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## Comparison of Vedic astrology birth charts of celebrities with ordinary people: An empirical study

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### Abstract

This article examines few fundamental principles of Vedic astrology through a systematic empirical experiment conducted on 742 birth charts of people who have been celebrities and 509 charts of people who have not been celebrities and have led ordinary lives. Each of the 21 fundamental principles of Vedic astrology we tested was found to be invalid as the compliance was not significantly different between both groups. These principles include some of the most commonly used principles, such as planet in conjunction or opposite to Jupiter or Venus gives beneficial effect, exalted lord of house is beneficial for its significance or auspicious planets in the house give benefits for which the house is significant, etc. Further, to examine whether these principles act together to give differentiation, the comprehensive test consisting of the comparison of astrological positivity and negativity of all planets, houses and lords of houses was demonstrated as a potential empirical approach. If the principles we have tested were true, we should have seen significant differences in the total negativity or positivity of at least one planet, house or lord of the house in the test, but there were none. Thus, our results proved that neither these principles are valid individually nor in combination. Two of our earlier experiments on similar lines for other pairs of the groups, namely mentally disabled versus intelligent and Cancer versus no cancer, had shown the similar results for the same set of principles. It shows just how invalid they are across the board and beyond any doubt. Since the principles we tested are something that one cannot do away with, in the everyday practice of astrology, their invalidity proven through our test raises many questions about the accuracy of the predictions of Vedic astrology in general and career in particular.

**Keywords:** Vedic astrology, empirical testing, career success, celebrity, astrological principles

### 1. Introduction

Across the world, interest in astrology was already experiencing something of a renaissance in the years and on top of it, the pandemic of Covid 19 only added fuel to the fire. India is no exception to this global trend. An August 2019 survey conducted by MTV Insights<sup>[1]</sup> found that there has been a 62% increase in horoscope / card reading apps between 2017 to 2019 in India. The majority of users are between the ages of 19 and 28. The survey further observes, 75 percent trust that astrology works, and 65 percent regularly check their horoscope. A more scientific survey at a higher scale is probably required to gauge the uptrend accurately but the fact remains that the younger generation is increasingly using Vedic astrology to take their key decisions. The popularity of Vedic astrology has only gone up with the advent of mobile technology, accelerated via the Internet, and has reached new levels through social media and the new generation apps.

If we take a random scan of social media sites providing astrological consultations, half of the questions of millennials are about the career choices they should make. Many of them want to know whether they will ever be a celebrity. Indeed, thanks to the social media, the celebrities have become an aspiration of everyone, but the use of astrology to select the career line, or to discover the possibilities of success, is a real concern. This is because despite the claims of astrologers, the Vedic astrology has never proven its merit in the scientific framework. Given its enormous impact on people and its ability to influence the behaviour of society, there is a need to test Vedic astrology thoroughly and scientifically. It is also necessary to examine astrologers' assertions about career prediction because career is a critical decision and has a serious impact on an individual's life.

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When it comes to testing astrology, there have been numerous experiments carried out in the Western world [2, 3] but the arguments have been from both sides [4, 5, 6] and the debate has remained inconclusive. Dean has been a prominent critic of astrology who tested many claims of astrologers, including sun signs and the outcome was negative [2, 7, 8]. His book [9] is the best compilation of number of empirical studies carried out in the world. Though there has been extensive work in testing astrology in western world there are a very few attempts reported in the context of Vedic astrology [10, 11, 12, 13]. Among these, the work done by Bhandary *et al.* [10] and Oshop *et al.* [11] is in support of astrology. In the work carried out by Bhandary *et al.* the test was not publicly conducted, the sample size has been smaller (of 75 in each group) and the exact astrological parameters used by astrologers for predictions are not detailed out. There is no scope for the researchers to repeat this experiment and verify. The work by Oshop *et al.* [11] is also on a very small sample size. Contrary to the conclusions of these two researchers, Narlikar *et al.* [12, 13] showed that a success rate of astrologers participating in their double-blind test was marginally less than what would be achieved by tossing a coin. This test in our view is the first ever attempt to scientifically test Vedic astrology in India. It was a publicly held double-blind test of Indian astrology and created a lot of ripples in the society since it showed that astrologers failed to predict human attributes like intelligence. In such double-blind experiments however, particularly when the outcome is negative, an ambiguity remains whether the results are due to limitations of astrology or astrologers. A thorough testing of astrology on the basis of astrological principles, conducted at scale, through a scientifically designed empirical experiment was therefore conducted by Rajopadhye *et al.* [14] leveraging same set of charts that was used in above double-blind test. This kind of testing at scale, using computer and statistical techniques, was done for the first time for Vedic astrology and can be regarded as pioneering efforts. In this test two data sets with exactly opposite life patterns were created with sufficient sizes, one consisting of 338 birth-charts of 'intelligent' people and the other consisting of 338 birth charts of people with Intellectual and development disability, referred as IDD people. Each of the eleven fundamental and most commonly used negative principles of Vedic astrology used for planets, houses and lords of houses to predict adverse effects were found to be invalid after comparing both the groups as there was no significant difference in the compliance. Similarly, each of the eight most commonly used principles used to predict beneficial effects were also found to be invalid. Besides testing individually, to check if these principles act as differentiator through a combination, 34 entities (all planets, Ascendant, houses, and lords of houses) were compared for total astrological negativity and total positivity (created through compliance of all negative and positive rules respectively) but none of them differed beyond 10% between both groups. These results proved that all these principles do not act as a differentiator themselves, nor do they produce a differential negativity through negative principles (or positivity through positive principles) when they are summed up together. This explained why no one could achieve a success rate better than random chance in the double-blind test. A similar experiment was later done by the same author, taking two groups namely people diagnosed with cancer (before age of 60) and people who lived long life (80+ years) but never had cancer in their lifetime [15]. In this study, the results reconfirmed the observations made in earlier

experiment and once again proved that Vedic astrology is not proving its merit empirically.

The research presented in this article is the third attempt in series to empirically test the same set of principles of Vedic astrology as tested earlier [14, 15], with one more pair of exactly opposite life effects, namely celebrities or famous personalities and people who are not celebrities meaning those who lead a normal life with average or not much of fame. While we cannot claim to have examined the full scope of astrology here, what we have tested here is the core of Vedic astrology, which consists of the most fundamental principles used in the everyday practice. These are regarded as the foundation of astrology in textbooks and in our opinion their importance is such that if they are proved or disproved, it is as good as validating or invalidating Vedic astrology. The research presented here also provides a specific insight into whether Vedic astrology can predict the native's celebrity status, a question most commonly asked on social media.

