

Voice Quality Across Progressive Weight Loss: Are There Relationships

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Abstract

Purpose: Behaviors and practices that enhance bodily health and wellness are vital to optimizing the health and wellness of the larynx. Body composition variables can be associated with voice quality, production, and use via influences on the structures and mechanics of respiratory, phonatory, and resonatory systems. The purpose of this study is to analyze and compare objective data from body composition, acoustic, and auditory perceptual measures to explore potential relationships among the variables of interest across non-surgical weight loss.

Method: For this repeated measure study, healthy participants between 18 and 80 years of age who are engaged in a weight loss program at a local gym are being recruited. For this preliminary study, we desired ten; however, only four have been enrolled. These four completed background and interview questionnaires, self-report scales of voice function and use, and specific voice recordings were used for computerized acoustic analysis and auditory perceptual judgments. Tasks and questionnaires were done before weekly to bi-weekly weight loss counseling sessions with trainers over four weeks. Available data were analyzed, described, and compared; however, further statistical analysis was considered premature.

Results: Preliminary analysis for pounds lost in relation to cepstral spectral acoustic measures and auditory perceptual judgments of voice quality were conducted. Weight loss was insignificant for two participants, and no relationships were present among the acoustic or auditory perceptual judgments of voice quality. The other two participants lost significant weight at twenty pounds each, and relationships were found between this and the acoustic measures. No relationship was present between the weight loss and auditory perceptual judgments of voice quality.

Conclusion: These preliminary findings provide some evidence that weight loss may favorably impact vocal quality. As such, weight loss may be beneficial in counseling clients about optimal vocal hygiene behaviors and techniques. We fully acknowledge the small number of participants and partial data analyzed is a significant limitation; however, these findings warrant further investigation. Studies of weight loss and voice have shown connections with body composition variables. More needs to be understood as to why these connections exist.

Key Words: *Progressive weight loss, Weight loss, Voice quality*