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Terminology Pertaining to Fluency and Fluency Disorders: Guidelines

ASHA Special Interest Division 4: Fluency and Fluency Disorders

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About This Document

These guidelines are an official statement of the American Speech-Language-Hearing Association (ASHA). They provide guidance on definitions of communication disorders and variations, but are not official standards of the Association. They were developed by Special Interest Division 4, Fluency and Fluency Disorders: Gordon W. Blood, Hugo H. Gregory, John M. Hanley, Stephen B. Hood, Theodore J. Peters, Kenneth O. St. Louis (chair), C. Woodruff Starkweather, and Janice B. Westbrook. Vice Presidents for Professional Practices in Speech-Language Pathology, Crystal Cooper (1994–1996), and Nancy Creaghead (1997–1999), served as monitoring vice presidents; Lyn Goldberg and Michelle Ferketic were ex officios.

1. Introduction

The *fluency* area is plagued with inconsistent, confusing terminology. This problem has cultural, historical, linguistic, and practical origins. The following examples illustrate some of these influences. In most cultures, *stuttering* is one of the most well-known speech disorders and is labeled in some form in all languages. In some languages, the label is a relatively neutral, descriptive term that refers to both normal and abnormal behavior. In English, for example, *stuttering* can refer to normal stumbling over words or to the abnormal speech disorder. This leaves English speakers confused about the best meaning of the term and contributes to one of the most difficult issues in definition, notably that most normal speaking adults report that they have “*stuttered*” occasionally but emphatically do not regard themselves as “*stutterers*.” (The issue of using the direct label, *stutterer*, versus the person-first label, person who *stutters*, is discussed in section 3.5.5.) Yet, even when it is clear that abnormal speech is implied, *stuttering* may also refer to a general style of speech (i.e., “That person *stutters*”) or to specific speech events (i.e., “His primary *stuttering* symptom is part-word repetitions”). In other languages, such as Arabic, the terms for *stuttering* carry serious negative connotations and refer not only to a speech disorder but to other problems, such as mental incapacity. Furthermore, society often forms perceptions of individuals who *stutter* that differ from the self-perceptions of the *stutterers* themselves. Added to these problems is the fact that the literature on speech and language disorders contains terminology introduced in early classifications but rarely used today (e.g., a semantic distinction between *stuttering* and *stammering*).

2. Intent and Use of the Guidelines

The problem of terminology has been most acute in the area of research, in which defensible, reliable, and agreed-on definitions are critical to carrying out investigations that are comparable to other studies. Clinicians, too, need to know what constitutes *stuttering* and other *fluency disorders* in order to plan treatment and to communicate effectively with their clients and other clinicians. Additionally, the demands of health care systems require that providers strive for consistency and clarity of terminology, especially in reporting assessment and outcome measures. For these reasons, the terms highlighted in these Guidelines are defined with the intention that more consistent usage and, thereby, more precise communication by researchers, clinicians, and others will eventually result. Whenever possible, the Task Force sought to recommend terminology and definitions currently being utilized by well-known professionals. Clinicians, health care professionals, and researchers are encouraged to use the terms in bold type whenever possible. In some cases, the definitions listed can be used accurately in

3. Definitions and Comments

most contexts. In other cases, however, users are cautioned to keep the purposes of their definitions in mind. For example, there are four different definitions of the term *stuttering*, each representing important aspects of the problem and unique perspectives on definition. It would be a serious mistake for a user to select any one of the *stuttering* definitions and assume that it would apply equally well for teaching, clinical, research, consumer affairs, and third-party reimbursement purposes. For each term, the definitions the Task Force considered to be the preferred usage are in bold type. These are followed by relevant explanations or brief discussions and, in some cases, synonymous—or nearly synonymous—terms.

3.1. Fluency. Fluency is the aspect of speech production that refers to the continuity, smoothness, rate, and/or effort with which phonologic, lexical, morphologic, and/or syntactic language units are spoken.

