

How Gullible Are You?

An Examination of Personality Type and Susceptibility

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## Abstract

Research on personality type and susceptibility to suggestion has indicated a potential link between a person's personality type and susceptibility. Unknown, however, are other factors potentially involved in susceptibility and how all of these variables interact to affect susceptibility to suggestion. The current study examines the differences between personality types and suggestibility to suggestion among students, and how they vary with gender, education level, religious beliefs, mood and belief of horoscopes to determine whether or not these factors influence how susceptible a person is. Personality types are either neurotic/stable or extraverted/introverted, and the extent to how gullible each personality type is examined by giving participants a real or fake horoscope and to judge its accuracy. Results indicate that certain personality types are not more susceptible to suggestion and that introverts and extraverts do not vary in their belief of horoscopes. Further research is needed in order to determine what makes a person more susceptible to suggestion.

## How Gullible Are You?

### An Examination of Personality Type and Susceptibility

Gullibility and suggestibility (i.e., human susceptibility to believing what is untrue without question) have been closely examined in the academic literature many times over the last fifty years, and numerous attempts have been made to determine why certain people are more prone to suggestion (or are more gullible) than others. There are many factors that could affect a person's suggestibility, some of which could include personality type, the day or month of birth, and astrological factors. Personality types can be defined in a number of ways but a prominent factor in many models is the introversion-extraversion dimension. Introverts are known to be shy and less sociable, while extraverts are known to be more outgoing and opinionated. Another dimension is neuroticism which is how emotionally stable/neurotic a person is. An emotionally stable person is known to be calm and even tempered; while someone who is neurotic is known to be anxious and angry. Astrological factors include things such as one's sun-sign which is the astrological sign related to a person's date of birth which in turn claims to have an influence on personality. For example Leo's are said to be loud and assertive, while Libra's are said to be quiet and shy. Most research has focused on personality differences, and it is commonly believed that certain personality types are more susceptible to suggestion: for example, introverts may be more vulnerable than extraverts because they possess personality traits that would ultimately lead them to being more vulnerable (Gudjonsson, Sigurdsson, Bragason, Einarsson, & Valdimarsdottir, 2004). In a less common line of inquiry from the 1970's, other researchers (Mayo, White, & Eysenck, 1978) focused on astrological factors to determine whether time of birth had any effect on personality type, and whether or not this combination of factors leads certain people to be more susceptible to suggestion. Astrology posits that people born in certain

months have similar personality types and may be similarly affected in terms of their susceptibility to suggestion. Susceptibility to suggestion may be related to personality traits, astrological (birth) factors, or possibly a combination of the two. The proceeding section in this paper brings attention to some of the past work on personality type and suggestibility to inform the reader of many of the possible factors that may be involved in susceptibility to suggestion.

A large number of studies (e.g., Forer 1949; Dies 1972) have examined the fallacy of personal validation, people's willingness to accept general personality interpretations, and their relation to both real and fake interpretations. The fallacy of personal validation refers to the tendency of individuals to give high accuracy ratings to descriptions of their personality that are supposedly tailored specifically for them, but are in fact vague and general enough to apply to a wide range of people. In Forer's (1949) study all students raised their hand to indicate their belief that the description they were given was a good description of themselves. Similarly in Dies' (1972) study participants who received falsified results tended to believe that the results were accurate descriptions that "rang true". This was also true of participants who received real personality assessment feedback. In other words, participants receiving the fake feedback believed it represented their personality (just as strongly as those who received valid feedback), thus indicating human susceptibility to suggestion.

Sundberg (1955) later examined Forer's study to see if it was possible for participants to discern the difference between real and fake personality descriptions. Sundberg concluded that participants were not able to pick out a real description from a group of fake descriptions. Collins, Dmitruk, and Ranney (1977) also attempted to demonstrate that the favourableness or unfavourableness of an interpretation did not affect a participants' rating of the extent to which they believed that it described them. Favourable descriptions were rated higher, but unfavourable

descriptions were still rated to be good and accurate descriptors according to the participants.

This would indicate that even if the descriptions had negative personality characteristics, for example being lazy or pessimistic, participants still rated the descriptions as being accurate.

