation across speech and writing. Cambridge: Cambridge University Press.

Biber, D. (1994). An analytical framework for register studies. In D. Biber, & E. Finegan (Eds.), Sociolinguistic perspectives on register (pp. 31-56). Oxford: Oxford University Press.

Biber, D. (1995). Dimensions of register variation: A cross-linguistic comparison. Cambridge: Cambridge University Press.

Biber, D., Conrad, S., & Reppen, R. (1998). Corpus linguistics: Investigating language structure and use. Cambridge: Cambridge University Press.

Cella, D.F., Hernández, L., Bonomi, A.E., Corona, M., Vaquero, M., Shiimoto, G., Baez, L. (1998). Spanish language translation and initial validation of the functional assessment of cancer therapy quality-of-life instrument. Medical Care, 36, 9, 1407-1418.

Centers for Disease Control and Prevention. (1992). Prevention and control of tuberculosis in migrant farm workers: Recommendations of the Advisory Council for the elimination of tuberculosis. [Brochure]. Atlanta, GA: Author.

Centers for Disease Control and Prevention. (1999). Scientific and technical information simply put. (2nd ed.). [Handbook]. Atlanta, GA: Author.

Clark, K.L., AbuSabha, R., von Eye, A., & Achterberg, C. (1999). Texts and graphics: manipulating nutrition brochures to maximize recall. Health Education Research, 14, 4, 555-564.

Coffey, A., & Atkinson, P. (1996). Making sense of qualitative data: complementary research strategies. Thousand Oaks, CA: Sage Publications.

Connor, U. (1996). Contrastive rhetoric: cross-cultural aspects of second-language writing. Cambridge: Cambridge University Press.

Connor, U., & Kaplan, R.B. (Eds.). (1987). Writing across languages: Analysis of L2 text. Reading, MA: Addison-Wesley.

Conrad, S.M. (1996). Investigating academic texts with corpus-based techniques: An example from biology. Linguistics and education 8, 299-326.

Conrad, S.M. (2000). Will corpus linguistics revolutionize grammar teaching in the 21st century? TESOL Quarterly 34, 3.

Cook-Gumperz, J. (1986). The social construction of literacy. Cambridge: Cambridge University Press.

de Kock, J. (1999). Similarities and differences between two equivalent corpuses. Moenia, 5, 189-210.

Crabtree, R.D., & Ford, L.A. (1998). Communicating about emerging infectious diseases in the borderlands: Hantavirus education for rural, border, and migrant populations. In J.G. Power, & T. Byrd (Eds.), U.S.-Mexico border health: Issues for regional and migrant populations. (pp. 52-70). London: Sage Publications.

Davis, T.C., Long, S.W., Jackson, R.H., Mayeaux, E.J., George, R.B., Murphy, P.W., Crouch, M.A. (1993). Rapid estimate of adult literacy in medicine: A shortened screening instrument. Family Medicine, 25, 6, 391-395.

Davis, T.C., Michielutte, R., Askov, E.N., Williams, M.V., & Weiss, B.D. (1998). Practical assessment of adult literacy in health care. Health Education and Behavior, 25, 5, 613-624.

Doak, C.C., Doak, L.G., & Meade, C.D. (1996). Strategies to improve cancer education materials. Oncology Nursing Forum, 23, 8, 1305-1312.

Doak, C.C., Doak, L.G., & Root, J.H. (1995). Teaching patients with low literacy skills. Philadelphia: J.B. Lippincott.

Eddington, D. (1999). On 'becoming' in Spanish: A corpus analysis of verbs expressing change of state. Southwest Journal of Linguistics, 18, 2. 23-46.

Eggington, W. (1987). Written academic discourse in Korean: Implications for effective communication. In U. Connor, & R. Kaplan (Eds.), Writing across languages: analysis of L2 text. (pp. 153-168). Reading, MA: Addison-Wesley.

Enkvist, N. (1987). Text linguistics for the applied: An orientation. In U. Connor, & R. Kaplan (Eds.), Writing across languages: analysis of L2 text. (pp. 123-43). Reading, MA: Addison-Wesley.