Traditionally, fluency has been defined in the area of speech-language pathology by what it is not, namely speech that does not contain perceptible deviations in smoothness or flow of speech. Also, in a more restricted clinical sense, *fluency* is used as the converse of *stuttering* to identify speech sequences that are free of *stuttering*, as in the statement, “*Stuttering* was followed by instructions to repeat, and *fluency* was reinforced verbally.” And in recent years, *fluency* has been used increasingly to refer specifically to *stuttering* (e.g., “a *fluency* client”). The Task Force recommends that the professional community **not** use the term *fluency* to refer to *stuttering*. For example, it would be more precise to say or write: a diagnosis of “*stuttering*” rather than a diagnosis of “*fluency*,” “client with *stuttering*” instead of “*fluency* client,” and “*stuttering* treatment” instead of “*fluency* treatment.” Those terms, however, may be appropriate in other contexts that do not include or relate to *stuttering* per se.

Fluency is used in the area of neurogenic communication disorders (i.e., aphasia) to refer to the perceived natural continuity and *rate* of spontaneous speech, even though there may be a substantial number of language errors (e.g., a “fluent aphasic” as opposed to a “nonfluent aphasic”).

In the area of foreign language learning, *fluency* may refer to the general competence or facility with which a speaker can communicate orally in the new language(s) (e.g., “*fluent* in French”). In this usage, *fluency* is roughly equivalent to “overall spoken language proficiency.” In addition to this general usage, *fluency* also refers more specifically to the *rate*, continuity, *rhythm*, and *effort* with which the language is produced (e.g., “The speaker’s knowledge of Russian vocabulary is adequate, but his *fluency* in spoken Russian is weak”). As noted by Wingate (1984), *fluency* typically refers to spoken language, but, presumably, it would be appropriate to refer to one’s *fluency* in American Sign Language.

The Task Force proposes that the scientific community consider the value of the concepts of “motor *fluency*” (e.g., speech coordination variables related to *fluency* in a *stutterer*) versus “linguistic *fluency*” (e.g., lexical, syntactic, or semantic variables related to *fluency* in a foreign language speaker or a *clutterer*). Research is ongoing in these areas and may suggest other or better ways to account for the often conflicting, contradictory uses of the term *fluency*. In any case, appropriate descriptors or clarifiers should be used to minimize confusion regarding the use of the term.

3.2. Fluency Disorder. A fluency disorder is a “speech disorder” characterized by deviations in continuity, smoothness, rhythm, and/or effort with which phonologic, lexical, morphologic, and/or syntactic language units are spoken.

In recent years, the profession of speech-language pathology has adopted the term *fluency disorders* to denote a category of “speech disorders” (as opposed to “language disorders”), that includes such related disorders as *stuttering* and *cluttering* as well as the more specific categories of *neurogenic stuttering* and *psychogenic stuttering*. Indeed, the Special Interest Division responsible for these Guidelines deals with “*fluency and fluency disorders*.” Specific disorders of *rate* (i.e., too fast, too slow, or too irregular) are generally considered to be *fluency disorders* as well, even though other disorders (e.g., word retrieval or insufficient vocabulary) might be present and even responsible for *rate* problems.

3.3. Disfluency. Disfluency refers to breaks in the continuity of producing phonologic, lexical, morphologic, and/or syntactic language units in oral speech.

The generic term *disfluency* refers to breaks that are normal, abnormal, or ambiguous (i.e., sometimes regarded as normal and sometimes abnormal). The most commonly regarded *normal disfluencies* are: hesitations or long pauses for language formulation (e.g., “This is our [pause] miscellaneous group”); word fillers (e.g., “The color is *like* red”), also known as “filled pauses”; nonword fillers (sometimes called interjections, e.g., “The color is *uh* red”); and phrase repetitions (e.g., “*This is a—this is a* problem”). The most common ambiguous *disfluencies* are whole word repetitions (e.g., “*I-I-I* want to go” or “This is a *better-better* solution”). The most commonly regarded abnormal *disfluencies* (i.e., *stutterings*) are: part-word (or sound/syllable) repetitions (e.g., “Look at the *buh-buh-ba-baby*”); prolongations (e.g., “*Sssssss* sometimes we stay home”); blockages (silent fixations/prolongations of articulatory postures) or noticeable and unusually long (tense/silent) pauses at unusual locations to postpone or avoid (e.g., “Give me a glass (*3-sec pause*) of water”); and any of the above categories when accompanied by decidedly greater than average duration, *effort*, tension, or struggle.

