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Speech Characteristics of Professional Fighters

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ABSTRACT:

Chronic traumatic encephalopathy (CTE) is a degenerative neurological disease that affects 7% of people who have had at least one instance of a moderate to severe concussion. The populations at higher risk for developing this disorder include military veterans who have been exposed to blast damage, victims of domestic violence, and athletes who participate in contact sports. Previous research conducted about CTE has been centered around two methods of diagnosis: clinical and pathological. A diagnosis based on pathology currently impossible to make in vivo. The type of testing required can only be completed on autopsy. A clinical diagnosis is also difficult to obtain because the clinical markers required to diagnose this disorder have not been standardized, and there is too much overlap between Alzheimer's Disease (AD), other forms of dementia, and other symptoms of traumatic brain injury (TBI).

The population that was examined for this thesis are the participants in the Professional Fighters Brain Health Study (PFBHS) out of the Cleveland Clinic in Las Vegas, NV. The PFBHS is a longitudinal study that is compiling a database of information about the consequences of repeated head trauma. The participants are evaluated once a year, and one of the administered tasks is a speech sample obtained by asking participants to read the first paragraph of the Rainbow Passage. This project centers around the analysis of these speech samples for speech rate, placement of pauses and the duration of pauses, and the frequency and type of other disfluencies that may be indicative of a neurological injury.

The current body of literature includes many studies that include a mention of disordered speech in persons with repeated head trauma, however, there is little discussion of the characteristics of speech. Researchers describe the speech of person with CTE as "Parkinsonian" or "dysarthric. There are very few studies that include specific descriptions of speech and prosody for persons diagnosed with CTE. This project is intended to contribute to the body of literature that describes specific speech patterns for persons with repeated head injuries.