Another group of studies by Snyder, Shenkel, and Lowery (1977), Glick, and Jolton (1989), and Dmitruk, Collins, and Clinger (1973) discuss the “Barnum Effect” and people’s willingness to accept general personality interpretations. The “Barnum Effect” refers to the phenomenon in which people willingly accept personality interpretations comprised of vague statements (e.g., “You have a need for other people to like and admire you, and yet you tend to be critical of yourself. While you have some personality weaknesses you are generally able to compensate for them. You have considerable unused capacity that you have not turned to your advantage. At times you have serious doubts whether you have made the right decision or done the right thing”) with a high base-rate occurrence in the general population, meaning that these traits were so general that they could describe anybody, or multiple people (Snyder et al., 1977). In all three studies participants readily accepted the general personality interpretations that were given to them. All of the personality interpretations were accepted as good descriptors of the participant in spite of the fact that only vague descriptors that apply to most people were employed (Glick & Jolton, 1989). This appears to be an interesting fallacy in human perception, but factors of why this is true have not been speculated. It seems that some people are more susceptible to suggestion than others, there is no answer concerning why these people in general are gullible to this type of suggestion.

Most psychologists and other scientists find it difficult to believe that the position of the planets, (which are re-presented in the 12 signs of zodiac, at the time of birth) have an influence on a person’s personality, but a few studies have lent astrology some credibility (e.g., Silverman

& Whitmer, 1974). Researchers have also noted the continued widespread cultural belief in astrology, and that the extent to which people have been exposed to astrological character analysis, can affect their readiness to accept the personality descriptions and “forecasts” it offers (Hamilton, 2001).

Hamilton (2001) found that participants born with the sun in an odd-numbered sign (e.g., Aries and Gemini) expressed more belief in astrology than those born under an even-numbered sign (e.g., Taurus and Cancer), while Snyder (1974) claims that the likelihood of an individual’s acceptance of the accuracy of a horoscope description increases when the individual believed the interpretation was based on specific birth information. The results were highest for the “year, month, and day” condition, and lowest for “generally true for all people” condition. This suggests that susceptibility may increase when the illusion or appearance of a highly detailed and technical analysis is present.

Silverman and Whitmer (1974) and Mayo, White, and Eysenck (1978) examined the relationship between astrological factors and personality. Results showed that extroverts tended to be born under the odd numbered zodiacal signs, while introverts were born more often under the even numbered zodiacal signs. Even though scientists may doubt the validity of astrology, few would argue with the existence of the introversion-extraversion personality dimension, and the fact that all people possess some variant of these traits, (regardless of whether extra/introversion is in-born, learned or some combination of the two).

If astrology does in fact affect the personality traits a person encompasses then there is a possibility of a relationship existing between birth month (or season) and personality traits. Astrological signs are determined by the position of the planets in the 12 signs of the zodiac at the time of birth. People born in the same period, (which is usually the middle of one month,

through to the middle of the next month), are all said to be born under the same astrological sun sign. Smithers and Cooper (1978) examined the relationship between extraversion/introversion and neuroticism by season of birth and found that most introverts were born under the Taurus sun sign, and that most extraverts were born under the Aries or Sagittarius sign. In other words, more introverts were born in May, and more extraverts were born in October and December. Forlano and Ehrlich (1941) conducted a similar examination of birth month in relation to introversion and extraversion. The study showed that introverts were more likely to be born in the warm months, May to August, and extraverts were most likely to be born in the cold months, September to April. From all of these results it seems that there may be a connection between birth month and astrological factors.

What effect does a person's personality traits have on his or her life and his/her perceptions of the world? Are some people more susceptible to suggestion, or more gullible than others because of their personality traits? Do people with similar personality traits cognitively perceive the world in a similar way? Gudjonsson, Sigurdsson, Bragason, Einarsson, and Valdimarsdottir (2004) examined the relationship between personality traits and compliance. The aim of the study was to assess the relationship between compliance and Eysenck's three personality dimensions: psychoticism, extraversion, and neuroticism. Gudjonsson et al., (2004) concluded that compliance correlated positively with neuroticism and negatively with extraversion. It also showed that compliance was highest among emotionally unstable neurotic introverts and lowest among emotionally stable extraverts. This would indicate that introverts are more susceptible to suggestion than extraverts, with unstable introverts being more susceptible than stable extraverts.

Fichten and Sunerton (1983) examined individual differences associated with horoscope reading habits, the ascribed or perceived reliability and validity of horoscope forecasts and astrologically based personality descriptions. They also examined the effects of knowing one's zodiac sign on the perception of the usefulness of horoscope forecasts and on the accuracy of astrologically based personality descriptions. Validity of daily horoscopes was also rated by the participants. Results showed that females were more likely to read and believe horoscope forecasts as well as believe astrologically based personality descriptions compared to males. Neuroticism scores were found to be positively related to reading frequency and to belief in horoscopes showing that highly neurotic people appear to be more attracted to the concept of horoscopes. Daily horoscopes were rated as having little reliability by participants, but astrological personality interpretations, determined by the 12 sun signs were deemed to have some reliability.