Although the term *disfluency* does not necessarily imply abnormality, it is often used synonymously with *stuttering* and, as noted in section 3.4, interchangeably with *dysfluency*. Clinicians often use *disfluency* to refer to *stuttering* for a number of reasons, including: (a) assuming it is perceived by clients to be, connotatively, a less negative term than *stuttering*, (b) believing it sounds more scientific or objective than *stuttering*, or (c) regarding it to be synonymous with *stuttering*. There is little empirical or logical support for any of these assumptions. Clinical researchers occasionally prefer the term *disfluency* to *stuttering* because they find it easier to make reliable judgments of all *disfluencies* than only those further judged to be *stutterings*.

“Normal developmental *disfluencies*” refer to higher than adult levels of *normal disfluencies* that occur in preschool children as they learn language normally. Approximately half of nonstuttering children go through an identifiable period of “increased normal developmental *disfluency*” during this time (Johnson & Associates, 1959).

Starkweather (1987) introduced the term *discontinuity* because it differentially refers to breaks in the continuity or flow of speech and not to other problems of *fluency*, such as a *rate* that is too slow. Given Starkweather's analysis, the Task Force concurs that the term *discontinuity* makes a useful distinction and, therefore, might result in more incisive use of terminology. Nevertheless, it chose to accord preference to the term *disfluency* (in spite of its misuses) because it is overwhelmingly the more popular term referring to breaks in continuity.

Nonfluency is sometimes used synonymously with *disfluency*.

3.4. Dysfluency. (Same as stuttering [see 3.5].)

According to Wingate (1984), the “dys” and “dis” prefixes are quite different. The “dys” prefix implies abnormality, such that a word beginning with “dys” denotes an abnormal condition. By contrast, the “dis” prefix denotes separation, negation, or signals a contrast with the morpheme that follows it. Wingate cites three of four dictionary references to support his view. It must be pointed out, however, that all dictionaries, such as the Oxford Unabridged Dictionary, do not show this distinction. Some hold that the “dys” prefix in the field of speech-language pathology implies an underlying, organic impairment whereas the “dis” prefix implies deviant behavior. Accepting the somewhat controversial assumption that the prefixes are different, *dysfluency* (or “abnormal *fluency*”) is essentially synonymous with *stuttering*. However, most recent texts still prefer the term *stuttering*.

As noted, *dysfluency* is frequently used interchangeably with *disfluency* (see 3.3), although professional consensus suggests that the two terms are not necessarily synonymous.

3.5. Stuttering.

Given the diversity of professional opinion on what constitutes *stuttering*, the Task Force recommends that clinicians and researchers recognize and indicate which of the following four uses, or combinations thereof, of the term *stuttering* they refer to in their references to this *fluency disorder*. Two uses refer primarily to the behavior of *stuttering*, and two refer primarily to individuals who manifest the behavior. The first two are essentially perceptual definitions (i.e., defined by a listener), the first from a specific symptom orientation and the second from a nonspecific orientation. The third defines *stuttering* in terms of private experience of the person who *stutters*, and the fourth focuses on the suspected cause or nature of *stuttering*. In all cases, *stuttering* refers to a communication disorder related to speech *fluency* that generally begins during childhood (but, occasionally, as late as early adulthood). Some individuals refer to this typical *stuttering* as “developmental *stuttering*.” Others refer to *stuttering* as a “syndrome,” focusing thereby on a set of symptoms that may coexist in any *stuttering* individual. *Neurogenic stuttering* and *psychogenic stuttering* are special cases that are not subtypes of typical or “developmental” *stuttering*, despite the widespread use of these terms (see 3.12 and 3.13).

3.5.1. Stuttering refers to speech events that contain monosyllabic whole-word repetitions, part-word repetitions, audible sound prolongations, or silent fixations or blockages. These may or may not be accompanied by accessory

(secondary) behaviors (i.e., behaviors used to escape and/or avoid these speech events).

This definition implies that certain categories of symptoms or *disfluencies* (see below) can generally be classified as abnormal and that others can be considered normal. With this definition, the fact that specific examples within any of the above *disfluency* categories may be variously perceived as normal or abnormal is generally disregarded. Also, the category of monosyllabic whole word repetitions is not always considered *stuttering*, depending on such variables as age of the client, locus within the utterance, duration, and other factors. This definition implies that *stuttering* occurs on specific language units (e.g., words or syllables).

