

## D29 A Quantitative Assessment of Last Words Using Suicide Note Assessment REsearch (SNARE)

Cristina Aggazzotti, PhD\*, Meridian, ID 83642

**Learning Overview:** After attending this presentation, attendees will have learned a method of quantitatively assessing the last words of offenders on death row and will better understand the similarities and differences between last words and other related text genres, such as suicide notes and apology letters.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by advancing computational methods in forensic science in two primary ways: (1) by testing the capabilities of one such quantitative method, which has previously only been used to identify suicide notes and suicidal ideation, to capture a different text type—the last words of inmates on death row; and (2) by quantitatively determining how similar last words are to suicide notes and other relevant genres, such as apology letters, love letters, and trauma narratives.

Many previous studies on the last words of inmates on death row used qualitative approaches, such as thematic analysis. However, studies have increasingly begun incorporating quantitative methods to examine common themes, and emotional language use.<sup>1,2</sup> Some of these studies have compared last words to suicide notes, finding that both text types share many features (e.g., themes of love and regret), but also differ in clear ways (e.g., lower rates of cognitive constriction in last words (32%) compared with that in suicide notes (87%)).<sup>1,3</sup>

One current quantitative method for identifying and classifying suicide notes is SNARE. SNARE is a tool that uses linear discriminant function analysis with leave-one-out cross-validation to compare a questioned document, such as an apparent suicide note, to a database comprising >400 real suicide notes and 500 control documents across a range of text types, including apology letters, love letters, trauma narratives, angry letters, complaint letters, simulated and real threats to known targets, business letters related to insurance, and a small number of simulated and hoax suicide notes.<sup>4</sup> The result of the analysis is an assessment of how likely the questioned document is to be a real suicide note. SNARE distinguishes real suicide notes from control documents with an accuracy of 80%; this accuracy increases to 86% if the real suicide note data is limited to notes of 45 words or less.<sup>4</sup> Mental health professionals, on the other hand, are claimed to identify suicide notes as real or not with an accuracy ranging from 63% to 71%.<sup>5,6</sup>

To date, SNARE has only been used on suicide notes and student writing for the assessment of suicidal ideation.<sup>4,7,8</sup> However, there are other text types that the tool might be useful in analyzing as well, such as the last words of inmates on death row, which are also expressed (either spoken or written) prior to imminent death. Studying last words is a relatively new research field, in part because data is less accessible. This study uses the final statements of death row inmates in Texas from 1982 to 2020, publicly available on the Texas Department of Criminal Justice website.<sup>9</sup>

Applying SNARE to these last words provides an objective quantitative comparison of last words directly to real suicide notes as well as to other potentially overlapping text genres from the control document dataset to obtain a better understanding of the pertinent linguistic features and evaluate the mental state of the inmates prior to imminent death.

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### Quantitative Forensic Linguistics, Last Words, Suicide Note