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Assignment # 02

The article “**Handwriting and Gender: A multi-use data set**”, is basically all about the guessing of gender through the handwriting. Main objective of this article is that individuals (mostly students) can guess the gender of authors by hand writing, this could be done through simple paper and pencil, but they prefer to be done through electronic method. More importantly, data is given by the authors or in other cases, data is generated by their own students. This research is however an observational research, by observing the hand writings, individuals have to guess whether it is written by a male or a female. It seems obvious that when readers encounter a handwritten document they will tend to make judgments about its author, valid or not, based on the way the document is written. To identify the personal traits like gender from handwriting is the aim of graphology. Graphology is often classified as a *pseudoscience* in the sense of science, there is little to no evidence that personality or character traits can be identified from a person’s handwriting. As far as the sample space for this research is concerned, electronic survey contains 25 handwritten specimens from past undergraduate students aged 18 to 25, out of which 12 specimens created by male authors and 13 by females, and each is in the form of a mailing address label containing the same fictitious name and address. Survey is conducted twice from the class on different days, in order to show correctness from the previous result, and survey takes an average of 3-4 minutes to be completed. As told earlier that it is conducted electronically, in the past administration used an online survey product (surveymonkey.com), *StatCrunch*, or a course management system

(Moodle) to conduct it, but this semester they intend to use Google Docs as it allows to give survey as a Quiz. The resulting data is transferred into a spreadsheet for cleaning and organizing, and then into statistical software. Administration uses *StatCrunch*, but many of the initial calculations can be done using the spreadsheet. These choices make the data set easily accessible to all the students, since access to MS *Excel* and *StatCrunch* are required for our course. Summary of the results from table # 1 shows that, individual respondent #1 was a female who made 72% correct identifications on Survey 1 (18 out of 25) and 68% on Survey 2 (17 of 25). The Female ID variable shows that when trying to classify female specimens on Survey 1, she was correct 75% of the time (9 of 12) and was correct 69.2% of the time (9 of 13) when identifying male specimens on Survey 1. The minimum score is 8 out of 25 (32%) and the maximum is 23 out of 25 (92%). Based on the simulated sampling distribution, it is not difficult to convince students they will have to score at least $17/25 = 68\%$ to be as good as the top 5% of all “lucky coin toss sequences,” and score at least $18/25 = 72\%$ to be part of the top 2.5%. A two-sample t-test using the Survey 1 data suggests women are somewhat better than men at making identifications ($P < 0.0001$), besides this table 2 reveals there is an approximate increase of 2.5 percentage points in scores between Survey 1 and Survey 2, and there is some evidence that respondents are better at identifying female handwriting. To improve the results of the survey, there should be more choices to the individuals to answer like:

- ◆ I’m very sure this was written by a **male**.
- ◆ I’m somewhat sure this was written by a **male**.
- ◆ I can’t tell.
- ◆ I’m somewhat sure this was written by a **female**.
- ◆ I’m very sure this was written by a **female**.

From the above summary, we can conclude that individuals can guess the gender by observing the handwriting. The survey was conducted in which females individuals show better response than males, as their ratio of success was high than that of males, survey was conducted on Google Docs as a Quiz, and the results were shown on the spot. Results were compared through different graphs using graphology technique. Administration was aware that there is a danger of

over-exposure; students can lose interest if a data set becomes the sole focus of the course. But many students find these questions interesting enough that they want to explore them, either as part of class or as guided independent projects.

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