This definition is intuitively appealing to clinicians for it renders *stuttering* a quantifiable phenomenon, suggests specific targets of treatment (i.e., the *disfluency* categories with the most *stuttering*), and allows for careful clinical descriptions of *accessory (secondary) behaviors* (see 3.6). It also has appeal for research, especially in determining beforehand which subjects will and will not be included in *stuttering* groups.

3.5.2. Stuttering consists of speech events that are reliably perceived to be stuttering by observers.

This definition relies on operationalism, that is, defining a difficult concept by the operations used to measure it. Specifically, the definition implies that a listener or conversation partner does not require a specific orientation to identify instances of *stuttering*. One does so because he or she knows the language in question and can therefore identify abnormalities in its production. The operations involved are those that are quantifiable and that specify reliability assessments. The definer must demonstrate a reasonable degree of agreement with other “judges” on the measures taken, as well as with himself or herself in repeated assessments, in identifying specific instances of *stuttering*. This definition grants credibility to the obvious situation that one does not need to be trained to recognize *stuttering*, as is the case when laymen diagnose a *stuttering* problem. No doubt, speech events regarded as *stuttering* in the previous definition are responsible for most judgments of *stuttering*. Nevertheless, with this symptom-nonspecific definition, a “moment of *stuttering*” may, in some circumstances, be attributed to *disfluency* categories that, in other circumstances, would be regarded as normal, and vice versa. As in the previous definition, *stuttering* is quantifiable and allows for careful descriptions of *accessory (secondary) behaviors*.

This operational definition has appeal for clinicians who choose to use an approach in treatment requiring “on line” counts or immediate consequences or feedback to be provided immediately after each “moment of *stuttering*.” It is also particularly appealing to researchers who require reliable measures of *stuttering*.

3.5.3. Stuttering refers to the private, personal experience of an involuntary loss of control by the person who stutters. As such, it often affects the effectiveness of the speaker's communication.

This definition focuses on the experience of the person who stutters rather than judgments of clinicians, observers, or theoreticians. The most vocal advocate of this view is Perkins (1990), who wrote that “stuttering is the involuntary disruption of a continuing attempt to produce a spoken utterance” in which “involuntary” is understood to reflect the speaker's feeling of “loss of control.” This orientation

allows the clinician to appreciate the difference between “real” and “faked” *stuttering* and have a more inclusive definition for the client who claims to be a “*stutterer*” but overtly “*stutters*” only on rare occasions.

This definition has particular appeal to persons, especially adults, with a history of *stuttering* themselves because it describes what they experience as *stuttering*. It has been regarded by many to have questionable use alone in clinical and research efforts because objective, replicable judgments of *stuttering* are difficult or impossible to obtain.

3.5.4. Stuttering refers to disordered speech that occurs as the result of: (a) certain physiological, neurological, or psychological deviations; (b) certain linguistic, affective, behavioral, or cognitive processes; or (c) some combination thereof.

This is not a definition per se. Instead, it refers to numerous definitions such as the following: “Stuttering is an anticipatory, apprehensive, hypertonic avoidance reaction” (Johnson, Brown, Curtis, Edney, & Keaster, 1967); “Stuttering occurs when the forward flow of speech is interrupted by a motorically disrupted sound, syllable, or word or by the speaker's reactions thereto” (Van Riper, 1982); or “... stuttering constitutes a covert repair reaction to some flaw in the speech plan” (Kolk & Postma, 1997).

These definitions focus on theory construction and address the questions, “What causes *stuttering*?” and/or “What is the nature of *stuttering*?” Such definitions, to the extent that they balance available knowledge with available research technology, can lead to testable hypotheses about the nature of *stuttering*.

Cause-based definitions are appealing to many *stuttering* clients, especially those seeking “answers” or insights into their disorder. In some cases such definitions suggest new or specific approaches to treatment. By contrast, they are generally not suitable for measuring *stuttering* behaviors in clinical or research settings.