## 2. Methodology

The approach to the design of this test was – form two distinct and opposite groups, analyse birth-chart the way astrology works by applying the principles or rules, measure astrological negativity and positivity associated with various entities and finally compare the average values of both groups through statistical methods to see if there is any significant difference. This approach was used to test validity of individual rules as well as their application as a set or group of rules to make overall prediction. The methodology of empirical testing of this study consists of following steps

1. Define criteria for making two distinct and opposite groups of the data
  2. Define astrological negativity and positivity, the parameters we want to measure
  3. Define Measurement method
  4. Develop experimental set up for the measurements
  5. Define statistical techniques for comparison and analysis
- The details of each step are given in following sub-sections.

### 2.1 Criteria definition

One of the key factors for the success of empirical tests is to define the criteria on the basis of which two distinct groups are formed for comparison. Here, it is important that we do not leave room for interpretation and that the criteria be as objective as possible. We therefore selected a very clear criterion – whether the person is a celebrity. The term Celebrity is used to mean the state of fame and what we mean by Celebrity here is the famous personalities who are known for their exceptional talent and good achievements. We are basically referring to people who are known nationally (within their own country) or internationally either for entertainment, sports, literature or politics. All Bollywood, Hollywood stars, politicians, national team players of popular games, famous authors who have written couple of books, industrialists will qualify for this group. Being a celebrity is different than having a small but loyal cult following. Being easily recognizable by any random segment of the population makes you a celebrity. One of the criteria considered for including in this group was, people who have a Wikipedia biography page, which automatically takes care of 'notability' criteria well defined by Wikipedia itself.

For people in opposite group namely 'ordinary people' the same criteria were used in the sense that people who do not have wiki biographic page and are not famous at a national

level were included in the group. Some additional checks were done to ascertain that they genuinely are 'ordinary' such as they do not own any business, they are not politically active, do not represent state (province) for any sports, have not published any literature, are not extraordinary rich or most importantly are not famous for any reason etc. For the sake of such checks people who are personally known to the authors were only taken in this group. Moreover, only people with the age of 50 or more were taken so that there is enough evidence that they spent substantial part of their life being an ordinary men and women without becoming a celebrity. Based on this logic, we formed two groups of birth charts, Group A – 509 charts of Ordinary people and Group B – 742 charts of celebrities.

## 2.2 Astrological negativity and positivity

We have taken up this study with the objective of testing a few basic astrology principles which contribute to the negativity or positivity associated with the planet, the house and the lord of the house (hereafter all three together are referred as entities). These principles are fundamental in nature and are universally applied in astrology for everyday practice.

It is a known fact that in astrology, every planet or house in the birth chart has a significance towards a particular life effect (Raman, 1996, chapter 1, Rao, 2004, pp 79-84) [16, 17, 18, 19]. For example, Mercury has significance for the native's intelligence, Venus and seventh house have significance for the marriage and so on. Since the purpose of this paper is to test the principles, we would like to elaborate a little more on them. One of the astrology principles states that when the planet is in debilitated zodiac sign the outcome of the life effect that is signified by the given planet is adverse (Agarwal, 2019, pp 125-130; Raman, 1996, chapter 1; Rao, 2004, pp 34) [16, 17, 19, 20, 21]. The counterpart of this principle affirms that if the planet is in the exalted zodiac sign, then the result related to significance of planet is beneficial. We call this as principle because it is universally applicable to all the planets. If we apply it to Mercury, a specific entity, it becomes a rule and will be used to predict intelligence. Similarly, if we apply the same principle to Venus, it will become a rule used to predict outcome of marriage. The principle is more generic in nature, considered as premise of astrology and is most agreeable, the reason why we focussed on them to test astrology. On the other hand, the rule is an adaption of a principle for a specific entity. Another principle defined for the planets states that when the planet is conjugated with malefic planet like Saturn or Mars the outcome gets adversely affected (Raman, 1996, chapter 3; Rao, 2004, pp 100-120) [16, 17, 18, 21]. It's counterpart asserts on conjugation with auspicious planets like Jupiter, Venus or Moon and expect the outcome to be positive. Here the astrological configurations associated in these two examples, namely the planet in the debilitated or exalted sign in first example and the planet in the conjugation with malefic or auspicious planets in second example, are considered to create astrological negativity or positivity respectively which in turn are seen as giving rise to adverse or good effects in the life. Likewise, there are several principles in astrology which are applied to all entities, which presumably signify various aspects of our life and accordingly the predictions, either good or bad, are made. Testing these principles is therefore as good as testing a major aspect of astrology because astrology cannot be practiced without applying them. Having seen what we mean by principles and how they reflect in birth chart in

terms of astrological negativity and positivity, we now come to the principles that we have actually tested in this exercise.

Since we have two exactly opposite groups in terms of characteristics, namely being a celebrity, comparing them for compliance to the rule that predicts 'being a celebrity' is the most ideal way of conducting this empirical testing. It must be noted, however, that in astrology there is no single rule that one can check and predict. In fact, there are always a large number of rules set out to predict a good or bad outcome of a particular life effect. This is because astrology assumes that for any life effect there are planet(s), house(s) and lord(s) of house(s) that are significant and they all need to be taken into account. A prediction of a beneficial effect of life (e.g. becoming celebrity) will therefore be made on the basis of the total positivity associated with entities which are considered as 'significant'. The positivity in these significant entities is a result of complying with various positive rules. The way astrology is practiced, the approach to define the rules for being a celebrity would go through following steps;

**Step 1:** Identify entities (planets, houses and lords of houses) that are significant for getting success and fame or for being a celebrity.

**Step 2:** Shortlist the principles that predict beneficial effects and apply them to the identified entities.

For instance, for predicting being a celebrity some astrologers may evaluate Sun and Mars as planets of significance, 10<sup>th</sup> and 9<sup>th</sup> house as houses of significance and the lords of 10<sup>th</sup> and 9<sup>th</sup> house as significant lords of houses [21, 22]. For predicting beneficial effect (namely being a celebrity), the positivity involved in these entities is evaluated by means of applying positive principles and measuring how many of them are complied with. Here there is no authentic guideline in terms of minimum number of rules that should be complied with for predicting the celebrity status and therefore the judgement of that number will differ from astrologer to astrologer. From our testing point of view however, if those principles are true, the compliance will always be more in Group B (Celebrity) than Group A (Ordinary). The only challenge in defining such celebrity specific rules is that there are too many different opinions on which entities are exactly significant for prediction. The use of celebrity specific rules in empirical tests would therefore be questionable and will not be a fruitful exercise.