Ferguson, C. (1994). Dialect, register, and genre: working assumptions about conventionalization. In D. Biber, & E. Finegan (Eds.), Sociolinguistic perspectives on register (pp. 15-56). Oxford: Oxford University Press.

Fetterman, D.M. (1989). Ethnography: Step by step: Applied Social Research Methods Series, Vol. 17. Newbury Park, CA: Sage Publications.

Fuertes Olivera, P.A., & Velasco Sacristan, M. (2001). A critical comparison of the macrostructure and microstructure of two bilingual English-Spanish dictionaries of economics. International Journal of Lexicography, 14, 1, 35-55.

Gentzler, E. (1993). Contemporary translation theories. London: Routledge.

Gil Salom, L. (2000). The organization of scientific discourse and the use of conjunctions in English and Spanish: A contrastive study. Dissertation Abstracts International, 61(3). 648-C. (Ann Arbor, MI. Order No. C803212).

Glanz, K., & Rudd, J. (1990). Readability and content analysis of print cholesterol education materials. Patient Education and Counseling, 16, 109-118.

Glanz, K., Marcus Lewis, F., & Rimer, B.K. (1997). Health behavior and health education. San Francisco: Jossey-Bass Publishers.

Halliday, M.A.K., & Hasan, R. (1976). Cohesion in English. London: Longman.

Hartmann, R.R.K. (1980). Contrastive textology: Comparative discourse analysis in applied linguistics (Studies in Descriptive Linguistics 5). Heidelberg, Germany: J. Gross.

Hartmann, R.R.K. (1996). Contrastive textology and corpus linguistics: on the value of parallel texts. Language Sciences, 18, 3-4, 947-957.

Healthy news. (2001, April). Health, 25-36.

Hervey, S.G.J. (1998). Speech acts and illocutionary function in translation methodology. In L. Hickey (Ed.), The pragmatics of translation. (pp. 10-24). Clevedon, England: Multilingual Matters.

Hickey, L. (1998). Introduction. In L. Hickey (Ed.), The pragmatics of translation. (pp. 1-9). Clevedon, England: Multilingual Matters.

Hinds, J. (1983). Contrastive rhetoric: Japanese and English. Text, 3, 2, 183-195.

Hinds, J. (1987). Reader vs. writer responsibility. In U. Connor, & R. Kaplan (Eds.), Writing across languages: analysis of L2 text. (pp. 141-152). Reading, MA: Addison-Wesley.

Horiba, Y., van den Broek, P.W., & Fletcher, C.R. (1994). The relationship between first and second language reading comprehension of occupation-specific texts. In A.H. Cumming (Ed.), Bilingual performance in reading and writing. (pp. 73-102) Ann Arbor: University of Michigan.

House, J. (1998). Politeness and translation. In L. Hickey (Ed.). The pragmatics of translation. (pp. 54-71). Clevedon, England: Multilingual Matters.

Hunt, L.M., Hamdi Arar, N., & Akana, L.L. (2000). Herbs, prayer, and insulin: Use of medical and alternative treatments by a group of Mexican American diabetes patients. Journal of Family Practice 49, 3, 216-223.

Johnson, D. (1992). Approaches to research in second language learning. London: Longman Publishing Group.

Kasper, G. (1992). Pragmatic transfer. Second Language Research, 8, 3, 203-231.

Kessapidu, S. (1997). A critical linguistic approach to a corpus of business letters in Greek. Discourse and Society, 8, 4, 479-500.

Kobayashi, H. (1984). Rhetorical patterns in English and Japanese. TESOL Quarterly, 18, 4, 737-738.

Lawler, J., & Aristar Dry, H. (1998). Using computers in linguistics: A practical guide. London: Routledge.

le Pair, R. (1996). Spanish request strategies: A cross-cultural analysis from an intercultural perspective. Language Sciences, 18, 3-4, 651-670.

López, Meirama, B. (1997). The contributions of linguistic typology to a particular grammatical problem: The concept of basic word order and its application to Castilian. Verba, 24, 45-81.

