

The Effect Of Barnum Statements And Moon Sign Predictions In Subjective Validation

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Abstract

People around the world believe in different fortune telling systems like astrology, palmistry etc because it seems to work for them. But previous scientific studies proved there is no science behind these predictions. It is observed that subjective validation error through Barnum statements may be a reason for this distorted perception. This study was an attempt to understand the role of psychology especially Barnum statements in subjective validation compared to the predictions based on moon sign information. Subjects were 300 volunteer students from different colleges from Kerala. Personal information about the subjects collected few days before the experiment. After collecting the initial data, investigator offered astrological reading about subjects from two great astrologers. The subjects were informed to read these astrological readings (actually one is a psychological one) carefully and to evaluate each one and score how much it is true about themselves. The correct responses are scored and evaluated with chi square test to find out the significant difference between two proportions. From the result, Barnum statements are found to be more relevant reading about the subject than moon sign predictions.

Key words: Barnum Statements, Moon Sign, Subjective Validation

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Fortune telling has been in existence for the past several thousands of years. If it has survived all these years naturally it follows that there is something in it which makes it fit enough to survive. First reason is the anxiety to know one's own future. This anxiety is inherent in man from the very beginning of his existence. As long as this anxiety exists in man, fortune telling also will remain as today. Ultimately, the reasons a person consults a diviner or fortune teller are mediated by cultural expectations and by personal desires, and until a statistically rigorous study of the phenomenon have been conducted, the question of why people consult fortune-tellers is wide open for opinion-making.

Psychologists argue that fortune telling methods work because of psychological principles like subjective validation and self-deception. Subjective validation, sometimes called personal validation effect, is a cognitive bias by which a person will consider a statement or another piece of information to be correct if it has any personal meaning or significance to them.

Another factor which works behind fortune telling is confirmation bias. Confirmation bias refers to a type of selective thinking whereby one tends to notice and to look for what confirms one's beliefs, and to ignore, not look for, or undervalue the relevance of what contradicts one's beliefs. Noting and remembering events that confirm personal expectations and beliefs (the 'hits') and ignoring non supportive evidence (the 'misses'). Remembering the time the palmist said you would receive a call in the middle of the night (a 'hit') but ignoring that she also said that you had three children (a 'miss'). Numerous studies have demonstrated that people generally give an excessive amount of value to confirmatory information, that is, to positive or supportive data. The "most likely reason for the excessive influence of confirmatory information is that it is easier to deal with cognitively" (Gilovich 1993). It is much easier to see how a piece of data supports a position than it is to see how it might count against the position.

The tendency to give more attention and weight to the positive and the confirmatory has been shown to influence memory. When digging into our memories for data relevant to a position, we are more likely to recall data that confirms the position. Researchers are sometimes guilty of confirmation bias by setting up experiments or framing their data in ways that will tend to confirm their hypotheses. They compound the problem by proceeding in ways that avoid dealing with data that would contradict their hypotheses.

Human information processing and memory storage and retrieval are often based on the initial 'vividness' of the information. Sincere personal testimonials, theatrical demonstrations, and detailed anecdotes easily capture our attention and tend to be remembered better than rational, scientific descriptions of events.

The predictions themselves can cause the subject to alter his or her behavior in a way that makes the predictions become true. A self-fulfilling prophecy is a prediction that directly or indirectly causes it to become true, by the very terms of the prophecy itself, due to positive feedback between belief and behavior. The self-fulfilling prophecy is, in the beginning, a false definition of the situation evoking a new behavior which makes the original false conception come 'true'. This specious validity of the self-fulfilling prophecy perpetuates a reign of error. A prophecy declared as truth when it is actually false may sufficiently influence people, either through fear or logical confusion, so that their reactions ultimately fulfill the once-false prophecy.