On this background, a new approach of comprehensive testing has been developed where instead of applying shortlisted principles to only a few selected entities (considered as significant), we apply them to all planets, Ascendant, 12 houses and their lords. We have shortlisted two sets of fundamental principles of astrology, one that predict adverse effects, and another one that predicts good or benefic (beneficial) effects. For the purposes of the present article, we call them 'negative principles' and 'positive principles' respectively. As mentioned earlier, given the diversity of opinions regarding planets or houses that are significant for predicting celebrity status, we applied these principles to all entities, that is, to all individual planets, all twelve houses and also lords of these twelve houses. Please note that when the negative principle is applied to an entity, it becomes a 'negative rule'. And when the positive principle is applied it becomes 'positive rule'. We measured negativity and positivity associated with each entity based on the compliance to negative and positive rules respectively. Details about their

calculations are provided in the following section. The comparison of astrological negativity and positivity in two groups of birth charts was carried out for each entity using statistical techniques. The rationale behind this test approach is that regardless of which entity is significant for giving celebrity status, if the negative or positive principles we are testing are true they will result in significant difference in compliance between two groups for atleast one entity. With this approach we cover different opinions about the significance of the planets, houses and lords of houses for prediction of being a celebrity and hence we call this a novel approach.

The most important aspect of this study was to identify the right negative and positive principles to use in the test. Since

there is no single authentic document depicting these principles, we went through a number of books and research articles [16-21], deliberated with number of astrologers and prepared our list. The idea was to have principles that are universally agreeable and hence we selected only those which are given as fundamental principles in the astrology textbooks. Our list of negative and positive principles shortlisted for the planet, house and the lord of house is given through Table 1 to Table 4. We believe that there will be no disagreement with them from astrological point of view although there can still be differences of opinion about which entities they should be applied to, the part that is well covered by our comprehensive testing approach.

**Table 1:** List of negative principles tested for each planet. The same set of principles was also used for testing planets which act as 'lord of house'

Principle No.	Principles
1.1	Planet is in conjunction or square or opposite to Saturn, Mars, Rahu, Ketu or Uranus
1.2	Planet is in debilitated state in D9 chart
1.3	Planet is in 6 <sup>th</sup> , 8 <sup>th</sup> or 12 <sup>th</sup> house
1.4	Planet is in malefic nakshatra namely Kritika, Ashelsha, Mul
1.5	Planet is Retrograde
1.6	Planet is afflicted by 3 <sup>rd</sup> or 10 <sup>th</sup> aspect of Saturn or 4 <sup>th</sup> or 8 <sup>th</sup> aspect of Mars (If afflicted by both malefic planets simultaneously compliance scores get added accordingly)
1.7	Lord of planet's house is placed in debilitated or in enemy sign
1.8	Planet is in conjunction with lord of 6 <sup>th</sup> or 8 <sup>th</sup> or 12 <sup>th</sup> house

**Note:** If multiple planets are involved while complying the rule, the  $\beta$  values of all planets complying with the rule contribute to the formula of compliance score

**Table 2:** List of negative principles tested for each house of birth chart

Principle No.	Principles
2.1	Malefic planets like Saturn, Mars, Rahu or Ketu or Uranus are placed in house
2.2	Lord of 6 <sup>th</sup> or 8 <sup>th</sup> or 12 <sup>th</sup> house is placed in the house
2.3	Saturn or Mars placed just opposite to the house
2.4	House afflicted by 3 <sup>rd</sup> or 10 <sup>th</sup> aspect of Saturn or by 4 <sup>th</sup> or 8 <sup>th</sup> aspect of Mars

**Note:** If multiple planets are involved while complying the rule, the  $\beta$  values of all planets complying with the rule contribute to the formula of compliance score

**Table 3:** List of positive principles tested for each planet. The same set of principles was also used for testing planets which act as 'lord of house'

Principle No.	Principles
3.1	Planet is in conjunction or opposite or sextile or trine with Venus, Moon or Jupiter
3.2	Planet is influenced by 5 <sup>th</sup> or 9 <sup>th</sup> aspect of Jupiter
3.3	Planet is in Exalted sign in D9 chart
3.4	Planet is placed in 1 <sup>st</sup> , 5 <sup>th</sup> , 7 <sup>th</sup> , 9 <sup>th</sup> or 11 <sup>th</sup> house
3.5	Lord of planet's house is in exalted state or is in it's own sign

**Note:** If multiple planets are involved while complying the rule, the  $\alpha$  values of all planets complying with the rule contribute to the formula of compliance score

**Table 4:** List of positive principles tested for each house of birth chart

Principle No.	Principles
4.1	Venus, Jupiter or Moon placed in the house
4.2	Venus, Jupiter or Moon placed in opposite house
4.3	House is influenced by 5 <sup>th</sup> or 9 <sup>th</sup> aspect of Jupiter
4.4	Lord of 1 <sup>st</sup> , 4 <sup>th</sup> , 5 <sup>th</sup> , 9 <sup>th</sup> or 11 <sup>th</sup> houses placed inside the house

**Note:** If multiple planets are involved while complying the rule, the  $\alpha$  values of all planets complying with the rule contribute to the formula of compliance score

### 2.3 Measuring astrological negativity and positivity

In order to measure astrological negativity and positivity associated with an entity in terms of numbers, we have to quantify everything which has significance from an astrological point of view. It is necessary to add here that there is no standard method of quantification of astrological negativity or positivity. So, our method and the numbers

should be looked at as an abstract, and good for comparison purposes only. Unfortunately, the computation process becomes a little complex to execute, but that's because astrological analysis itself is a very complicated process and involves too many complex phenomena. The details of how we translated the negativity and positivity of entities into numbers are provided below.