The aim of the present experiment is to take all of this information and compile it into one study. Personality traits, birth day, and information such as religious beliefs, mood, educational level, gender, relationship status, and occupation were all examined to determine whether or not there was a relationship between these factors and susceptibility to suggestion. The hypothesis for the current study is that unstable-introverts will be more susceptible to suggestion than stable-extraverts, and that unstable-introverts will possess qualities that would ultimately lead them to being more vulnerable than a person who is a stable-extravert.

## Method

### *Participants*

Participants for this study were 58 undergraduate psychology students. The participants consisted of 40 females and 18 males. The average age was 18 and the age range span was 18-



43. Students were given information about the study through email and class visits. They were later contacted and asked whether or not they wished to participate. Students wishing to participate replied with a day and time they wished to participate. They were then instructed where to meet to participate in the study.

### *Apparatus*

Materials used for this study were two questionnaires, and horoscopes taken from an online horoscope site ([www.homepagers.com/week](http://www.homepagers.com/week)). The horoscopes given to participants were horoscopes corresponding to the previous week, along with half of them being real and half of them being fake. The fake horoscopes were simply rearranged so that they were legitimate horoscopes, but they did not correspond to the correct month. For example Aries became Pisces and vice versa. The first questionnaire collected information such as birth date, sex, relationship status, mood, educational level, religious beliefs, and occupation, and how often they read their horoscopes. In addition, a 5-point Likert scale asked the extent to which the participant believed in horoscopes (5=completely, 1=not at all). The second questionnaire given to the participants was a condensed version of the Eysenck Personality Questionnaire (EPI). The EPI measures personality in terms of two independent dimensions. The dimensions are identified as extraversion-introversion (E) and neuroticism-stability (N). Each of these traits is measured by using 24 questions answered with a yes or no response. A lie scale is also included to detect attempts to falsify responses.

### *Procedure*

At the beginning of the procedure students were given an envelope and asked to read the instructions and fill out the information inside. The consent form stated that the study was about personality types among university students and that all of the information would be kept

confidential. Participants were to fill out the preliminary information questionnaire first. They were also instructed to leave out any questions that they did not feel comfortable answering. At the bottom of the first questionnaire participants were asked to indicate whether or not they believed in horoscopes. They were then instructed to complete the Eysenck Personality Questionnaire. Participants then moved on to the last section which consisted of 12 horoscopes. Half of the participants received real horoscopes and the other half received fake ones. The participant was instructed to pick out and read the horoscope that corresponded to their birth month. They were then asked to indicate whether or not any of the events from the horoscope were accurate, based on events occurring the previous week, on a 5-point scale ranging from not at all to extremely well. Once all materials have been handed, in participants were given a debriefing form explaining that the study was actually about personality type and susceptibility to suggestion. They were also told that results could be emailed to them when the study was complete, or they could attend the University's Thesis Conference on March 28, 2008.

### Results

A Multiple regression was employed to account for (predict) the variance in an interval dependent, based on linear combinations of interval, independent variables. A multiple regression was used because it can establish that a set of independent variables explains a proportion of the variance in a dependent variable at a significant level and can establish the relative predictive importance of the independent variables. A multiple regression was used to determine how important personality type (introvert/extraverted and neurotic), rating of horoscope (5-point Likert scale rating), and belief of horoscope were in relation to susceptibility to suggestion. Results showed that there was no relationship between personality type, belief of horoscopes and susceptibility to suggestion ( $r(58)=.621$  ,  $p <.01$ ). Therefore unstable-introverts

were not more susceptible to suggestion than stable-extraverts. There was also no discernable relationship with age, gender, mood, and religious belief, as the majority of the participants were female, the age of most participants was the same, moods were similar, and there were numerous different religious beliefs. Belief of horoscopes was extremely low for both real and fake horoscopes, and among all four different personality types. Results of believability of horoscopes can be seen in Figure 1 and Figure 2. Figure 1 and Figure 2 highlight personality type and rating of believe for both real and fake horoscopes. Both figures show that there were very few introverts and that believability was low for both real and fake conditions.

