

### J26 Availability of Measurement of Ascender and Descender Parts of Letters in Determining the Gender of the Writer

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**Learning Overview:** After attending this presentation, attendees will have gained information about the results obtained in a study in Turkey about the measurement of certain parts of letters, which is one of the methods used in determining whether a manuscript belongs to a woman or a man, and how the possibility of applying the same method will arise in different countries.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing information about the tests of a study conducted in Turkey based on numerical values and usability to determine whether a manuscript belongs to a woman or a man.

One of the findings used when determining whether a manuscript belongs to a female or a male is to compare the length ratios of the parts by measuring some letters. The goal of this study was to determine the differences between female and male writings by measuring the parts of the same letters in the same words on the same texts written by females and males.

For this purpose, manuscripts that were written by 20 females and 20 males whose age range was 22–63 years (average 32.7 years) and whose educational background was either university students or graduates, who were Turkish citizens living in the same geographic region (Istanbul, Turkey) were analyzed in Adobe® Photoshop® software using the letter “d” in “başladı, derken, uyandım” words, the letter “t” in “lokantada, seyrettik, papatyalarım” words, the letter “p” in “akıp, papatyalarım” words, the letter “k” in “yaklaşan, sığındık, katıldı” words, the letter “y” in “dinmesiyle, yol, ayrıldım” words, the letter “b” in “İstanbul, boğaz, bulutlar” words, the letter “f” in “ferah, film” words, the letter “g” in “gibi, gökyüzü, gitmeye” words, and the letter “h” in “sabahna, hoş, bahar” words. The data obtained were analyzed with *t*-test in SPSS 23 software.

It was found that ascender and descender parts of all letters were the higher length value in male participants and the difference was statistically significant in all letters except “y,” “f,” and “g” (p value <0.05).

It is stated in related literature that the handwritings of females and male differs from each other.<sup>1,2</sup> Objective findings to be used to reveal this difference should be based on numerical measurements. In this study, significant differences were obtained in some selected letters. Also, if the measured number of letters, the range between words, the range between letters, and the number of measurements is further increased, much more reliable findings can be obtained in the differences between females and males.

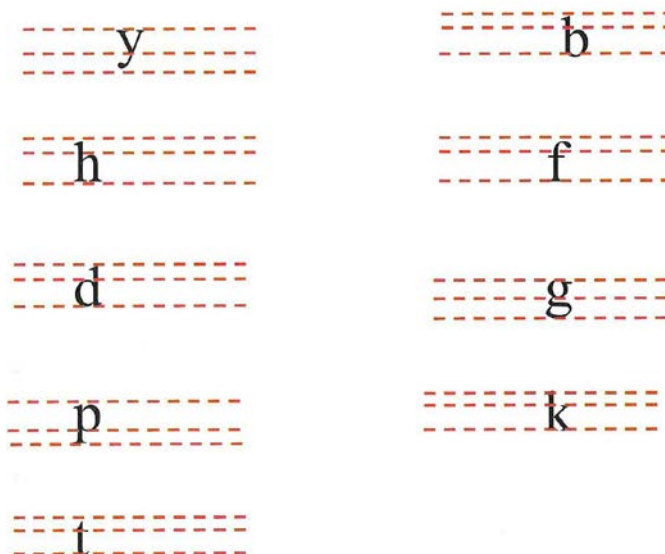


Figure 1: Measurement zones in letters

#### Reference(s):

1. Suneet Kumar, Vaibhav Saran, Bikram Ashok Vaid, and Ashok Kumar Gupta. Handwriting and gender: A statistical study. *Problems of Forensic Sciences* 95, (2013) : 620–626.
2. Sushma Upadhyay, Jyoti Singh, S.K. Shukla. Determination of Sex Through Handwriting Characteristics. *IJCRR* 9, no:13, (June 2017): 11-18.

#### Female Handwriting, Male Handwriting, Gender Determination