Another major factor works behind fortune telling is Barnum effect or Forer effect. The Forer effect refers to the tendency of people to rate sets of statements as highly accurate for them personally even though the statements could apply to many people. Psychologist Bertram R. Forer found that people tend to accept vague and general personality descriptions as uniquely applicable to themselves without realizing that the same description could be applied to just about anyone.

The most common explanations given to account for the Forer effect are in terms of hope, wishful thinking, vanity and the tendency to try to make sense out of experience, though Forer's own explanation was in terms of human gullibility. People tend to accept claims about themselves in proportion to their desire that the claims be true rather than in proportion to the empirical accuracy of the claims as measured by some non-subjective standard. We tend to accept questionable, even false statements about ourselves, if we deem them positive or flattering enough. We will often give very liberal interpretations to vague or inconsistent claims about ourselves in order to make sense out of the claims. Subjects, who seek counseling from psychics, mediums, fortune tellers, mind readers, graphologists, etc., will often ignore false or questionable claims and, in many cases, by their own words or actions, will provide most of the information they erroneously attribute to a pseudoscientific counselor. Many such subjects often feel their counselors have provided them with profound and personal information. Such subjective validation, however, is of little scientific value.

Need and Significance

In our society, well educated people also believe in fortune telling methods. Fortune tellers predict the positive and negative outcomes of human life. The negative predictions may influence as self-fulfilling prophecy. i.e.; the predictions will become true because it works as self suggestion. Nowadays, some fortune tellers are caught red-handed because of the misuse of layman's belief in it. They used some psychological techniques to make beliefs in them. Some interesting psychological factors can also be seen in believer's perception of these readings. It is very important to find out the psychological factors associated with it for education purpose. There are few studies conducted to understand the Forer effect and other psychological variables in fortune telling.

Objectives of this research

To find out which reading is better in human experience among Barnum statements and moon sign predictions.

METHOD

Subjects

Subjects were 300 volunteer students (118 male), aged between 16 and 24 years. All were college students from different colleges from Kerala studying different degree courses. Subjects selected based on convenient sampling method. People who were interested in this particular age group selected for the study.

Materials

1. A4 size paper to fill up personal information about the subject
2. Moon sign readings (predictions) are coded with alphabets and printed in 27 pages without the information of its moon signs.
3. Psychological readings contains full of Barnum statements coded P2 to identify
4. Answer key for finding appropriate moon signs

Procedure

Personal information about the subjects collected few days before the experiment. The necessary personal information was name, moon sign and date of birth. After collecting the initial data, investigator offered astrological reading about subjects from two great astrologers. Investigator collected authentic information about each moon sign from 'Jyothishabhalachandrika' written by Prof. K. Ramakrishnapilla. He was famous Astrologer and a retired statistics professor from St.Thomas College, Pala. Investigator added a copy of appropriate moon sign reading with the initial data of the subject. And a psychological reading is also added with that. After few days, the investigator gave these sheets including personal information, their original moon sign information and a sheet of Psychological reading. For avoiding any order effect, half of the group received their original moon sign first and psychological readings second. Other half received it vice versa. The subjects are informed that these are personal things, so it is not ethical to over read others information. They agreed. In fact it was not because of the ethical consideration, but for not revealing the deception used in this study. The subjects were informed to read these astrological readings (actually one is a psychological one) carefully and to evaluate each one and score how much it is true about themselves and which is more correct, the original moon sign reading or the psychological reading. The responses are collected back. The correct responses for their own moon sign are scored.

Statistical analysis

Chi square test used to find out the significant difference between two proportions. The formula for calculating chi-square is:

$$\chi^2 = \sum \frac{(o - e)^2}{e}$$

That is, chi-square is the sum of the squared difference between observed (o) and the expected (e) data (or the deviation, d), divided by the expected data in all possible categories.