**2.3.1 Characterisation of each planet**

The very first step before we turn to rules for measuring compliance is to characterise the planets themselves. One of the assumptions of Astrology is that a planet has a favourable or adverse effect according to its ‘dignity’ or the zodiac sign to which it belongs to (Raman, 1996, chapter 1; Rao, 2004, chapter 3) [16, 17, 18]. In addition, for adverse effects it also matters whether or not the planet is in retrograde. These two effects are inherent to the planet means they are not arising out of any external configuration but are part of the original attribute of the planet in the given birth chart. We therefore defined two variables for each planet, one that multiplies the ability of a planet to have an auspicious or benefic effect called here as ‘strength multiplicand’, denoted as  $\alpha(\text{planet})$  and another which multiplies malefic effects called here as

‘malefic multiplicand’, termed here as  $\beta(\text{planet})$ . Following the same hierarchy followed by astrology in terms of ability to add into benefic or malefic effect depending on the zodiac sign it belongs to [16, 17, 18, 19], we have assigned the values of these multipliers as shown in Table 5 and Table 6. We must add here that rational behind assigning these values is to create a scale for intensity of the effect of planet. Since these multiplicands are getting applied in both groups in same manner and we are only using them for comparison purpose their exact values given in Table 5 and 6 do not matter as long as we maintain the hierarchy. It should also be noted that in astrology every planet can have a benefic (auspicious) as well as a malefic effect and hence both, positivity and negativity, are calculated separately without summing them together as a single value.

**Table 5:** Values of  $\alpha$  (planet)

	Planet in Exalted zodiac sign within $\pm 4$ degrees of Exact exaltation	Planet in exalted zodiac sign but not within $\pm 4$ degrees of exact exaltation	Planet in it’s own zodiac sign	Planet in friendly zodiac sign	Planet in other zodiac signs
$\alpha$ (planet)	2	1.5	1.25	1.1	1

**Table 6:** Values of  $\beta$  (planet)

	Planet in debilitated sign within $\pm 4$ degrees of exact debilitation	Planet in debilitated zodiac sign but not within $\pm 4$ degrees of exact debilitation	Planet in enemy zodiac sign	Planet in other zodiac signs
$\beta$ (planet) values if planet is not Retrograde	2	1.5	1.25	1
$\beta$ (planet) values if planet is Retrograde	2.5	2	1.75	1.5

**2.3.2 Measuring the rule compliance**

In astrology, applying a rule means checking for a specific configuration in a birth chart. We considered compliance to the negative rules as a measure of astrological negativity and compliance to positive rules as measure of positivity for the entity under test. We measured following numbers for each entity as the representative of negativity and positivity and they become the primary inputs to our statistical tests.

- NRa = Number of negative rules applied
- NRc = Number of Negative rules complied
- PRa = Number of Positive rules applied
- PRc = Number of Positive rules complied

As such, the above should have been sufficient for the purpose of comparison, but astrology also emphasizes the examination of the intensity with which the rule is observed. For example, if a rule for celebrity involves conjugation of Sun and Jupiter, the rule may get complied if they are in conjugation but the same conjugation is said to increase the intensity of the positive effect and probability of occurrence of being a celebrity if one or both of these planets are exalted. To take into account these considerations, we now introduce a concept of “compliance score” for each rule using  $\alpha$  and  $\beta$  values of planets defined in 2.3.1 above. If the rule is not complied, the compliance score is zero. If the rule is adhered to, the compliance score formula for the negative rule is;

$$\text{Compliance score of a Negative Rule for the entity (CSN)} = [(-20) \times \prod_i^n \beta(\text{planet } n)]$$

Where (-20) is a constant used just to create the comparison scale, n is number of planets involved in the rule and  $\beta$  (planet) plays the multiplier role as explained above. For example, If the negative rule 1.1 given in Table 1 is applied on Rahu for conjugation with Saturn or Mars or Uranus and if

all three are in conjugation with Rahu (a hypothetical case only), then  $n=4$  and (CSN for rule 1.1 of Rahu) =  $(-20) \times (\beta(\text{Rahu}) \times \beta(\text{Saturn}) \times \beta(\text{Mars}) \times \beta(\text{Uranus}))$

Likewise, the values of the CSN are calculated for each planet using all the negative rules of Table 1, for each house using all the rules of Table 2 and for each lord of house using all the rules of Table 1. The summations  $\sum \text{CSN}$  for a given entity becomes,

$$\sum \text{CSN for the entity is} = \sum_{i=1}^n \text{CSN}(i) \quad \text{where } n \text{ is no of rules complied by given entity}$$

The measurement logic for measuring compliance score of positive rules also remains the same as that of negative rule except that it is a positive value and we make use of  $\alpha$  (planet) value in calculations.

$$\text{Compliance score of a Positive Rule for the entity (CSP)} = [(+20) \times \prod_i^n \alpha(\text{planet } n)]$$

As an example, if the CSP is calculated for say 10<sup>th</sup> house for rule 4.1 which checks presence of auspicious planets in the house then n will be number of auspicious planets present in the house. Since the  $\alpha$  of each participating planet is contributing to CSP depending on its dignity, the compliance score will thus represent the magnitude of positivity involved while complying the rule. The summations  $\sum \text{CSP}$  for a given entity becomes,

$$\sum \text{CSP for the entity is} = \sum_{i=1}^n \text{CSP}(i) \quad \text{where } n \text{ is the no of rules complied}$$

In above example  $\sum\text{CSP}$  for 10<sup>th</sup> house will be summation of all CSP values derived by applying all the rules of Table 4. More are the number of positive rules complied, more will be the CSP (compliance score) indicating more positivity associated with 10<sup>th</sup> house which in turn will be the basis of predicting more beneficial effects signified by 10<sup>th</sup> house.

Thus, NRc and the summation of compliance scores that is  $\sum\text{CSN}$  represent astrological negativity of an entity whereas PRc and  $\sum\text{CSP}$  represent astrological positivity of entity. Their values were calculated for all entities for each chart and the mean values of the group A and Group B were passed on to the statistical test for comparison.

**2.4 The experimental setup**

A computer-based solution was developed to perform the testing as per details given above. There are three components to the solution.

**2.4.1 Software for casting the birth chart**

It reads birth details from an excel sheet, makes use of commercially available APIs to cast birth charts and write details like planetary positions, dignities, retrogrades, house number etc. in the database using Lahiri ayanamsa system (Rao, 2004, p18) [17].

**2.4.2 Analyser Engine**

This component applies various rules, measures which ones comply and calculates the compliance scores. A database consisting of NRa, NRc,  $\sum\text{CSN}$ , PRa, PRc and  $\sum\text{CSP}$  is created for each astrological entity. Python based automation developed in this module enables the software to cast and process hundreds of birth charts of Group A and Group B in one go.

