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Level 1 Science RAS 2023

91923 Demonstrate understanding of science-related claims in communicated information

EXEMPLAR

Excellence

TOTAL 08

Report on the Selected Claim

1196 / 800 words, soft limit - Max points: 0

Write a digital report on the selected claim using your science knowledge and language, and science critical thinking skills.

In your report consider including discussions on:

- what science-related claim is made in the resource
- who or what the source of the claim is, and the intended purpose of the communicated information
- how science language and conventions are used to support the claim
- how science language and conventions represent or mis-represent the science ideas in the claim.

Answer

In the resource, there are two main science-related claims that are being made about the link between astrology and personality. The first claim in the resource is that your personality is determined by which zodiac constellation is aligned with the sun, moon, and planets during your birth date. The second claim in the resource is that personality is determined by a combination of your genes and upbringing, and that it has nothing to do with astrology.

The claim for astrology is made by astrologers, with one of the more popular ones being Aliza Kelly. In her website, Kelly has been described as, among other things, a best-selling author and a rising star in modern spirituality. She has published her claim in various ways, including magazines and the three books she has made about astrology, and the sources I'm using for this report are astrology.com and her website. However, Kelly, as a source of this claim, is unreliable, as she doesn't back her claim up with any scientific evidence, presumably because astrology is rooted in spirituality. I think that the intended purpose of Kelly's claim is to inform people about her belief that astrology is linked to personality. It is likely that Kelly has no ulterior motive for this claim, and that she believes what she is saying is true. She is targeting this claim at those who believe more in spirituality than science, as they are more likely to believe something that is very disconnected from science. The claim against astrology is made by psychologists in general, as well as the American Psychological Association (APA), and American physicist Shawn Carlson. This claim has been published in various websites, such as verywellmind.com. These sources are reliable, as the verywellmind.com website uses evidence from psychologists, and Carlson has done a double blind study on if astrologists can correctly match a personality to a birth chart. The intended purpose of these sources was to debunk the theory of astrology being linked to personality. In the case of verywellmind.com and the APA, they also wanted to inform people about how personality actually works. They want this because they want people to know the actual science behind personality so that they can be better informed about how it works. These sources are aimed at those who are more inclined to look at the science behind how something works, as they are more likely to believe this over astrology.

Kelly has used scientific language in her statement to support her claim that astrology links to personality, which is, "*Your birth chart reveals the location of the planets in the sky at the time of your birth. An analysis of this chart, also called a natal chart, can provide deep insight into your personality.*". An example of the scientific language that Kelly uses in this statement is '*analysis*'. I think that Kelly used this scientific language to make her statement sound more based in logic than it actually is, making it seem that she has put a lot of thought into her statement. The scientific language supports the claim because it has more logical connotations, which adds a bit more sense to the spiritual idea. The sources against astrology have used both scientific language and scientific conventions to support their claim that astrology doesn't link to personality. The verywellmind.com website uses scientific language such as '*reliable and scientifically measured*' and '*psychologists study*'. I think that this website used this scientific language to emphasize that the California Personality Inventory (CPI), which is a test that is used to describe a person's personality, is based in scientific fact. This scientific language supports the claim by informing the reader that the information they are giving is backed up by a test used by trained professionals. Carlson has used the scientific convention of a double blind study to support this claim. I think that he used this test to scientifically study if astrologists can accurately guess someone's personality based on their birth chart to see if astrology is based in fact. This supports the claim because it provides scientific evidence from a study that debunks the claim that astrology is linked to personality, as it states that most astrologers can't accurately guess someone's personality based on their birth chart.

I think that the scientific language misrepresents the scientific ideas in the claim made by Kelly. Kelly did do a few things well, as she has provided just enough information to convince those who believe

in spirituality that astrology is linked to personality. However, she has done a lot more wrong. The scientific language she used does very little to link her claim to science, as it is more rooted in spirituality, and science directly opposes spirituality. Also, apart from this scientific language, Kelly has done nothing to scientifically prove her claim. She hasn't conducted any studies, and she isn't even going off results from any test at all. The only proof she has that astrology is linked to personality is that many people find that they do share characteristics of their star sign. However, this is actually just a result of correlation as opposed to causation. What's even worse about this is that this correlation is a result of confirmation bias, as the personality traits of each star sign are broad traits held by everyone. This means that the confirmation bias causes people to think that their star sign defines them because they fit the traits of their star sign, creating a false correlation that leads to an even more false belief that it is causation instead of correlation. I think that the scientific language and conventions represents the scientific ideas of the claim against astrology. The verywellmind.com website uses evidence from psychologists, and the scientific language represents this well, as it conveys that this information was gathered in a professional manner. Carlson's test represents the ideas behind the claim as well, as it provides the claim with results that support it. The test is reliable because it is a double blind study, meaning that both the participants and the researchers didn't know which personality files were real and which ones were fake. This means that there was less bias in the study as the researchers couldn't skew the investigation to their advantage. This study was also not funded by another company, meaning that there is very little room for vested interest or conflict of interest. However, the sample size was rather small, as there were only 30 astrologers involved, but each one did 30 trials, meaning that there were 900 trials done in total. Despite this huge number, there's still the case that 30 might not be representative of the entire population.

In conclusion, I think that the claim against astrology is valid and the claim for astrology isn't valid. The claim against astrology is valid because it is backed up by scientific evidence from professionals and an investigation that had very little room for any sort of bias. The claim for astrology isn't valid as it is rooted in spirituality, and the proof it does have is the result of a case of confusing causation with correlation, with this correlation being a result of confirmation bias.

Excellence

Subject: Science

Standard: 91923

Total score: 08

Q	Grade score	Marker commentary
1	E8	The candidate has securely examined the science-related claim of the impact of astrology on personality. The candidate has evaluated the use of science language and conventions around sample size, bias, conflict of interest, and correlation vs causation used to support (or lack thereof) for this claim.