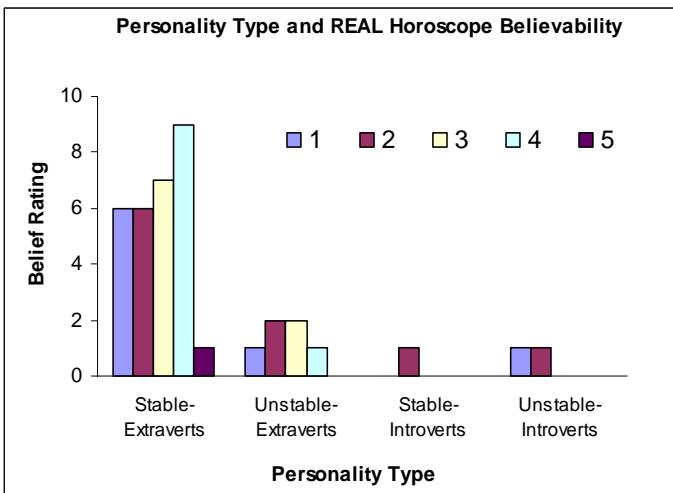


FIGURE 1  
REAL HOROSCOPE BELIEVABILITY  
AND PERSONALITY TYPE

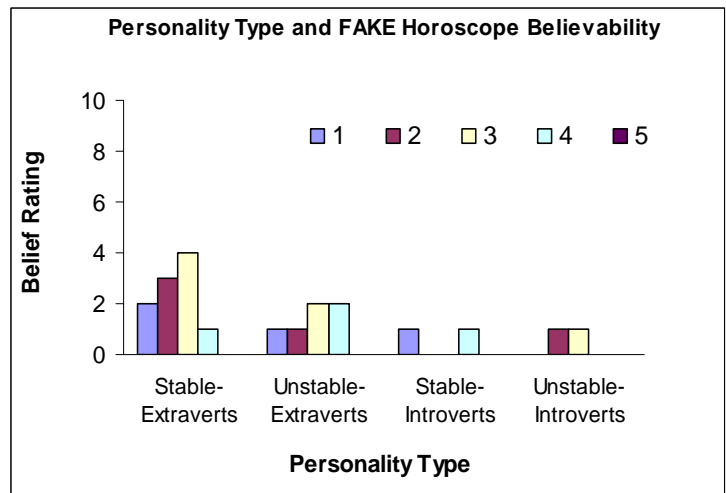


FIGURE 2  
FAKE HOROSCOPE BELIEVABILITY  
AND PERSONALITY TYPE

### Discussion

The results from this study were not similar to past research on susceptibility to suggestion, and did not support the current hypothesis. Unstable-introverts were not found to be more susceptible to suggestion than stable introverts. Almost all of the past research on personality type and susceptibility, and astrology and susceptibility has shown that there is a

relationship between personality type and vulnerability and astrological factors, such as a person's sun-sign and susceptibility (e.g., Gudjonsson et al. & Mayo, White, & Eysenck, 1978).

The current study found no relationship between personality type and susceptibility to suggestion, and astrology and susceptibility to suggestion. There was also no relationship to age, gender, mood, and religious belief.

One possible reason for not finding results was that the EPI classified the majority of the participants as stable-extraverts. Out of 58 participants 39 (67% ) were classified as stable-extraverts and only four (7%) were unstable-extraverts. This made it almost impossible to make any comparisons or conclusions about the data. What it does seem to say is that the majority of university students are emotionally-stable-extraverts.

It is also possible that more information is now known about horoscopes and astrology, especially by educated post-secondary psychology students. Horoscopes can be read in every newspaper, popular magazine and online websites. Palm readers and psychics are also a lot more popular than they were when the bulk of the research in this field was conducted, and many television shows and movies, along with visits to psychics has made the general public extremely skeptical of astrology all together. The majority of introductory psychology students also learn about the subjective side of human nature, including something called the Barnum Effect in which students are very susceptible to very vague and generalized personality descriptors. This class topic could have led participants to be highly skeptical of the horoscope since they had just learned that students often believe vague personality descriptors that are not true. If you look back at Figure 1. you can see that even when given a real horoscope that was supposed to be true a lot of the participants did not believe it to be true and therefore the entire sample proved to be highly skeptical. If research had been done on participants who were not introductory

psychology students different results may have been obtained. It is also possible that certain horoscopes may be better, or more believable than others. Also, if participants had been told that the horoscopes were based on very specific birth information such as day, month, and time of birth, believability may have been heightened.