Result

Table 1 - Chi square test between right moon sign predictions selected by subjects and Barnum statements selected by subjects

	Right moon sign predictions selected by subjects	Barnum statements selected by subjects
Observed (o)	102	198
Expected (e)	150	150
Deviation (o-e)	- 48	48
Deviation square	2304	2304
D square by e	15.36	15.36

$$\text{Chi square } (\chi^2) = \sum \frac{(o-e)^2}{e} = 30.72$$

Degrees of freedom = 1

P value = **0.001 (two tailed)**

P < 0.05

By conventional criteria, this difference is considered to be extremely statistically significant. Chi square test result shows that Barnum statements are significantly different than moon sign predictions. Barnum statements are more relevant reading about the subject than moon sign predictions. So it is found that Barnum statements are better than moon sign predictions in human experience.

Discussion

In the present study subjects were given two different predictions or readings about them. They informed that these are made by two different astrologers and asked to rate which is more relevant for them. One reading was their own moon sign predictions and other one was created by the investigator with full of Barnum statements. The Barnum statements collected from classic book of cold reading. They rated it and collected back those. Total 300

subjects involved in this study. Analyses of those data show that only 102 people found their own moon sign predictions from this. Other 198 people selected psychological reading as their own personality features. But the expected score was 150 and 150. Changes of scores from the expected rate analyzed with Chi square test. Chi square value was 30.72 and the two tailed P value was 0.001 which is less than 0.05. So it is found that the difference from the expected value is highly statistically significant.

It clearly shows that subjects rated psychological readings more relevant than moon sign predictions. Before the experiment it is expected that the both prediction has not much difference. But psychological reading scored more than moon sign readings. It is because each statement of psychological readings is relevant for them without considering their actual moon sign. In the previous study, it is found that moon sign predictions are not valid about human life and personality. Moon sign predictions also used some good Barnum statements, which may be the reason for some subjects rated moon sign predictions as their own personality.

Explanation of Barnum statements used in current study

'People who born in this moon sign generally attractive and have good health.' – Generally people consider or like to consider themselves as attractive and with good health. They may be anxious about health, but they like to have good health. There are other statements about health problems. So if it is wrong, that doesn't matter, latter that will balanced.

'They express great skill to give advice and to console sad ones. But they don't like to follow other's advice in their own life.' - Most of the people like to give advices to others. But they don't like to follow advices from others, even in the same case.

'They will get more help from friends than relatives.' - Friendship is created with people who were in good proximity with positive reactions. Relatives are connected with the subject with only some proximity because of common functions and attributed relationship. Naturally friends will help a person more than relatives.

'They will be lazy in work if others demand for it. But they are hard working in a job which they like.' – Everyone is lazy with the demanded work. But people enjoy to do work if it is internally motivates (intrinsic motivation) them.

'They will follow rituals and customs. But they won't agree with irrational things.' - Most of the people follow rituals and customs because of conditioning happened in childhood. Even if the rituals and customs are irrational, people won't think that are irrational. Evaluation of rationality is highly subjective. People who follow irrational things also consider themselves as rational.

'They will show great concern about people who depend on them.' – Every one does that. It is a natural instinct to help and protect who is dependent on them.

'They will not adjust with things which affect their pride.' – No one likes to adjust with things which are harmful to their self respect.

'They will show anxiety even when they have all positive situations for a good life.' – Anxiety in small things is observed by Psychologists. People who are anxious know that they are anxious about small things. But they don't know that it is a common thing. So they consider this statement as a specific one.

'Generally they will get happy family life. They will get a cooperative and loving life partner. But there will be possibility of small issues in family life.' - People want to have a good family life. Cooperative life partner is a hope of everyone in India. But it is not an easily attainable dream. Still people believe that they will get a good life partner. Also there are no family without small troubles and issues.

'They will have good intelligence and ability to know things around them. But because of the lack of orientation, these abilities may not help them.' – Most of the people believe that they are brilliant enough to understand the world around them. That may not be true. When they evaluate their victories and failures, they attribute that failures happened because of less orientation. People generally have good self confidence. If they attribute these failures as the result of their inability, it will decrease their self confidence. So this statement works as a self serving bias.

