

# Bilingual Alzheimers Disease

<https://neurodegenerationresearch.eu/survey/bilingual-alzheimers-disease/>

## Principal Investigators

GOLLAN, TAMAR

## Institution

UNIVERSITY OF CALIFORNIA SAN DIEGO

## Contact information of lead PI

### Country

USA

## Title of project or programme

Bilingual Alzheimers Disease

## Source of funding information

NIH (NIA)

## Total sum awarded (Euro)

€ 2,066,435.78

## Start date of award

01/12/2010

## Total duration of award in years

1

## The project/programme is most relevant to:

Alzheimer's disease & other dementias

## Keywords

bilingualism, Alzheimer's Disease, Language, language processing, Retrieval

## Research Abstract

? DESCRIPTION (provided by applicant): This project investigates the joint consequences of bilingualism and Alzheimer's disease (AD) for linguistic and cognitive processing, with the goals of shaping psycholinguistic models of bilingualism (Aim 1), testing models of cognitive decline in AD (Aim 2), and characterizing the profile of cognitive impairments typical of bilingual AD (Aim 3). Data from an initial 5 years of funding revealed unexpected patterns of dual-language

decline in AD, and suggested that bilinguals perform differently from monolinguals on neuropsychological tests often used to diagnose AD. These results challenge models of bilingualism and cognitive decline in AD, which currently do not account for patterns of cognitive change in bilingual AD, and they underscore the need to further investigate how factors that are known to affect bilingual language processing influence the presentation of AD in bilinguals. We consider three major accounts of bilingual language processing to derive predictions about dual-language decline in AD, while also aiming to identify which language, which tasks, and which testing conditions produce the greatest differences between Spanish-English bilinguals with AD and matched cognitively healthy controls. As a part of this endeavor, we propose to extend our investigation of language deficits in bilingual AD from single word production to also examine production of connected speech and verbal list memory. The proposed studies provide a unique test of models of cognitive decline in AD, which, when considered in concert with different bilingual processing models, lead to different predictions about dual-language change in bilingual AD. By testing these models, we aim to identify which cognitive mechanism is responsible for linguistic decline in bilingual AD (semantic processing, retrieval difficulty, or executive control), to shed light on the role of executive control in bilingual language processing and, possibly, to identify protective effects of bilingualism against cognitive decline, and unique markers of AD in bilinguals. Using objective measures of bilingual language proficiency, each study will examine how bilingualism affects performance across the full continuum from low to high levels of proficiency. The proposed studies will continue a systematic program of research that aims to characterize the typical presentation of cognitive deficits in bilingual AD, while bringing unique evidence to bear on models of bilingual language processing and cognitive decline in AD. The proposed studies will provide a theoretical framework from which to develop better assessment measures for bilinguals, and they will have further practical implications by identifying conditions that minimize interference between languages and allow bilinguals with AD to speak as fluently as they can.

### **Lay Summary**

**PUBLIC HEALTH RELEVANCE:** Elderly Spanish-English bilinguals are rapidly increasing in numbers, and are at increased risk for developing Alzheimer's disease (AD), yet almost nothing is known about the joint consequences of bilingualism and AD for language and cognitive processing. The current proposal will continue a program of research that aims to characterize language and cognitive deficits in bilinguals with AD, and to use this information to develop theoretical models of bilingual language processing and cognitive deficits in AD. The proposed studies will provide important information about the presentation and progression of language impairments in bilinguals with AD, which is critical to provide a solid theoretical framework for understanding bilingualism and cognitive decline, and to provide a launch point that is necessary for improving assessment methods, and theoretically motivated approaches to treatment of bilinguals in clinical settings.

**Further information available at:**

### **Types:**

Investments > €500k

### **Member States:**

United States of America

### **Diseases:**

Alzheimer's disease & other dementias

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A