Describing Speech Usage in Daily Activities in Typical Adults

*Laine Anderson, †Carolyn R. Baylor, *Tanya L. Eadie, and †Kathryn M. Yorkston, *†Seattle, Washington

Summary: Objectives. "Speech usage" refers to what people want or need to do with their speech to meet communication demands in life roles. The purpose of this study was to contribute to validation of the Levels of Speech Usage scale by providing descriptive data from a sample of adults without communication disorders, comparing this scale to a published Occupational Voice Demands scale and examining predictors of speech usage levels.
Study design. This is a survey design.
Methods. Adults aged ≥25 years without reported communication disorders were recruited nationally to complete an online questionnaire. The questionnaire included the Levels of Speech Usage scale, questions about relevant occupational and nonoccupational activities (eg, socializing, hobbies, childcare, and so forth), and demographic information. Participants were also categorized according to Koufman and Isaacson occupational voice demands scale.
Results. A total of 276 participants completed the questionnaires. People who worked for pay tended to report higher levels of speech usage than those who do not work for pay. Regression analyses showed employment to be the major contributor to speech usage; however, considerable variance left unaccounted for suggests that determinants of speech usage and the relationship between speech usage, employment, and other life activities are not yet fully defined.
Conclusions. The Levels of Speech Usage may be a viable instrument to systematically rate speech usage because it captures both occupational and nonoccupational speech demands. These data from a sample of typical adults may provide a reference to help in interpreting the impact of communication disorders on speech usage patterns.
Key Words: Voice demands–Speech demands–Occupational voice.

INTRODUCTION

"Speech usage" is a term that has been used to refer to the ways that people use their speech in their daily environment.[1] Each individual may have unique speaking demands depending on a host of variables including occupation, personality, household management, family care responsibilities, social and leisure activities, and communication preferences. Understanding each client's unique perspective on his or her level of speech usage is important for clinicians when assessing the impact of a communication disorder on that client's life participation and quality of life. Speech usage also may be a critical variable to consider when weighing treatment options and measuring outcomes. Clinicians, therefore, need systematic methods for documenting patterns of speech usage. A systematic method for reporting speech usage might also be useful from a research perspective for studies in which speaking demands are variables of interest.

Speech usage may be assessed and measured in a variety of ways. One of the most recent developments includes the use of ambulatory phonation monitors (APMs): portable and wearable devices designed to objectively document the phonatory behaviors of an individual over a period of time.[2–9] Although such monitors permit an objective assessment of voicing parameters, there may be some limitations to these devices for everyday clinical uses and some research purposes. For example, the devices may not be practical or accessible for general clinical use, and/or some clients may resist using them. Prior research has suggested that individuals may remain aware of the devices while wearing them, potentially influencing data collection.[9] Additionally, voice parameters recorded by the devices (eg, phonation time, fundamental frequency, intensity, etc) do not provide critical information about how individuals perceive their own speech usage, particularly in terms of personal importance and priorities.

An alternative (and perhaps complementary) method for measuring speech usage includes subjective judgments made by clinicians or by client self-report. Many of these subjective methods have focused extensively on rating the demands placed on speech or voice by occupational roles. For example, the amount of talking estimated by teachers in their job has received considerable attention because of the increased risk of voice disorders in this population and its impact on individuals' lives and well-being.[10–15] Rating scales to categorize voice demands have also been used.[16–19] One of the best studied occupational voice demands scales was developed by Koufman and Isaacson.[16–21] The Koufman and Isaacson occupational voice demands scale includes four levels of vocal usage: the elite vocal performer (level I, eg, a singer or actor), the professional voice user (level II, eg, clergy, lecturers), the nonvocal professional (level III, eg, teachers, doctors, lawyers, businesspeople, or receptionists), and the nonvocal nonprofessional (level IV, eg, laborers, clerks). Subjective reporting methods such as estimating the amount of time spent talking in different activities or rating speech demands on a scale are probably the most common and practical assessment techniques currently used in clinics and research. These methods also come with inherent limitations because of subjectivity and possible variability associated with estimating speaking time. Even with these limitations,

Accepted for publication February 2, 2015.
From the *Department of Speech and Hearing Sciences, University of Washington, Seattle, Washington; and the †Department of Rehabilitation Medicine, University of Washington, Seattle, Washington.
Address correspondence and reprint requests to Carolyn R. Baylor, Department of Rehabilitation Medicine, University of Washington, Box 356490, Seattle, WA 98195. E-mail: cbaylor@uw.edu
Journal of Voice, Vol. 30, No. 1, pp. 42-52
0892-1997/$36.00

http://dx.doi.org/10.1016/j.jvoice.2015.02.001

however, it is likely that subjective speech or voice demands scales will remain popular because of their ease and efficiency in clinical and research use.

