



The Existence of the Stuttering Phenomenon in Expressive Communication

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Abstract

Relatively little attention has been given to the existence of stuttering in expressive communication modalities other than speech. This research provides a thorough literature review of stuttered sign and stuttered sign behaviors. Moreover, data is presented suggesting that stuttering is a phenomenon occurring in a variety of expressive communication modalities, rather than speech or sign alone. Consequently, it is proposed that prevailing stuttering theories fail to account for the stuttering phenomenon in expressive modalities other than speech. As such, it is suggested that stuttering theory reevaluate and possibly abandon the current pre-paradigmatic views concerning the nature of the stuttering phenomenon.

Review of Literature – Summary of Stuttering Theory

Speech-language pathologists and other scientists associated with the field have been debating the nature and definition of stuttering for decades (Bloodstein, 1995; Conture, 2001; Guitar, 2006; Starkweather, 1987; VanRiper, 1982; Wingate, 1964). It is reasonable to suggest that such a task is inherently difficult, as the core pathology remains elusive and the behavioral manifestations variable (Bloodstein, 1995; Conture, 2001; Guitar, 2006; Starkweather, 1987; VanRiper, 1982). Subsequently, an oversimplified examination of the stuttering literature (from the 20th and 21st century) reveals that nearly all the differing views on stuttering could be distilled into three prevailing paradigms. (To keep things simple, I have labeled the three competing views on stuttering paradigms, when they are all at best pre-paradigmatic.) The first would have to be a psychological perspective on stuttering, which at its core suggests that stuttered speech results from some type of anxiety tension experienced by the speaker (Bloodstein, 1995; Johnson, 1950; Sheehan, 1970; Van Riper, 1982). Those within this paradigm would focus on the reduction of speech-related anxiety and speech-avoidance as well as the acceptance of stuttering and self as core tenets for stuttering modification treatment (Bloodstein, 1995; Johnson, 1950; Sheehan, 1970; Van Riper, 1982). Another paradigmatic view on stuttering would be to suggest that stuttering results from (behavioral) incoordination within the speech motor mechanisms (Shine, 1980; Starkweather, 1982, 1987; Webster, 1977b). Those within this paradigm would likely focus their fluency shaping treatment on retraining speech coordination, in hopes that the newly acquired speech patterns would be incompatible with stuttered speech and would also become habitual (Shine, 1980; Starkweather, 1982, 1987; Webster, 1977b). Finally, an emerging third paradigmatic view of stuttering would likely suggest that stuttered speech is the result of errors in speech-related neurological anatomy or processing (Alm, 2005; Wu et al., 1995, 1997). Those within this paradigm may judiciously select treatment strategies from both stuttering modification and fluency shaping, while incorporating other treatments (such as pharmaceuticals and prosthetic speech feedback devices) that they believe alter or bypass the deviant speech-related neurophysiological malfunction (Kalinowski & Saltuklaroglu, 2006; Snyder, 2004).

When faced with the reality of competing paradigmatic views of stuttering, Yairi & Ambrose (2005) opine, "It is our position that, whatever else the clinical disorder of stuttering entails, there seems to be relatively little disagreement that the term stuttering refers to the domain of motor speech production and its disruption by speech disfluencies. Physical, physiological, cognitive, and emotional components, regardless of how frequent or intense they might be, would not be labeled as 'stuttering' if they did not accompany a speaker's disfluent speech" (p. 19). Yairi & Ambrose extend their position by stating that stuttering "is first and foremost a disorder of speech" (p. 84).

Review of Literature – Evidence for Stuttering in Expressive Communication

• The oldest known account is a report from 1937 detailing "stuttering" and "secondary manifestations" of a congenitally deaf child (Voelker & Voelker, 1937).

• Next was a study by Backus (1938), which surveyed oral schools for the deaf. Results suggest that 55 students were identified as exhibiting stuttering behaviors out of the 13,691 students enrolled. This represented approximately 0.4% of the sampled population.

• Harms & Malone (1939) also surveyed oral schools for the deaf, and found that a total of 42 students out of 14,458 were identified as having stuttered either in speech or in sign. Of the 42 students identified, eight were considered deaf; however, four of these eight had acquired speech and stuttering prior to losing their hearing. The remaining 34 students identified were HH and were reported as children who stutter. No clear distinction was made if these 34 students demonstrated stuttered speech, stuttered sign, or stuttered SimCom.

• Wingate (1970) provides a brief account of previous views on the existence of stuttering in the deaf and HH populations, as well as data on the incidence and prevalence of stuttering in the deaf and HH populations prior to 1970.

• Silverman & Silverman (1971) surveyed 78 teachers of the deaf and HH at residential schools. Of the 78 surveyed, 33 teachers responded. The survey results revealed that 13 students had demonstrated stuttering-like behaviors. Silverman & Silverman detailed some commonly reported stuttered sign characteristics, which suggested that stuttered signing appears to be more frequently associated with finger-spelling and often results in the repetition of a sign or initial letters of finger-spelling. Silverman & Silverman also reported behaviors including involuntary interjections of extra movements in finger-spelling, hesitations in finger-spelling, and that the stuttered-sign phenomenon also occurred in SimCom.