**2.5 Statistical testing**

Two sample T test of unequal variances was run on averages of compliance score (CSN and CSP) of each individual rule for each entity to examine its validity. To check if the principals involved act as differentiator when considered as a combination, the t test of significance was run on averages of NRc, PRc,  $\sum\text{CSN}$  and  $\sum\text{CSP}$  of both the groups for all entities. Here the one tailed t test Null Hypothesis is that the difference in the averages between the two groups for a given entity is equal to or less than 10 percentage. For example, if the test is being run for average  $\sum\text{CSP}$  (Sum of Compliance scores of positive rules) of say 10<sup>th</sup> house then;

NULL Hypothesis  $H_0$  is (Mean  $\sum\text{CSP}$  (10<sup>th</sup> House of Group B) - (Mean  $\sum\text{CSP}$  (10<sup>th</sup> House of Group A))  $\leq$  10 pc of (Mean  $\sum\text{CSP}$  (10<sup>th</sup> House of Group A)). In other words, this hypothesis is basically saying that there is no difference in the averages of  $\sum\text{CSP}$  (10<sup>th</sup> House) of both the groups beyond 10% and hence positive principles tested are not valid as a combination for 10<sup>th</sup> house.

In above example, Alternative Hypothesis  $H_{ALT}$  is (Mean  $\sum\text{CSP}$  (10<sup>th</sup> House Group B) - (Mean  $\sum\text{CSP}$  (10<sup>th</sup> House Group A))  $>$  10 pc of (Mean  $\sum\text{CSP}$  (10<sup>th</sup> House Group A))

The alternative Hypothesis is stating that the difference between two groups is over 10%, and hence the principles

under test are acting as a differentiator in combination supporting the validity of astrology. As such, if astrological principles we tested are true and if they have to give prediction on life critical matters, the difference between two groups is expected to be much more, of the order of 30% at least, as against 10% we are testing here and hence it is a very liberal and easy test for astrological principles to pass through. At the same time, testing a null hypothesis with 10% hypothetical difference criteria is the most stringent test for us to refute those principles. However, we decided to run the test in this manner to avoid any ambiguity and to give maximum benefit to the astrological principles to prove themselves.

**3.0 Data**

We chose to take majority of celebrity birth data from Lois Rodden’s Astrodatbank [23, 24] where accuracy ratings are maintained systematically and data is collected worldwide without any bias. Approximately 2000 entries from Astrodatbank were filtered using following three selections in the same order as they are given below;

- For the entries of Rodden rating AA (considered as most accurate entries)
- Date of birth after 1900.
- Category: Public figures (famous personalities)

We also added 250 charts of Indian celebrities to this group using various creditable sources. We then went through the details of each entry in order to ascertain that the selected name qualifies for the ‘Celebrity’ group. As a result of this selection, 742 entries were taken forward as Group B.

For Group A, we used data from the personal collection because we wanted to ensure that the person is known to us. This made the assessment easy and we could include the chart under the ordinary category with sufficient confidence. In most cases, it was quite evident that the person is not a celebrity. However, to further increase the confidence to include the name in the ordinary group, we occasionally interviewed the person, searched Wikipedia to make sure there is no biography page, checked other social media locations or talked to people who knew the person very well. As mentioned earlier, we only used names that were atleast 50 years old. We got 509 cases for Group A with this approach.

Statistical test calculator (Public service of Creative Research Systems) [25] used in this experiment stipulated that we need to have a minimum sample size of 661 (both groups together) to achieve a confidence level of 99% and a confidence interval of 5% to test the difference in the two groups. Our data size of 1251 charts meets this criterion. The results presented here are in terms of averages or percentages and hence different size of data of two groups does not matter.

**4.0 Statistical Analysis**

**4.1 Principles applicable for planets**

The results of the five fundamental positive principles we tested for various planets are given in Table 7. Description of the principle we tested and the analysis of results is given below.

**Table 7:** Results of One tailed t test for individual rule compliance (Positive rules defined for planets) (Test run on CSP values, N1 = 509, N2 = 742, Hypothesised Diff = 10 pc, One tailed T Critical = 1.647)

Principle No.	Principle 3.1	Principle 3.2	Principle 3.3	Principle 3.4	Principle 3.5
Principle Description	Planet is in conjunction or opposite or sextile or trine	Planet is influenced by 5 <sup>th</sup> or 9 <sup>th</sup> aspect of	Planet is in Exalted sign in D9 chart	Planet is placed in 1 <sup>st</sup> , 5 <sup>th</sup> , 7 <sup>th</sup> , 9 <sup>th</sup> or 11 <sup>th</sup> house	Lord of planet’s house is in exalted state or is

Planet	with Venus, Moon or Jupiter		Jupiter						in it's own sign	
	One tailed t stat	One tailed P val	One tailed t stat	One tailed P val	One tailed t stat	One tailed P val	One tailed t stat	One tailed P val	One tailed t stat	One tailed P val
Sun	-1.51	0.93	0.80	0.21	-1.54	0.94	-1.89	0.97	-2.07	0.98
Moon	-3.20	1.00	-1.39	0.92	-0.76	0.78	-0.26	0.60	0.00	0.50
Mars	-1.34	0.91	-2.33	0.99	-0.10	0.54	-1.02	0.85	0.37	0.35
Mer	-3.10	1.00	-0.11	0.55	0.20	0.42	-3.36	1.00	-2.36	0.99
Jup	-2.27	0.99	NA	NA	DTL	DTL	-2.22	0.99	-3.56	1.00
Ven	-2.89	1.00	-1.08	0.86	-0.58	0.72	-2.11	0.98	-1.66	0.95
Asc	-1.37	0.91	-1.56	0.94	NA	NA	NA	NA	-3.42	1.00

NA – Rule not applicable and hence not tested. For example, Jupiter will never have it's own 5<sup>th</sup>, 9<sup>th</sup> aspect or Ascendant will never be in other houses.

DTL - Number of cases complying the rule are too less in both groups to run statistical test.

Testing of individual rules for slower planets namely Saturn, Rahu and Ketu require much larger data size and hence not done here.

**Note:** Since the test is executed on CSP which is compliance score of positive rule, the dignity of planets involved is already built in.

**Conclusion:** Null Hypothesis could not be rejected for any planet for compliance with any of the rules tested since the p-value is > 0.05 in all cases. None of the principles defined for planet therefore is empirically valid for tested planets.

