Understanding Aging: A 50-year longitudinal study of Speeches

The study, published in the Journal of the American Geriatrics Society, examines 36 recordings of the former leader of the Church of Jesus Christ of Latter-day Saints, Gordon B. Hinckley, spanning the years 1958 to 2007. These recordings provide a rare opportunity to track a single individual’s age-related voice and speech mechanism changes. Speeches used from Hinckley, spanning the ages of 48 to 98 years old, were all given at Brigham Young University. Several types of analyses were employed: speech fundamental frequency to reveal the current health of the laryngeal physiology, rate of speech, as well as length of speech breath groups to indicate efficiency of laryngeal valving and/or lung vital capacity.

Two key items were discovered. First, aging effects became noticeable between the ages of 68–74, indicating a fundamental change in the body’s maintenance of the speech mechanism. Second, rate of speech (words per minute) began to decrease precipitately at 78 years old, while length of speech breathing reduced at 70 years old.

The results of this case study can be used as a baseline for future studies. The aging of the voice and speech mechanism affects breathing, swallowing, and communication. Thus, indication of speech aging would also imply aging of the breathing and swallowing mechanism and potential health risks. Those of the world’s population over fifty are the fastest growing segment, affecting society by its sheer number as well as by historically high life spans. Healthcare practitioners must understand and accommodate the needs of this population.

For additional information, see the full article written by Eric J. Hunter, PhD, Mara Kapsner-Smith, M.S., Patrick Pead, Megan Zito Engar, B.S., & Wesley R. Brown, M.D in Journal of American Geriatrics Society "Age and speech production: A longitudinal study of 50 years" Vol 60, Issue 6, start page 1175 http://www.ncbi.nlm.nih.gov/pubmed/22690991

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