In reviewing vocal demands rating scales reported in the literature, Baylor et al[1] highlighted some possible limitations of existing categorical scales. First, most scales were developed for use with voice clients, and the use of voice terminology does not necessarily represent speech characteristics in either normative populations or populations with communication disorders other than voice disorders. Having a speech usage scale for individuals across a broader range of communication disorders may assist clinicians who work with a variety of clients—voice and otherwise. Second, existing scales focus largely on voice demands within occupations which may not permit individuals to sufficiently report activities outside the workplace that are important to them and which may require high levels of speech usage. Third, many rating scales categorize individuals on the basis of job type, but there may be variations of speech usage within jobs that would not be captured by job titles. For example, there may be a wide range of speaking demands across some professions, such as teachers or lawyers, depending on their specific job responsibilities and work environments. Finally, existing scales often emphasize the role of the clinician in making the rating either from the clinician's viewpoint alone or jointly with the client. There may be advantages to capturing the client's own perspectives and priorities for speech usage, particularly because other studies have found that clinicians may serve as poor proxies for making these kinds of judgments.[22,23]

To address some of these limitations, the Levels of Speech Usage rating scale was developed.[1] In developing the instrument, the term "speech usage" was chosen instead of "voice demands" with the goal of creating a tool that would be applicable to a wider range of communication disorders. The intent was for the instrument to encompass as broadly as possible the many ways in which people use speech for communication and expression—including all the speech subsystems of voice, resonance, and articulation. In this article, therefore, the term "speech usage" is intended as an umbrella term to encompass activities related to both voice (as a subsystem of speech) and speech (although singing may be a separate issue which will be addressed in the discussion).

The Levels of Speech Usage scale consists of five categories. Clients are asked to consider the frequency, type, amount, and importance of speaking situations that they encounter on a day-to-day basis and then choose the category that best describes them: "undemanding," "intermittent," "routine," "extensive," or "extraordinary" speech usage. Following each category name is a brief description clarifying the qualifications for that category. The scale is available elsewhere[1] but is summarized in Table 1. This rating system permits clients to quickly report their speech usage level, allowing clinicians and researchers to more effectively understand the client's perspective.

At present, the Levels of Speech Usage has been used to assess the speech usage of 200 individuals with spasmodic dysphonia (SD).[1] Associations between speech usage and several variables were explored. Results revealed that age, education, and work status were the only variables significantly associated with speech usage levels. Speech usage appeared to decline with age. Higher levels of speech usage were more prevalent in adults who were working full-time. With regard to education, people whose highest degree was a high school education were concentrated in the less-demanding speech usage categories, whereas the extraordinary usage category consisted largely of individuals with bachelors or graduate college degrees. Examination of participant-reported occupations in each of the speech usage categories revealed patterns that might be expected on the basis of existing occupation-based voice demand scales (eg, "teachers" falling in the extensive and extraordinary categories). However, there also were many exceptions (eg, a participant working as a tailor reported extraordinary speech usage). Speech usage was not associated with gender, duration of SD, self-rated voice severity, treatment status, Voice Handicap Index,[24] or communicative participation. Results of that study are difficult to interpret fully, however, without knowing what variables would be associated with speech usage in typical adults without voice or speech disorders.

In a second study contributing to the validation of the Levels of Speech Usage scale, Gray et al[23] explored the correlations

TABLE 1.
Summary of Categories of the Levels of Speech Usage

Undemanding speech usage	Quiet for long periods of time almost daily. Almost never talking for long periods or using loud voice.
Intermittent speech usage	Quiet for long periods of time on many days, with most talking consisting of typical conversational speech. Occasionally talking for long periods or using loud voice.
Routine speech usage	Frequent periods of talking on most days, with most talking consisting of typical conversational speech. Occasional talking for long periods or using loud voice.
Extensive speech usage	Speech needs consistently exceed everyday conversational speech with regular episodes of talking for long periods or in loud voice (ie, presentations or performances). Able to continue work/personal goals even if speech/voice is not perfect.
Extraordinary speech usage	Very high demands for speech with regular periods of long or loud speech/voice use (presentations or performances). Work or personal goals depend almost entirely on the quality of speech/voice.

Notes: Please refer to the original reference for the complete wording of the scale.