#### 4.1.1 Principle 3.1 - Planet is in conjunction or opposite or sex tile or trine with Venus, Moon or Jupiter:

This principle deals with the probability of a planet having a difference of 0, 60, or 180 degrees (allowing tolerance of  $\pm 4$  degrees) with one, two or all three planets namely Venus, Moon and Jupiter, which are considered as auspicious. Vedic astrology assumes that such configuration results into beneficial effect related to significance of planet. We however found that none of the planets (including Sun or Mars which are traditionally considered as significant for the fame) nor Ascendant, have a significantly higher percentage of such configurations in Group B as against Group A, despite having opposite life patterns. The principle therefore got disproved.

#### 4.1.2 Principle 3.2

**Planet is influenced by 5<sup>th</sup> or 9<sup>th</sup> aspect of Jupiter:** This principle deals with the probability of a planet having a difference of 120 or 240 degrees (allowing tolerance of  $\pm 4$  degrees) with Jupiter which is assumed by Vedic astrology as increasing the beneficial effect related to significance of the planet. Again, we find that none of the planets including Sun and Mars nor Ascendant, have a significantly higher percentage of such configurations in Group B as against Group A though they are completely different in terms of their success and fame. The principle therefore is not valid.

#### 4.1.3 Principle 3.3

**Planet in Exalted sign in D9 chart:** Vedic astrology assumes that the planets in exalted sign give higher beneficial results. The same principle is considered to be true for D9 charts too. We find from the t test however that the probabilities of any planet to get placed in such zodiac signs are similar in both the groups for all the planets and hence the principle is not valid.

#### 4.1.4 Principle 3.4

**Planet in 1<sup>st</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup> or 11<sup>th</sup> house:** This principle is one of the primary positive principles considered for predicting any beneficial life effect. For instance, to predict the celebrity status this rule will be checked for planets which are considered as 'significant' for predicting fame and career success. Mathematically this is a probability that a planet is in the zodiac sign of x, x+4, x+6, x+8 or x+10 when x is the zodiac sign number of Ascendant. Regardless of which planet is significant for fame we find that none of the planets have a significantly higher probability to get placed in these zodiac signs when the native belongs to Celebrity group disproving the basis of the principle.

#### 4.1.5 Principle 3.5

**Lord of Planet's house in Exalted or it's own sign:** For making a prediction, Vedic astrology does consider the state

of lord of house in which the planet is placed. If the lord of house is in exalted or it's own sign the benefic effect given by planet are considered to get the boost. We however find from our t test that the probabilities of such configurations are equal for all the planets in both the groups and principle does not get any empirical support.

We also applied rules to the Ascendant using its degrees and zodiac sign. As Ascendant is not a planet, it does not have debilitated or exalted signs associated with it and hence some of the rules of Table 1 and Table 3 are not applicable. For the applicable rules however, it has shown no significant difference in compliance. Ascendant is a fundamental and important phenomenon in astrology, equally important to the prediction of fame, and various astrological configurations, either of auspicious or malefic in nature, are regarded as having major influence on natives [17, 18, 19, 20, 21]. As can be seen from the results however we did not find this theory to be true in our testing.

It is important to note that in our test, we compare the compliance scores of the rules where-in the dignity of all the planets involved is already incorporated. These principles are therefore proved invalid in spite of the consideration of the dignity of the planets which leaves no room for speculation on that front. Traditionally Vedic astrology believes that Sun, Mars, Venus and Jupiter are significant for the predictions of being a celebrity [16, 17, 18, 19], however the above results show that their significance to fame is not getting proved for above rules at the least.

#### 4.2 Principles for Lords of houses

In addition to testing the principles described in 4.1 for all planets, we also tested them for planets which act as lords of individual houses and the results are given in Table 8. Astrology believes that, like every planet, house lords also play a role in prediction. The lord of house is nothing but a ruler planet of the zodiac sign of the house [16, 17, 18, 19]. Depending on the ascending sign, the zodiac signs of the houses are different. In our experiment, when two groups were compared, we did not find any difference in compliance of the rules by the lords of the houses. In context of celebrities, especially, astrology expects that lord of 10<sup>th</sup> house will have more positivity as compared to ordinary people and hence will comply above positive rules with more frequency in Group B than Group A. Empirically, though, this has neither found to be true for lord of 10<sup>th</sup> house, nor for lords of the 1<sup>st</sup>, 5<sup>th</sup> or 9<sup>th</sup> house which are also considered as significant for being a celebrity, nor for lord of any other houses. This certainly poses questions around the fundamental rules being defined around the concept of the lords of houses.

**Table 8:** Results of One tailed t test for individual rule compliance (Positive rules defined for planets that act as lords of houses) (Test run on CSP values, N1 = 509, N2 = 742, Hypothesised Diff = 10 pc, One tailed T Critical = 1.647)

Principle	Principle 3.1		Principle 3.2		Principle 3.3		Principle 3.4		Principle 3.5	
Principle Description	Planet is in conjunction or opposite or sextile or trine with Venus, Moon or Jupiter		Planet is influenced by 5th or 9th aspect of Jupiter		Planet is in Exalted sign in D9 chart		Planet is placed in 1st, 4th, 5th, 9th or 11th house		Lord of planet's house is in exalted state or is in it's own sign	
Lords of Houses	One tailed t stat	One tailed P val	One tailed t stat	One tailed P val	One tailed t stat	One tailed P val	One tailed t stat	One tailed P val	One tailed t stat	One tailed P val
Lord of 1st House	-4.38	1.00	-1.03	0.85	DTL	DTL	-3.85	1.00	-2.10	0.98
Lord of 2nd House	-1.22	0.89	-0.48	0.69	DTL	DTL	-1.45	0.93	-1.63	0.95
Lord of 3rd House	-0.27	0.61	-0.18	0.57	DTL	DTL	-1.90	0.97	-1.25	0.89
Lord of 4th House	-3.38	1.00	-0.61	0.73	DTL	DTL	-3.48	1.00	-0.46	0.68
Lord of 5th House	-0.90	0.82	-0.15	0.56	DTL	DTL	-2.58	0.99	-1.12	0.87
Lord of 6th House	-4.43	1.00	-0.54	0.70	DTL	DTL	-2.15	0.98	-1.72	0.96
Lord of 7th House	-1.68	0.95	0.28	0.39	DTL	DTL	-1.91	0.97	-1.36	0.91
Lord of 8th House	-1.49	0.93	-1.44	0.93	DTL	DTL	-1.75	0.96	-0.96	0.83
Lord of 9th House	-1.10	0.86	-0.80	0.79	DTL	DTL	-1.29	0.90	-1.28	0.90
Lord of 10th House	-1.75	0.96	-0.15	0.56	DTL	DTL	-2.02	0.98	-2.38	0.99
Lord of 11th House	-3.97	1.00	-3.29	1.00	DTL	DTL	-3.17	1.00	-3.27	1.00
Lord of 12th House	-1.18	0.88	-0.71	0.76	DTL	DTL	-2.54	0.99	-2.37	0.99

DTL - Number of cases complying the rule are too less in both groups to run statistical test.