Lincoln, Y.S., & Guba, E.G. (1985). Naturalistic inquiry. Beverly Hills, CA: Sage Publications.

Maibach, E., & Cotton, D. (1995). Moving people to behavior change. In E. Maibach, & R.L. Parrott (Eds.), Designing health messages: approaches from communication theory and public health practice. (pp. 41-64). London: Sage Publications.

Maibach, E., & Parrott, R.L. (Eds.). (1995). Designing health messages: approaches from communication theory and public health practice. London: Sage Publications.

Mailloux, S., Johnson, M.E., Fisher, D.G., & Pettibone, T.J. (1995). How reliable is computerized assessment of readability? Computers in Nursing, 13, 5, 221-225.

Marin, G., & Marin, B.V. (1991). Research with Hispanic populations. London: Sage Publications.

Marshall, C., & Rossman, G.B. (1989). Designing qualitative research. Newbury Park, CA: Sage Publications.

McKenzie, J.F., & Jurs, J.L. (1993). Planning, implementing, and evaluating health promotion programs. New York: Macmillan Publishing Co.

Medina Urrea, A. (2000). Automatic discovery of affixes by means of a corpus: A catalog of Spanish affixes. Journal of Quantitative Linguistics, 7, 2, 97-114.

Merriam, S.B. (1988). Case study research in education: A qualitative approach. San Francisco: Jossey-Bass.

Miar, C., & Hundt, M. (Eds.). (1999). Corpus linguistics and linguistic theory: Papers from the Twentieth International Conference on English Language Research on Computerized Corpora (ICAME 20). Amsterdam: Rodopi.

Miles, S., & Davis, T. (1995). Patients who can't read: Implications for the health care system. JAMA, 274, 21, 1719-1720.

Molina, C., Enid Zambrana, R., & Aguirre-Molina, M. (1994). The influence of culture, class, and environment on health care. (pp. 23-43) In Molina, C., & Aguirre-Molina (Eds.), Latino health in the U.S.: A growing challenge. Washington, DC: American Public Health Association.

Montaño-Harmon, M. R. (1991). Discourse features of written Mexican Spanish: Current research in contrastive rhetoric and its implications. Hispania, 74, 417-425.

Newmark, P. (1988). Approaches to translation. New York: Prentice Hall.

Nida, E.A. (1952). God's word in man's language. New York: Harper & Brothers.

Nida, E.A. (1964). Toward a science of translating. Leiden, the Netherlands: Brill.

Nida, E.A. (1977). Translating means communicating: A sociolinguistic theory of translation. In M. Saville-Troike (Ed.), Linguistics and anthropology. (pp. 213-229). Washington, DC: Georgetown University Press.

Parrott, R.L. (1995). Motivation to attend to health messages. In E. Maibach, & R.L. Parrott (Eds.), Designing health messages: Approaches from communication theory and public health practice. (pp. 7-23). London: Sage Publications.

Partington, A. (1998). Patterns and meanings: using corpora for English language research and teaching. Philadelphia, PA: John Benjamins.

Pasick, R.J., Sabogal, F., Adair Bird, J., D'Onofrio, C.N., Jenkins, C.N.H., Lee, M., Engelstad, L., & Hiatt, R.A. (1996). Problems and progress in translation of health survey questions: The *Pathways* Experience. Health Education Quarterly, 23, S28-S40.

Perkins, J., Simon, H., Cheng, F., Olson, K., & Vera, Y. (1998). Ensuring linguistic access in health care settings: Legal rights and responsibilities. (Executive Summary for the National Health Law Program). Menlo Park, CA: The Henry J. Kaiser Family Foundation.

Power, J.G., & Byrd, T. (Eds.). (1998). U.S.-Mexico border health. London: Sage Publications.

Ricos Vidal, A. (1998). The agentive passive with *se* in legal-administrative texts: Its pragmatic occurrence. Estudios de lingüística, 12, 195-209.

