

Thomas Nelson Community College

NAS 206
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Pseudoscience/Astrology
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From Wikipedia:

“Pseudoscience consists of statements, beliefs, or practices that are claimed to be scientific and factual in the absence of evidence gathered and constrained by appropriate scientific methods. Pseudoscience is often characterized by the following: contradictory, exaggerated or unfalsifiable claims; reliance on confirmation bias rather than rigorous attempts at refutation; lack of openness to evaluation by other experts; and absence of systematic practices when developing theories.”

“Astrology consists of a number of belief systems that hold that there is a relationship between astronomical phenomena and events or descriptions of personality in the human world. Astrology has been rejected by the scientific community as having no explanatory power for describing the universe. Scientific testing of astrology has been conducted, and no evidence has been found to support the premises or purported effects outlined in astrological traditions.

Where astrology has made falsifiable predictions, it has been falsified. The most famous test was headed by Shawn Carlson and included a committee of scientists and a committee of astrologers. It led to the conclusion that natal astrology performed no better than chance.”

1. Consider the file `astrology3.xlsx`. The data represents birth data of 677 Nobel prize winners. There are 4 columns: *Sign* is the number of Nobel prize winners born in that sign, and *Month* is the number of Nobel prize winners born in that month given by *birthMonth*.

Using RStudio:

- Plot the data.
 - Using the χ^2 distribution, does the month of birth affect Nobel Prize likelihood at the 95% confidence level?
 - Using the χ^2 distribution, does the astrological sign affect Nobel Prize likelihood at the 95% confidence level?
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