• Montgomery & Fitch (1988) surveyed 150 schools for the hearing impaired, of which 77 schools replied. Of the 9,930 students represented in this sampled population, 12 were reported to demonstrate stuttering behaviors in either: speech, sign, or SimCom. This represented about 0.12% of the sampled population. Three of the 12 were reported to stutter only in oral communication. Six of the 12 were reported demonstrated stuttering-like behaviors (solely) in manual communication, and were reported to demonstrate a wide variety of stuttering-like behaviors, such as effortless repetitions of signs and on initial letters in finger-spelling, as well as "blocking" on sign productions. Three of the 12 reported students who stutter demonstrated stuttering-like behaviors in SimCom.

• Liles, Lerman, Christensen & St. Ledger (1992) chronicled the behaviors of a young male with an intellectual disability. Their findings suggested that the HH boy demonstrated disfluencies in speech and SimCom, characterized by repetitions, prolongations, and blockages. The authors also noted that stuttering-like behaviors were synchronous across communicative modes (oral and SimCom), a finding also implied by Montgomery & Fitch (1988).

• Early accounts of stuttering in other expressive modalities documents "piano stuttering", "violin stuttering" and "penmanship stuttering" (Scripture, 1909).

• Roman (1959) published an article suggesting a correlation between stuttered speech and stuttered handwriting, complete with graphological examples of the phenomenon.

• Saltuklaroglu, Robbins, Kalinowski, Guntupalli & Nanjundeswaran (2005) report Normalized Jerk data from writing samples of stuttering and non-stuttering participant groups, which provides quantifiable data supporting the existence of stuttering in grapheme productions.

• Silverman & Bohlman (1988) document "flute stuttering", in which the performer reported difficulty in initiation relative to playing the flute.

• Meltzer (1992) documents "horn stuttering", in which the performer reported "hesitant stumbling attacks robbing my performance of grace and ease."

• Snyder (2006) documents overt "trumpet stuttering", as well as covert "trumpet stuttering" behaviors (i.e., piece avoidance).

Stuttered Sign – Operationally Described

• Stuttering is a communication problem in which the flow (smoothness, fluidity) of signing or fingerspelling is disrupted by involuntary repetitions, prolongations or awkward hesitations (involuntary choppiness, pauses, or blocks) during signing or fingerspelling movement. The person who stutters may experience a loss of voluntary control over the production of signs, signing movement, handshapes or fingerspelling, resulting in the involuntary repetitions, prolongations, or hesitations described above. People who stutter know exactly what they want to sign—they just have problems producing the signs in a smooth and fluid fashion. People who stutter are usually aware that they have a communication problem.

• Manifests itself as an involuntary loss of control over signing or finger-spelling. This involuntary loss of control often looks like inappropriate repetitions, prolongations or hesitated (choppy) signing or fingerspelling. This involuntary loss of control occurs most frequently when starting signing movement or the creation of a (finger-spelling) handshape.

Examples of primary stuttered sign behaviors may include:

1. Involuntary or Inappropriate Repetitions of signs, handshapes or finger-spelling gestures.
2. Involuntary or Inappropriate Exaggerations (Prolongations) of signs or finger-spelling gestures.
3. Involuntary or Inappropriate Pauses (or failures to initiate) during signing or finger-spelling.

Examples of secondary stuttered sign behaviors include:

1. Involuntary or Inappropriate muscle tension associated with sign production or finger-spelling.
2. Involuntary or Inappropriate Changes to signs or handshapes which are unrelated to the language content and provide no linguistic meaning.
~ Involuntary or Inappropriate Additions or Deletions to signs, signing movements or handshapes during signing or fingerspelling.
~ Involuntary or Inappropriate Alterations or Distortions to signs, signing movements or handshapes during signing or fingerspelling.
3. Involuntary and Inappropriate additional signs or handshapes prior to the primary intended linguistic message. While these signs have linguistic meaning, they are unnecessary and inappropriate; they are used as "starter signs" to initiate signing.
4. People who stutter are usually aware of their communication problem. If a person who stutters pays special attention to their communication, their stuttering severity may not change or even become worse.

*Operational definition of stuttered sign is loosely based on existing stuttering and cluttering research (St. Louis, 2006).

Results & Discussion

A nation wide survey is currently underway. All instructors of the deaf or hard of hearing are asked to participate. Data collection is expected to be completed in the Spring of 2008. Data submission is expected in the Fall of 2008. In short, if the data and analysis support the existence of stuttered sign, then the traditional views and definitions of stuttering as a speech disorder fail to account for the stuttering phenomenon. Consequently, researchers and clinical scientists may consider abandoning much of the prevailing paradigmatic (i.e., pre-paradigmatic) thought on stuttering, as it can no longer provide a truly scientific and falsifiable theoretical framework capable of accounting for the stuttering phenomenon. If stuttering behaviors are indeed symptomatic responses relative to errors in expressive output, including expressive communication, then a new paradigm will need to emerge to account for this new perceived reality.