Roebuck, R. (1998). Reading and recall in L1 and L2: A sociocultural approach. Stamford, CT: Ablex Publishing Corp.

Ross, H. (February/March, 2001). Office of Minority Health publishes final standards for cultural and linguistic competence. Closing the Gap. [Newsletter]. (p. 1). Washington, D.C.: U.S. Department of Health and Human Services, Office of Minority Health.

Roybal-Allard, L., & Rodríguez, C.D. (2000, Summer). Battling HIV/AIDS among Hispanics. Closing the Gap. [Newsletter]. (p. 3). Washington, D.C.: U.S. Department of Health and Human Services, Office of Minority Health.

Sanchez, A., & Cantos, P. (1997). Predictability of word forms (types) and lemmas in linguistic corpora. A case study based on the analysis of the CUMBRE corpus. International Journal of Corpus Linguistics, 2, 2, 259-280.

Schiffrin, D. (1994). Approaches to discourse. Cambridge, MA: Blackwell Publishers, Inc.

Scollon, R., & Scollon, S.W. (1981). Narrative, literacy and face in interethnic communication. Stamford, CT: Ablex Publishing Corp.

Searle, J. (1969). Speech acts: An essay in the philosophy of language. London: Cambridge University Press.

Shumaker, S.A., Schorn, E.B., & Ockene, J.K. (Eds.). (1990). The handbook of health behavior change. New York: Springer Publishing Company.

Sinclair, J. (1990). Corpus, concordance, collocation. Oxford: Oxford University Press.

Snell-Hornby, M. (1995). Translation studies: An integrated approach. (Revised Edition). Philadelphia, PA: John Benjamins.

Sabogal, F., Otero-Sabogal, R., Pasick, R.J., Jenkins, C.N.H., & Pérez-Stable, E.J. (1996). Printed health education materials for diverse communities: Suggestions learned from the field. Health Education Quarterly, 23, S123-S141.

Stiles, C.A. (1999). Communicating health assessment information. In G.C. Hyner, K.W. Peterson, J.W. Travis, J.E. Dewey, J. Foerster, E. M. Frammer. (Eds.), Society of Prospective Medicine handbook of health assessment tools. (pp. 95-100). Pittsburg, PA: SPM Institute for Health and Productivity Management.

Stubbs, M. (1996). Text and corpus analysis. Oxford: Blackwell Publishers.

Stubbs, M. (2001). Texts, corpora, and problems of interpretation: A response to Widdowson. Applied Linguistics 22, 2, 149-172.

Swales, J.M. (1990). Genre analysis: English in academic and research settings. Cambridge: Cambridge University Press.

Triandis, H.C., Marín, G., Betancourt, H., Lisansky, J., & Chang, B. (1982). Dimensions of familism among Hispanic and mainstream Navy recruits. Chicago: University of Illinois.

Toury, G. (1995). Descriptive translation studies and beyond. Philadelphia: John Benjamins.

U.S. Bureau of the Census, Webl. (n.d.). Race and Hispanic or Latino: 2000. Census 2000 summary file 1 (SF 1) 100-Percent data. United States. Electronic data. Retrieved May 1, 2002, from <http://factfinder.census.gov/bf/lang=en vt name=DEC 2000 SF1 U QTP3 geo id=01000US>.

van Dijk, T.A. (1997). Discourse as interaction in society. in T.A. van Dijk (Ed.). Discourse as Social Interaction. (pp. 1-37). London: Sage Publications.

Widdowson, H.G. (2001). Scoring points by critical analysis: A reaction to Beaugrande. Applied Linguistics, 22, 2, 266-272.

Williams, M.V., Parker, R.M., Baker, D.W., Parikh, N.S., Pitkin, K., Coates, W.C., & Nurss, J.R. (1995). Inadequate functional health literacy among patients at two public hospitals. JAMA, 274, 21, 1677-1682.

Woloshin, S., Bickell, N.A., Schwartz, L.M., Gany, F., & Welch, G. (1995). Language barriers in medicine in the United States. JAMA, 273, 9, 724-728.