**Note:** Since the test is executed on CSP which is compliance score of positive rule, the dignity of planets involved is already built in.

**Conclusion:** Null Hypothesis could not be rejected for any lord of planet for compliance with any of the rules tested since the p-value is > 0.05 in all cases. None of the tested positive principles defined for lords of planet is therefore empirically valid.

**4.3 Principles for houses**

In astrology, like planets and lords of houses, the houses themselves are also considered characteristic of life effects depending on the significance attached to them [16, 17, 18, 19]. Regardless of which house has significance for being the celebrity, we tested the four most fundamental rules for all twelve houses to see if they show up more positivity in our

experiment for at least one. All four principles are assumed by astrology to give beneficial or desired effects. If they are indeed valid, we expect them to get complied with a higher frequency in Group B for at least one of the twelve houses. The principles and their results are given in Table 9 and are discussed below.

**Table 9:** Results of One tailed t test for individual rule compliance (Positive rules defined for Houses) (Test run on CSP values, N1 = 509, N2 = 742, Hypothesised Diff = 10 pc, One tailed T Critical = 1.647)

Principle	Principle 4.1		Principle 4.2		Principle 4.3		Principle 4.4	
House	Venus, Jupiter or Moon placed in the house		Venus, Jupiter or Moon placed in opposite house		House is influenced by 5th or 9th aspect of Jupiter		Lord of 1st, 4th, 5th, 9th or 11th houses placed inside the house	
	One tailed t stat	One tailed p value	One tailed t stat	One tailed p value	One tailed t stat	One tailed p value	One tailed t stat	One tailed p value
House 1	-0.49	0.69	-0.08	0.53	-1.29	0.90	0.21	0.42
House 2	-1.39	0.92	-0.20	0.58	-1.80	0.96	-0.95	0.83
House 3	-0.11	0.54	-0.06	0.53	-1.93	0.97	1.41	0.08
House 4	-0.84	0.80	-0.87	0.81	0.57	0.28	-0.86	0.81
House 5	-2.39	0.99	-2.63	1.00	0.65	0.26	-2.89	1.00
House 6	-1.75	0.96	-0.82	0.79	-2.03	0.98	-1.03	0.85
House 7	-0.08	0.53	-0.49	0.69	-2.16	0.98	-0.96	0.83
House 8	-0.20	0.58	-1.39	0.92	0.98	0.16	0.81	0.21
House 9	-0.06	0.53	-0.11	0.54	-2.00	0.98	-1.84	0.97
House 10	-0.87	0.81	-0.84	0.80	-0.52	0.70	-0.67	0.75
House 11	-2.63	1.00	-2.39	0.99	-1.61	0.95	-3.16	1.00
House 12	-0.82	0.79	-1.75	0.96	1.12	0.13	-0.66	0.75

One tailed T Critical = 1.647

**Note:** Since the test is executed on CSP which is compliance score of positive rule, the dignity of planets involved is already built in.

**Conclusion:** Null Hypothesis could not be rejected for any of the 12 houses for compliance with any of the rules tested since the p-value is > 0.05 in all cases. None of the four positive principles defined for houses therefore is empirically valid.

**4.3.1 Principle**

**Venus, Jupiter or Moon placed in the house:** This principle anticipates auspicious planets, namely Venus, Jupiter and Moon to be in the house for giving beneficial effects. As can be seen from the t test, none of these twelve houses in Group B show any more positivity getting created through compliance with this principle. We therefore do not find merit in this principle.

principle anticipates auspicious planets, namely Venus, Jupiter and Moon to be opposite to the house for giving beneficial effects, however was found to be invalid.

**4.3.2 Principle 4.2**

**Venus, Jupiter or Moon placed in opposite house:** This

**4.3.3 Principle 4.3**

**House is influenced by 5th or 9th aspect of Jupiter:** Astrology assumes that when Jupiter has 5th or 9th aspect with the house, it adds to the positivity of the house which results in getting more beneficial life effects that are associated with the house. This rule was compiled equally in both groups showing that such phenomenon does not take place.

#### 4.3.4 Principle 4.4

**Lord of 1st, 4th, 5th, 9th or 11th houses placed inside the house:** The consideration here from astrology point of view is that the planets which act as lords of 1<sup>st</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 9<sup>th</sup> or 11<sup>th</sup> houses play an auspicious role in birth chart. When they get placed in the house, they contribute to the positive effect of life which is associated with the house. The results show that these lords do not get placed in any particular house with a higher probability in birth charts of Group B as against Group A. The principle around their placements is therefore not found to be valid.

As seen in section 2.2, in astrology, like principles for benefic effects which are referred as positive principles in this article, there are negative principles too. We have also seen that these negative principles are generally defined exactly contrary to the positive principle from an astrological point of view. This point can be better understood by comparing the lists of principles in Tables 1 and 3 and Tables 2 and 4. To make our study complete, we have tested negative principles given in Table 1 for all planets and principles given in Table 2 for all houses. Here if those principles are true, we should see more compliance in Group A (a group of Ordinary people) as this group is less in fame and success compared to Group B. In our test, however we did not find any significant difference in Group A than Group B.