3.5.5. Other Comments

As with the case of the “general” definition provided, a number of definitions of *stuttering* include elements of more than one of the above variants. For example, the World Health Organization (1977) defines *stuttering* as “disorders of rhythm of speech in which the individual knows precisely what he wishes to say, but at the time is unable to say it because of involuntary, repetitive prolongation or cessation of a sound.” The *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., rev., 1994; DSM-IV) indicates that “the essential feature of stuttering is a disturbance in the normal fluency and time patterning of speech that is inappropriate for the individual's age.” Stuttering is characterized by “frequent repetitions or prolongations of sounds or syllables,” but also can include “interjections ... broken words (e.g., pauses within a word) ... audible or silent blocking (filled or unfilled pauses in speech) ... circumlocutions (e.g., word substitutions to avoid problematic words) ... and monosyllable whole word repetitions (e.g., ‘I-I-I see him’).” In addition, the DSM-IV requires that “the disturbance in fluency interferes with academic or occupational achievement or with social communication” and all these difficulties exceed those usually associated with a “speech-motor or sensory deficit,” if present.

Many individuals who *stutter* acquire maladaptive patterns of thinking and feeling, sufficiently common to be identified as frequent covert aspects of *stuttering*. For example, a child who *stutters* may adopt the belief that speaking is inherently difficult (Bloodstein, 1995). Those who *stutter* for a number of years often acquire the negative self-concept of “*stutterer*,” leading them to adopt other beliefs and attitudes consistent with this self-concept (Cooper, 1990; Peters & Guitar, 1991). Also, many *stuttering* children and adults report fear or anxiety about speaking, or the prospect of speaking; frustration from the excessive time and effort imposed by *stuttered* speech; embarrassment, shame, or guilt following *stuttering* episodes; and even hostility toward other conversation partners (Van Riper, 1982).

Stuttering is often used in lay usage to refer to *disfluencies* (see 3.3), both normal and abnormal. Also, many nonstutterers report that they have experienced *stuttering* of a sort they would regard as abnormal a few times in their lives.

In 1993, as the result of the influence of a number of consumer and self-help groups, the American Speech-Language-Hearing Association (ASHA) adopted a policy in which person-first language is to be used in lieu of direct labels (Executive Board Meeting Minutes, 1993). According to the policy, *stutterer* is regarded as potentially insensitive to the individual who manifests the problem of *stuttering*. Therefore, authors are required to use the term *person who stutters* instead of *stutterer*. Recent articles have tended to use abbreviations (e.g., *PWS* for *person who stutters* or *CWS* for *child who stutters*) to avoid the awkwardness inherent in using the longer versions.

No systematic research was carried out to support the ASHA “person-first” policy. Since its inception, limited research has shown that person-first labeling may or may not be perceived less negatively by individuals with speech-language-hearing impairments, parents of such clients, speech-language pathology students, and the public. In the case of the terms *stutterer*, *stammerer*, or *clutterer*, the results do not clearly indicate that these direct labels consistently communicate greater sensitivity than the person-first versions (Robinson & Robinson, 1996; St. Louis, 1998). More research is needed, but the available findings cast doubt on both the need and wisdom underlying the recent changes in terminology. Person-first labeling warrants serious consideration when referring to specific individuals, especially in clinical situations, for it implies that there is much more to a person than the fact that he or she *stutters*. On the other hand, given the fact that many nonstutterers report that they have occasionally “*stuttered*,” the *person who stutters* nomenclature may create ambiguity in descriptions of subjects in research reports wherein the traditional distinction between *stutterer* and *nonstutterer* is important. Until additional research is completed, clinicians or researchers will—and possibly should—use their own discretion in the use of those terms.

Stammering is synonymous with *stuttering* and is the common term for the disorder in Great Britain. In North America, the term *stammering* is rarely used by speech-language pathologists.

3.6. Accessory (Secondary) Behaviors. Accessory (or secondary) behaviors include the entire range of reactions, strategies, “tricks,” and

avoidance or escape behaviors that stutterers perform either when they stutter or in anticipation or fear of stuttering.

Accessory (secondary) behaviors are typically considered to be reactions to *stuttering* that are reinforced by their initial consequences, which, according to the user, reduce the *stuttering* abnormality (escape) or prevent or delay its occurrence (avoidance/postponement). *Accessory (secondary) behaviors* are considered to be learned (although there is some evidence that some may not be learned), and the *stutterer* may or may not be aware of their presence. They include such categories as: “avoidance behaviors” (e.g., not speaking when one wants to [as in class discussions] or substituting synonyms for feared words or circumlocuting/paraphrasing the intended utterance), “postponement devices” (e.g., stalling by using nonword or word fillers or simply waiting to attempt to talk), “timing devices” or “starters” (e.g., blinking the eyes, taking a short gasp, or getting a “running start” in order to begin to say a feared word), “disguise reactions” (e.g., covering one’s mouth or faking a cough in order to hide the fact that one is stuttering), “interrupter devices” (e.g., jerking the head or grimacing to release from a long block), and “searching movements” (e.g., using the schwa or inappropriate vowel or altering the rate of repeated sounds or syllables). In some cases, evidence of “struggle” (see 3.8) may be regarded as an *accessory (secondary) behavior*.

