

WORKING MEMORY PERFORMANCE IN SPANISH-ENGLISH
BILINGUALS' FIRST AND SECOND LANGUAGES

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PREVIEW

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by

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THESIS

Presented to the Faculty of the Graduate School of
The University of Texas at El Paso
in Partial Fulfillment
of the Requirements
for the Degree of
MASTER OF SCIENCE

Program in Speech-Language Pathology
THE UNIVERSITY OF TEXAS AT EL PASO
May 2020

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ACKNOWLEDGEMENTS

First, I would like to acknowledge my mentor, Jamie L. Desjardins, Ph.D., CCC-A. You allowed me to become a research assistant in your Auditory and Cognitive Aging Lab 4 years ago, and gave me the opportunity to conduct research under your supervision. You truly embody the definition of a mentor, “an experienced and trusted advisor.” It was through your lab that I found my passion to continue in the field of research and work towards a future Ph.D. I am forever grateful for the numerous opportunities you have given me to conduct, present, and publish research to add to the work of our great field.

The next acknowledgement will be for my thesis advisor Patricia Lara, Ph.D., CCC-SLP. I am appreciative to have had the opportunity to complete the remainder of my thesis with you. You took me under your wing amongst all of the duties and responsibilities you had on your plate. I am truly thankful for all the time and work you have dedicated to me as one of your thesis students.

I would also like to acknowledge my committee members Deena Peterson M.S., CCC-SLP, and Cecilia Fierro OTD, OTR. Your time is truly appreciated and I am honored to have your expertise and feedback on my research.

To my friends, Thelma Chew, Isabel Cano, Iliana Lopez, and Elise McLain, thank you for standing by me through this graduate school journey. I would not have made it through this program without the support and love from these women. Thank you for always offering me words of encouragement to continue working towards my thesis, and assuring me that I am loved and capable of anything I set my mind to.

I would like to thank my mother, Gabriela Orozco, and father, Juan Orozco. I am forever grateful for the hardworking individual you have shaped me to be. Watching the work each of you have put towards my foundation and education is truly remarkable. Lastly, I would like to thank my higher power for always reminding me that “it came to pass”.

ABSTRACT

Background: Working memory is important for speech understanding in that speech recognition requires the processing, temporary storage, and manipulation of information during complex cognitive tasks. Previous research has shown contradictory findings on whether bilinguals have an advantage in working memory capacity compared to their monolingual counterparts. Differences in findings have been attributed to various factors to include task-dependent effects and poorly matched samples. Therefore, the existence of a bilingual advantage in working memory remains unclear.

Purpose: The purpose of this study was to examine the working memory performance of Spanish/English bilingual individuals compared to English monolingual individuals using a linguistically demanding working memory task.

Methods: A group of 20 Spanish-English bilinguals aged 18-33 and 20 English monolinguals aged 18-25 participated in the study. Working memory performance was measured using a modified version of the Listening Span (LSPAN) Test in quiet and in background noise.

Results: All participants performed significantly better on the 2-span condition compared to the 4- and 6-span conditions [$F(2,76) = 323.45$; $p < .001$; $\eta^2_p = 1.00$] and participants' working memory performance was significantly better in quiet compared to background noise [$F(1,38) = 22.25$; $p < .001$; $\eta^2_p = .996$]. Bilingual participants performed significantly better than monolinguals in quiet and noise on the 4-span condition, and in quiet on the 6-span condition [$F(2,76) = 3.114$; $p = .05$; $\eta^2_p = .583$]. Bilingual participants also performed significantly better in English than in Spanish [$F(1,19) = 17.89$; $p < .001$; $\eta^2_p = .980$].

Conclusions: Spanish-English bilinguals have better auditory verbal working memory performance than English monolinguals. Results from this study suggest that the constant management of two language systems may enhance auditory working memory performance in bilingual individuals.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	iv
ABSTRACT.....	iv
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	vii
LIST OF FIGURES	viii
CHAPTER 1: LITERATURE REVIEW	1
1.1 Introduction.....	1
1.2 Working Memory.....	1
1.3 Language Comprehension and Working Memory	2
1.4 Bilingualism and Working Memory	4
1.5 Tasks to Measure Working Memory	9
1.6 Purpose.....	10
CHAPTER 2: METHODS AND PROCEDURES.....	12
2.1 IRB Approval.....	12
2.2 Participants.....	12
2.3 Test Measures	14
2.4 Procedures.....	15
2.5 Data Analysis.....	16
CHAPTER 3: RESULTS.....	17
3.1 Performance on LSPAN	17
3.2 S/E bilinguals' performance on English vs Spanish LSPAN	18
CHAPTER 4: DISCUSSION.....	20
CHAPTER 5: CONCLUSIONS	23
REFERENCES	24
VITA.....	27

LIST OF TABLES

Table 2.1 Participant Demographics by Group.....	13
Table 2.2 Participants' Linguistic Profile	14

PREVIEW