When considering the demographic variables such as age, gender, mood, religious beliefs and educational level variations were very small among the sample. As mentioned before the ages of most of the participants was almost identical, with very few participants being older than 20, and only one higher than 30. Most of the participants were students, and few had occupations outside of school. The majority of the participants were female, which is common when testing psychology majors, and the mood of most participants was on average, good or happy. Religious beliefs varied so much that it was rare to see more than two students have similar religious beliefs and therefore no conclusions could be made. It is possible that if a different sample, had been tested, in a bigger city, results may have varied. Since participants came from a very small city and attended the same university many of the demographic variables were similar, and there was very little variation. If future research were to be conducted in order to determine whether any of these variables affect susceptibility to suggestion a sample of participants other than university students might be better suited for the study.

One problem that I encountered with the EPI was that students did not understand some of the language (e.g., cross). Also, the measure forced people to choose between yes and no categories—there was no option to agree/disagree depending on the circumstance or “agree somewhat”. It is also more desirable to be an extravert and many people may not want to admit to possessing characteristics such as anxious, angry, shy, and less sociable. Participants may have avoided answering questions honestly in order to make a more favourable appearance, as it is

typically more desirable to be an extraverts. Furthermore, introversion/extraversion and neuroticism are now more commonly thought to be continuous variables (i.e., most people are ambiverts) and personality types may depend on the situation, and so perhaps different findings would result if a different instrument was used.

In conclusions it is possible that susceptibility to suggestion is a result of personal experience or environmental factors, and not personality type, and further research is needed in order to determine exactly why certain people are more susceptible to suggestion than others.

## References

- Collins, R. W., Dmitruk, V. M., & Ranney, J. T. (1977). Personal validation: Some empirical and ethical considerations. *Journal of Consulting and Clinical Psychology, 45*, 70-77.
- Dies, R. R. (1972). Personal gullibility of pseudodiagnosis: A future test of the "Fallacy of Personal Validation." *Journal of Clinical Psychology, 28*, 47-50.
- Dmitruk, V. M., Collins, R. W., & Clinger, D. L. (1973). The "Barnum Effect" and acceptance of negative personal evaluation. *Journal of Consulting and Clinical Psychology, 41*, 192-194.
- Fichten, C. S., & Sunerton, B. (1983). Popular horoscopes and the "Barmun Effect". *The Journal of Psychology, 114*, 123-134.
- Forer, B. R. (1949). The fallacy of personal validation: A classroom demonstration of gullibility. *The Journal of Abnormal and Social Psychology, 44*, 118-123.
- Forlano, G. & Ehrlich, V. Z. (1941). Month and season of birth in relation to intelligence, introversion-extraversion, and inferiority feelings. *The Journal of Educational Psychology, 32*, 1-12.
- Glick, P., & Jolton, J. (1989). The fault is not in the stars: Susceptibility of skeptics and believers in astrology to the Barnum Effect. *Personality and Social Psychology Bulletin, 15*, 572-583.
- Gudjonsson, G. H., Sigurdsson, J. F., Bragason, O. O., Einarsson, E., & Valdimarsdottir, E. B. (2004). Compliance and Personality: The Vulnerability of the Unstable Introvert. *European Journal of Personality, 18*, 435-443.

- Hamilton, M. (2001). Who believes in astrology? Effect of favourableness of astrologically derived personality descriptions on acceptance of astrology. *Personality and Individual Differences, 31*, 896-902.
- Mayo, J., White, O., & Eysenck, J. (1978). An empirical study of the relation between astrological factors and personality. *The Journal of Social Psychology, 105*, 229-236.
- Silverman, B. I., & Whitmer, M. (1974). Astrological indicators of personality. *The Journal of Psychology, 87*, 89-95.
- Smithers, A. G., & Cooper, H. J. (1978). Personality and season of birth. *The Journal of Social Psychology, 105*, 237-241.
- Snyder, C. R. (1974). Why horoscopes are true: The effects of specificity on acceptance of astrological interpretations. *Journal of Clinical Psychology, 30*, 577- 580.
- Snyder, C. R., Shenkel, R. J., & Lowery, C. R. (1977). Acceptance of personality interpretations: The "Barnum Effect " and beyond. *Journal of Consulting and Clinical Psychology, 45*, 104-114.
- Sundberg, N. D. (1955). The acceptability of "fake" versus "bona fide" personality test interpretations. *The Journal of Abnormal and Social Psychology, 50*, 145-147.