'There are possibilities of small diseases affect them. They will show anxiety about health. They will show inconsistency for diet and use of medicines.' – No one is excluded from the chance of affecting diseases. People normally show anxiety about health. That is a natural response because of fear of death. The degree of anxiety may vary. But the anxiety about

health is normal one. But a lot of people are lazy to follow strict diet, food habits and to use medicines.

'Ladies born in this moon sign will show great ability of intuition. Their intuition may become true in future.' - It is observed that ladies believe in their intuition more than men. All the classic books in cold reading included this statement. It is not limited to any particular moon sign. But when they feel this reading is especially for them, they believe it more.

'If they believe someone so hard, they will do anything for them. This behavior sometimes causes failures in life and financial loss.' - It is a normal human tendency to believe in some people more than others. People agree more with persons they believe.

'Mother's family will help them a lot.' - In Indian society, mother's family supports the children than father's family. It is not always correct. But it has a good chance to become true.

'They will feel small health problems till the age of 12.' - Everyone will have some diseases till the age of 12. Twelve is an approximate number. Ayurveda call diseases happen in childhood as *'Balarishtatha'*. It is observed in general.

'They will get good education and feel happiness in family from 12 to 20. But there is a possibility of accidents and injuries at that time.' - 12 to 20 is the age of education and the age of happiness. In Adolescent period, people are active than other ages, so there are possibilities of injuries and accidents.

'They will feel happiness from 20 to 25. But from 25 to 30, they will feel sadness and uncertainty in life.' - 20 to 25 is the age of college life. Normally people are happy. But after 25, they have to find a job and to build a family. These are not easy tasks. So people in this age will suffer with psychological, financial and physical problems.

'30 to 40 are comparatively better for them. They will build a good career for the future at this age.' - In Indian society, people try to settle life in this age. They will find a job and start a family life.

'40 to 60 will be the peak time of life for development. They will feel financial progress, good positions and power; will be recognized with their lectures and articles. And they will build

their own house at this age.' - This is just a possibility. But it may be true about educated people.

'After 70, there is great chance to affect heart and Rheumatic diseases.' - Heart diseases and Rheumatic diseases are common in old age. (To make prediction about diseases are not ethically right. But for imitating astrological predictions, this statement included in psychological readings).

Implications of the present study

One of the major implications about this study is that it gives insight about human perception about their own characteristics and self analysis. Most of the psychological tests use self evaluation of the subject. This study result clearly shows that they evaluated general statements about public as their own characteristics. That means they couldn't differentiate general characteristics of human beings from their own character. Psychologists use a lot of questionnaires to measure a psychological variable. To answer these questionnaire, subject need to do self analysis. It is observed that some of these questions contain Barnum statements. If there is a Barnum statement in a questionnaire, the evaluation with that questionnaire will become wrong. Study about Barnum statements will help to avoid this error.

Study result clearly shows that psychological readings work better than moon sign predictions. This information is very important in critical analysis of Astrology and other fortune telling systems. This study demonstrated how linguistic deception work in a person's perception. Linguistic deception commonly used by advertisements, politicians, media, and fortune tellers. This study result can use for educational purpose. Knowledge about these will help general public to get away from fraud.

REFERENCES

- Adorno, T.W. (1974). The stars down to earth: The Los Angeles Times astrology column. *Telos*, 119, 13-90.
- Anand, R. (2010). *Astrology Tested Fake*. Jammu: God vs Life Publications.
- Bauer, M. & Durant, J. (1997). Belief in astrology: a social-psychological analysis. *Culture and Cosmos*, 1, 55-71.

