

**Conclusions:** Negatively biased expectations about fear-relevant social situations—measured by a digital imagery task, the OPT—may contribute to increased engagement in avoidant safety behaviors during a speech task among a convenience sample. Outcome probability bias has previously only been measured through self-report, and the OPT is a promising new measure to multi-modally assess this aspect of social cognition. This task could be used along with imaging techniques to better understand the functional brain activity involved in outcome probability bias. Future studies could explore how activity in the orbitofrontal cortex, which is associated with the anticipation of negative outcomes, relates to responses on the OPT. If there is a connection, this brain region could be an indicator of improvement following intervention, such as cognitive behavioral therapy, for probability biases involved in social anxiety.

**Categories:** Social Cognition

**Keyword 1:** social processes

**Keyword 2:** computerized neuropsychological testing

**Keyword 3:** anxiety

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## 57 Adaptation of Epilepsy Pre-Surgical Neuropsychological Battery for Spanish-Speaking Patient with Visual Impairment

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**Objective:** We aim to highlight a unique case that required adaptation of a neuropsychological battery used as part of a pre-surgical workup for medically refractory epilepsy, to meet the needs of a culturally and linguistically-diverse patient with visual impairment.

**Participants and Methods:** Comprehensive pre-surgical neuropsychological evaluation for a 34-year-old Spanish-speaking patient with a past medical history of epilepsy, hydrocephalus, and a subependymal giant cell astrocytoma resection, with subsequent complete blindness. EEG findings demonstrated abnormal left frontal

dysfunction. A neuropsychological evaluation was conducted utilizing components from the Neuropsychological Screening Battery for Hispanics (NeSBHIS) as well as additional supplemental Spanish language assessments. Due to the patient's visual impairment, visuospatial measures were unable to be utilized. Hand dynamometer was used in place of the Grooved Pegboard Test.

**Results:** Results from the evaluation indicated a generally intact cognitive profile with a few observed deficits. Relative and normative weaknesses were identified on tasks of verbal learning. His initial learning of a list of orally presented words was in the Low Average range, where he demonstrated a positive though somewhat flat learning profile. His performances on short- and long-delay free recall tasks were in the Exceptionally Low range. With a recognition format, he performed within normal limits and made no false positive errors. Importantly, during the initial learning of the word list, the patient demonstrated a significant number of repetitions (13) and semantically related intrusions (6). These likely led to downstream difficulties encoding information; however, he displayed a minimal loss of information over a delay. Similarly, his immediate and delayed recall of an orally presented story fell in the Exceptionally Low range. Additional relative weaknesses were observed on tasks of working memory (Low Average range) and on a task of phonemic fluency (Below Average range). This performance was a notable contrast to his performance on tasks of semantic fluency, which ranged from the Low Average to Average range. On a task of motor functioning, grip strength performances were intact bimanually (Low Average to Average range) without a significant asymmetry between his left and right hands. Lastly, formal assessment of emotional functioning on self-report measures revealed minimal depression, minimal anxiety, and no significant quality of life concerns.

**Conclusions:** Taken together, the weaknesses observed in the domains of verbal learning, working memory, and phonemic fluency, in addition to the learning profile observed during the verbal encoding task, suggest that his overall profile is indicative of dominant frontal systems dysfunction. This finding was concordant with prior EEG and MRI studies. Notably, given the patient's visual impairment, visuospatial measures were unable to be utilized, and lateralization was unable to be fully assessed given the abbreviated battery. The

neuropsychological battery used for this evaluation was based on established guidelines, and while there were limitations in administration of the present battery, it is imperative to highlight the necessity and feasibility for adaptation of protocols to best capture data in culturally-underrepresented and visually impaired populations.

**Categories:** Epilepsy/Seizures

**Keyword 1:** neuropsychological assessment

**Keyword 2:** epilepsy / seizure disorders

**Keyword 3:** multiculturalism

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2. Recognize which neural regions are key for mediating religious belief.
3. Describe why this knowledge is important when working with patients who have to make important decisions.

## Closing Remarks

1:15 - 1:30pm

Saturday, 4th February, 2023

Pacific Ballroom A

## 5 min. break

12:10 - 12:15pm

Saturday, 4th February, 2023

## Plenary G: The Faithful Brain

**Presenter: Jordan Grafman**

12:15 - 1:15pm

Saturday, 4th February, 2023

Pacific Ballroom A

**Abstract & Learning Objectives:**

Religion's neural underpinnings have long been a topic of speculation and debate, but an emerging neuroscience of religion is beginning to clarify which regions of the brain integrate moral, ritual, and supernatural religious beliefs with functionally adaptive responses. In my presentation, I will review evidence indicating that religious cognition involves a complex interplay among the brain regions underpinning cognitive control, social reasoning, social motivations, emotion, reinforcement, and ideological beliefs. I will then conclude my presentation by summarizing current and future research efforts and why searching for God in the brain is critical to our understanding of human behavior.

Upon conclusion of this course, learners will be able to:

1. Summarize the methods used to study the neural basis of religious belief.