



MOODY COLLEGE OF COMMUNICATION

Department of Communication Sciences and Disorders

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The Darrell K Royal Research Fund for Alzheimer's Disease
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Mrs. Edith Royal, the DKR Fund Board of Directors, and Scientific Review Committee:

I am pleased to submit this annual report detailing progress on our project, entitled
Treatments for Language and Memory in Progressive Aphasia, Mild Dementia, and MCI

Communication impairments, including word-finding difficulty and impaired speech production, can be a debilitating feature of Alzheimer's dementia (AD) and related neurodegenerative disorders (progressive aphasia and mild cognitive impairment). However, there is a very little research addressing treatment for communication deficits in these populations. As such, the purpose of this study is to discover ideal modes of treatment for speech, language, and memory in mild AD and related disorders. In the attached report, we document progress in our first year of the study, showing that our project is currently on schedule to complete all aims during the grant period. Preliminary data support our hypothesis that targeted intervention for speech and language can have substantial and functional effect in individuals with neurodegenerative disease.

Thank you again for the great honor of receiving a DKR Fund Research Grant.

My best,

A handwritten signature in blue ink, appearing to read "Maya L. Henry".

Maya L. Henry
Assistant Professor and Director of the Aphasia Research and Treatment Lab
Department of Communication Sciences and Disorders
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Treatments for Language and Memory in Progressive Aphasia, Mild Dementia, and MCI

Communication difficulty can be a prominent, early, and debilitating feature of Alzheimer's dementia (AD) and related neurodegenerative disorders (progressive aphasia and mild cognitive impairment). However, there is a surprising lack of research addressing treatment for communication deficits in these populations. As such, the purpose of this study is to discover ideal modes of treatment for speech, language, and memory in mild AD and related disorders. To do so, we are 1) implementing a word retrieval program in individuals with word-finding difficulty in the context of neurodegenerative disease; 2) comparing the effectiveness of word-retrieval training in isolation with a modified version that incorporates a proven memory training method; 3) examining a novel treatment for speech production in individuals with a nonfluent variant of progressive language impairment; and 4) examining the neural correlates of responsiveness to treatment in patients.

In the study's first year, we implemented word-finding treatment in eight individuals with language-prominent dementias. As a group, these individuals showed significant and lasting gains in naming ability for trained words and some degree of generalization to untrained items. A subset of individuals was administered treatment for naming and memory simultaneously and the effect of this approach was compared to naming treatment alone. Preliminary results are mixed: in progressive aphasia, simultaneous treatment for language and memory appears to be more efficacious than treatment for language alone. In mild AD, the opposite appears to be true: treatment for language alone appears more efficacious. These findings suggest that distinct treatment approaches may be maximally beneficial in progressive aphasia versus AD. Also in the study's first year, we implemented a novel treatment for speech production in nine individuals with nonfluent primary progressive aphasia. As a group, these individuals have shown robust and persistent improvements in their ability to produce intelligible and grammatical speech for trained and, in some cases, untrained topics. With regard to our final aim, which examines neural correlates of responsiveness to treatment, we have collected structural and functional MRI data for all eligible participants and results are pending. In summary, our project is currently on schedule to complete all aims during the grant period and preliminary data support our hypothesis that targeted intervention for language can have substantial and functional effect in individuals with neurodegenerative disease.