- Blackmore, S., & Seebold, M. (2001). The effect of horoscopes in womens relationships. *Correlation*, 19 (2), 17-32.
- Carlson, S. (1985). A double blind test of astrology, *Nature* Vol 318, (5). 419.
- Clarke, D. (1996). Astrological signs as determinants of Extraversion and Emotionality: An empirical study. *Journal of Psychology*, 130, 131-140.
- Culver, R., & Ianna, P. (1988). *Astrology: True or False.*, Buffalo, NY: Prometheus Books.
- Dan, A. (2008). *Predictably Irrational: The Hidden Forces That Shape Our Decisions*. New York: Harper Collins.
- Dean, G. (2007). *The case for and against astrology*. Lanham, MD: University Press of America.
- Dean, G. M., & Munro, J. E. (2000). Using Daily Horoscopes to Demonstrate Expectancy Confirmation. *Teaching of Psychology*. vol 27(2) , .p 114-116.
- Dean, G., & Kelly, I.W. (2003). Is astrology relevant to consciousness and psi? *Journal of Consciousness Studies* 10(6-7): 175-198.
- Dickson, D. H., Kelly, I. W. (1985). "The 'Barnum Effect' in Personality Assessment: A Review of the Literature". *Psychological Reports* (Missoula) 57 (1): 367-382.
- Diserens, C.M., & Wood, T.W. (1936). The prevalence of belief in fortune telling among college students. *Journal of Applied Psychology*, 20(4), 488-492.
- Evans, B. (1990). *Bias in Human Reasoning: Causes and Consequences*. UK: Psychology Press.
- Eysenck, H. J. (1975). Planets, stars and personality. *New Behaviour*, 29 (5), 246-249.
- Eysenck, H. J., & Nias, D.K.B. (1982). *Astrology: Science or Superstition*. London: Maurice Temple Smith Ltd.
- Eysenck. H. J., Mayo. J., & White. O., (1978). An empirical study of the relation between astrological factors and personality. *Journal of Social Psychology*, 105, 229-236.

- Fichten, C.S., & Sunnerton, B. (1983). Popular Horoscopes and the Barnum Effect. *Journal of Psychology*, 114, 123-134.
- Forer, B. R. (1949). "The fallacy of personal validation: A classroom demonstration of gullibility". *Journal of Abnormal and Social Psychology*. 44 (1): 118–123.
- French, C.C., Fowler, M., McCarthy, K., & Peers, D. ((1998). *Belief in Astrology: A test of the Barnum effect*. New York: Prometheus.
- Gauquelin, M. (1982). Zodiac and personality: an empirical study. *Skeptical Inquirer*, 6(3), 57-65.
- Glick, P., Gottesman, D., & 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 (4), 572-583.
- Hamilton, M. (1995). Incorporation of Astrology Based Personality Information into Long-Term Self-Concept. *Journal of Social Behaviour and Personality*, 10, 707-718.
- Hume, N., & Goldstein, G. (1977). Is there an association between astrological data and personality? *Journal of Clinical Psychology*, 33, 711-713.
- Hyman, R. (1977). Cold Reading: How to convince strangers that you know all about them. *The Skeptical Enquirer*, 1, 18-37.
- Narlikar, J.V. (2003) *The scientific edge*, New Delhi: Penguin Books.
- Pillai, K. R. (1997). *Jyothishabhalchandrika*. Puliyannoor, Kottayam: Sahrudaya books.
- Rakhavan, M. V. (2002). Astrology is based on illusions and imaginations. Calicut: Mathrubhoomi books.
- Rogers, P. (2009). Cross-Cultural Differences in the Acceptance of Barnum Profiles Supposedly Derived From Western Versus Chinese Astrology. *Journal of Cross-Cultural Psychology*. Vol. 40(3). 381-399.
- Rowland, I. (1998). *Full facts book of cold reading*. London. Ian Rowland Ltd.
- Ruth, H. S., Strickland, B.R., & William, E. H. (1980). Perceived Locus of Control and Beliefs about Astrology. *The Journal of Social Psychology* .Vol. 110(1). p. 65-71.