In general, the word “accessory” (or “secondary”) implies that the above listed behaviors and strategies accompany the core features of *stuttering* and that a causal account for these behaviors (i.e., learning) is implied. By contrast, when *stuttering* is considered to be a clinical syndrome, its affective, behavioral, and cognitive aspects (including strategies to hide and avoid the occurrence of *stuttering*) are considered to be integral components of the disorder rather than “accessory” (or “secondary”) behaviors.

Accessory (secondary) behaviors are also known as “secondary mannerisms,” “secondaries,” “concomitant behaviors,” or “extraneous behaviors.”

3.7. Rate. Rate refers to the speed with which sounds, syllables, or words are spoken.

Speech *rate* is typically expressed in words or syllables per minute. Generally, only the periods of time in which the speaker is actually talking are included in calculating *rate*, and these include normal pauses. (Most of these normal pauses are less than 1 second; longer inter-utterance pauses [e.g., 2 seconds or more] are typically excluded from rate assessments. There are reasonable exceptions to excluding long pauses in rate assessments, e.g., when the evaluator wishes to consider the time taken up by long pauses that are associated with avoidance. In such cases, the time spent actually stuttering is occasionally reported as well.) Some researchers use the measure of “articulation *rate*” (also known as “phone *rate*” or “phoneme *rate*”), which is calculated from short periods of fluent speech that are free of perceptible pauses. This measure is often reported in syllables per second.

3.8. Effort. Effort refers to the amount of perceived exertion a speaker experiences during speaking.

Every speech act requires the speaker to exert some *effort*. The degree of *effort* required varies with such aspects as the speaker's familiarity with the language, topic, and listener(s); interference from internal and external sources; and individual differences in the capacity for fluent speech. The speaker's total *effort* includes both physiological and psychological components. Moreover, physiological and psychological *effort* interact with each other as in the cases wherein heightened emotion or certain thoughts result in excessive muscle tension. Similarly, cautious or overcontrolled speech may be characterized by inappropriate and/or excessive tension levels. "Struggle" is a special case of *effort* and refers to speech events that are characterized by unusual and/or excessive amounts of (physiological and/or psychological) *effort* during the production of some—but generally not all—sounds, words, or longer utterances. Effort can be considered both from the perspective of the speaker (i.e., the level of effort experienced during speech) or from the perspective of the listener (i.e., the degree of effort the listener attributes to the speaker's performance). It should be noted that some authorities prefer the term "ease" to *effort* because *fluency* generally has a connotation of "easy" rather than "hard" or "effortful."

3.9. Suprasegmental Features. Suprasegmental features are dimensions of speech that extend across phoneme or allophone (i.e., "segment") boundaries, and include such things as rhythm, prosody, melody, and inflection.

Certain prosodic features, such as intonation patterns that extend across several segments, are suprasegmental in nature. Similarly, an alteration of stress on a compound word (e.g., base'ball versus baseball') is a suprasegmental feature change.

3.9.1. Rhythm. Rhythm refers to the pattern (timing and duration) of stressed and unstressed syllables in speech.

Although related to "continuity" and *rate*, *rhythm* is more specific. It refers to the degree that a speaker's pattern of syllable stress in words and sentences is similar to a standard or predicted pattern. In other words, normal *rhythm* refers to maintaining a perceptibly appropriate pattern of "beats" and pauses at an acceptable *rate*. Deviations in *rhythm* may be perceived as variations in the "regularity of *rate*." Different languages have different characteristic *rhythms*, sometimes readily recognized by individuals listening to a conversation in a language they do not know. Moreover, the same language may have several normal variations in *rhythm*. For example, it is possible for a speaker to produce speech characterized by normal continuity and *rate*, but which violates the conversational stress pattern of the language or specific dialect in question (e.g., General American English). One such case pertains to numerous English speakers from India and Pakistan, who are often perceived to be quite fluent but not easily understood by native English speakers from North America unfamiliar with their variant of English. In this case, differences in the *rhythm* of the variants of English are partly responsible for the difficulty in understanding.

3.9.2. Prosody. Prosody refers collectively to syllable stress, juncture, and intonation contours in speech.

Prosody is related to *rhythm* in that both concepts include consideration of patterns of syllable stress and pauses. *Prosody* also includes the element of fundamental frequency changes related to intonation. Syllable stress refers to greater intensity, slightly higher fundamental frequency, and longer durations on certain syllables, as in “I live in the white house” versus “I *live*’ in the white house.” Juncture, among other things, refers to subtle differences in the length of pauses between words, as in “I live in the *white house*.” versus “I live in the *White House*” (dwelling of the U.S. president). Intonation contours refer to meaningful frequency variations on words, phrases, and longer utterances, as in “I *live* in the white house” (i.e., “I do live there”) versus “I *live* (in the *white house*?” (i.e., “Do I live there?”). As a term for description of some aspect of *fluency*, *prosody* suffers from a lack of agreed-on specificity.

3.10. Naturalness. Naturalness refers to the degree to which speech (and language) sounds like that of normal, native speakers.

Naturalness is a global measure and has been typically determined by playing samples of speech to a group of normal listeners and asking them to judge how *natural* the speech sounds according to a 9-point equal-appearing interval scale (Martin, Haroldson, & Triden, 1984). In ways that are not well understood, *naturalness* as a measure in *fluency disorders* is related to ratings of overall disorder severity, *fluency*, *rhythm*, *rate*, and *prosody*. Whereas persons with mild *stuttering* may have “natural-sounding speech,” the degree of *naturalness* perceived by the listener usually decreases (i.e., becomes more “unnatural”) as *stuttering* becomes more severe.

3.11. Cluttering. Cluttering is a fluency disorder characterized by a rapid and/or irregular speech rate, excessive disfluencies, and often other symptoms such as language or phonological errors and attention deficits.

Cluttering is a term that describes a constellation of symptoms, including *fluency* problems. Most of the early writing on *cluttering* grew out of the European traditions of phoniatrics and logopedics. Except for isolated publications, *cluttering* was generally ignored in North America until recently. The definition of *cluttering* is not clearly established, but most current authorities agree that deficits in *fluency*, *rate*, and coexisting disorders of language and/or articulation are nearly always present. Problems in such areas as attention, activity level, reading, and handwriting suggest strong parallels between *cluttering* and “learning disabilities” and “attention-deficit/hyper-activity disorders.”

Generally, the *disfluencies* observed in clutterers consist of those typically regarded as “normal” or “ambiguous,” referred to earlier. *Cluttering* may occur alone as a *fluency disorder*, but it more frequently coexists with *stuttering*.

3.12. Neurogenic Stuttering. Neurogenic stuttering refers to stuttering, often transient, that began with—or is maintained as a result of—a specific, identifiable neurological insult or lesion.

Generally, *neurogenic stuttering* is observed in adults who have undergone confirmed brain damage. An infrequently occurring disorder, it has been observed in individuals who have lesions in diverse areas of the central nervous system (e.g., Helm-Estabrooks, 1993). *Neurogenic stuttering* has been labeled variously as

“acquired stuttering,” “stuttering secondary to brain damage,” and “cortical stuttering.” Some in the professional community question whether *neurogenic stuttering* is a valid diagnostic entity.

3.13. Psychogenic Stuttering. *Psychogenic stuttering is stuttering that is clearly related to psychopathology.*

Psychogenic stuttering refers to *stuttering* that is the primary symptom of some form of verifiable psychopathology, such as a neurotic conversion disorder (e.g., Roth, Aronson, & Davis, 1989). Excluded from this somewhat questionable category is *stuttering* that began after a psychologically traumatic event because, in most cases, the *stuttering* symptoms continue to develop in much the same way as do symptoms of *stuttering* that began in childhood after no such traumatic event. The Task Force cautions researchers and clinicians to use the term *psychogenic stuttering* only in cases in which it is clearly related to diagnosed psychopathology. Some in the professional community question the validity of *psychogenic stuttering* as a diagnostic entity.

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