After disproving each of the principles individually, we also examined a possibility of these principles acting together to give rise to a differentiation. In other words, we examined whether the total negativity or total positivity associated with entities arising out of compliance to set of negative and positive rules respectively, is acting as a differentiator for prediction. As stated in section 2, the total positivity of an entity is represented by the PRC, and  $\sum \text{CSP}$  whereas total negativity is represented by NRc and  $\sum \text{CSN}$ . Their measurements are also already explained in Section 2. From the astrological point of view, one would obviously expect a greater number of positive rules getting complied on an average in Group B. When tested for each planet, house and lord of house through one tailed two sample T test of significance (Table 10) however, we did not find any significant difference in the average number of positive rules complied in Group B as against Group A nor was there any significant difference in terms of averages of the respective compliance scores. On similar lines, we compared the total number of negative rules complied with and their respective compliance scores for these entities and found that their averages were also not significantly different among the two groups. Thus, the total number of negative rules complied with or their compliance scores can also not be the criterion for predicting undesired effects. With these results we are ruling out number of traditional beliefs of Vedic astrology that assumes a greater strength or positivity of significant planets like Sun, Mars or Jupiter giving the fame to the native. The positivity's of significant houses, namely 1<sup>st</sup>, 5<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> or 11<sup>th</sup> or that of their lords, which are conventionally assumed to make a person famous, were not significantly different too showing no basis for those assumptions.

Most astrologers use the approach of counting number of rules complied with to predict beneficial or adverse effects. While analysing the birth chart for predicting a beneficial effect they count the number of positive rules that are complied with (PRc) by the significant entities and compare with the threshold value that is established based on their past experiences. Similar approach is used for predicting adverse effect using NRc. It is important to understand however that

the prediction of beneficial effects, like more fame, on the basis of greater compliance of positive rules is always going to be erroneous. This is because empirically both groups have the same compliance on an average basis, have the same standard deviation (spread) and hence there is an equal probability of a person being a celebrity or ordinary for a given PRc value. We can take the example of a chart where the number of positive rules complied by Sun is say 3. The prediction of a person being celebrity, based on positive rules complied by Sun, just because compliance exceeds 1.56 (Group B mean) will be incorrect. This is due to the fact that the number of rules complied varies from zero to four in both the groups. If we count the number of cases with compliance greater than three in both groups, for the sake of this example, they will not be significantly different. This means that there are as many ordinary people as there are celebrities with such a higher PRc. This is also true for all other PRc or NRc values of any other entity. It is also true even for summation of a few entities, (an approach of using combination of entities for prediction), and hence it is incorrect to make predictions on the basis of total number of rules complied.

If we consolidate, we tested 13 fundamental principles individually for planets as well as for all lords of houses and 8 principles for all 12 houses and found them to be invalid. This corresponds to testing close to 262 rules or configurations (Table 7, 8 and 9) and none of them acts as a differentiator that speaks for itself. Moreover, as part of comprehensive testing, in total we tested 34 entities and 68 parameters (considering negativity and positivity for each entity) but none of them differ beyond 10% in both groups, which shows the actual veracity of Vedic astrology. We will like to highlight that these results are the replication of results of similar tests in our earlier experiments, namely Cancer diseased versus people who never had it <sup>[15]</sup> and mentally disabled versus intelligent <sup>[14]</sup>. In these two experiments too, there was no significant difference of astrological positivity or negative of any entity despite having completely opposite life effects. This provides sufficient evidence that the fundamental principles of Vedic astrology tested here are invalid. Despite these extensive tests and conclusive evidence, there will still be arguments as to what was not done and what additional rules should have been tested. We certainly do not pretend to have tested the whole scope of astrology. However, we do not want to lose sight of what is already established here with complete clarity. While more principles can always be tested, there should be a logical explanation as to why testing of 21 most fundamental principles fail when tested individually (for planets, houses and lords of houses as applicable) and why none of the 68 parameters of our comprehensive test could show any difference in any of our three experiments despite opposite life patterns. Our results show that prima facie nothing remains as 'unique configuration' in the birth-charts especially when a large number of them are examined statistically. Before using the configurations for predictions, astrologers and research communities must test them empirically on the basis of two opposing groups with sufficient data size, as stipulated in section 3.0. This is necessary because the principles we have proven as invalid in our experiments are invariably used to predict other effects of life in everyday practice by applying them to various entities. For instance, the rules listed in Table 1 and Table 2 are also used to predict unfavourable marriage outcomes, by applying to Venus and 7<sup>th</sup> house as they are considered as 'significant' for marriage. And this goes on for almost all areas of predictions covered by astrology. Such predictions or

interpretations not only impact the person but can also influence how society conducts itself with the natives. This is very unfair and unjustified, particularly when the underlying

principles are not empirically proven. Given the enormous impact of Vedic astrology on a massive population such as India, this calls for a thorough and transparent investigation.

**Table 10:** Comparison of averages of NRc, PRc,  $\sum$ CSN and  $\sum$ CSP of planets, houses and lords of houses and corresponding one tailed t test results (Hypothesised Difference = 10 pc)

Group A Ordinary (No Celebrity) (Analysis of 509 Charts)		Rules/Applied entity	Group B Celebrity (Analysis of 742 Charts)		T test results of compliance scores		T test results of Number of Rules complied	
Average of ( $\sum$ CSN) for negative rules and ( $\sum$ CSP) for positive rules	% of Average number of rules complied (NRc for negative rules and PRc for positive rules)		Average of ( $\sum$ CSN) for negative rules and ( $\sum$ CSP) for positive rules	% of Average number of rules complied (NRc for negative rules and PRc for positive rules)	One tailed t statistic for compliance score (T Critical = 1.647)	One tailed p value for Compliance score	One tailed t statistics for No of rules complied (T Critical = 1.647)	One tailed p value for No of rules complied
-35.6	14.29%	Negative rules applied to ascendant	-33.6	14.45%	-0.686	0.75	-2.431	0.99
52.5	59.96%	Positive rules applied to ascendant	51.0	59.92%	-4.496	1.00	-6.664	1.00
-44.2	19.38%	Negative rules applied to sun	-39.5	18.21%	0.390	0.35	-0.851	0.80
37.6	31.91%	Positive rules applied to sun	36.8	31.21%	-2.813	1.00	-3.499	1.00
-42.3	17.46%	Negative rules applied to moon	-39.6	16.93%	-0.580	0.72	-1.594	0.94
32.4	27.66%	Positive rules applied to moon	31.3	28.22%	-2.738	1.00	-2.078	0.98
-36.2	17.34%	Negative rules applied to mars	-39.3	17.96%	-3.545	1.00	-3.289	1.00
38.7	32.50%	Positive rules applied to mars	39.5	32.80%	-1.769	0.96	-2.741	1.00
-46.3	20.75%	Negative rules applied to mercury	-43.2	21.06%	-0.598	0.73	-2.904	1.00
44.1	34.18%	Positive rules applied to mercury	40.5	32.72%	-4.745	1.00	-4.462	1.00
-47.9	21.61%	Negative rules applied to Jupiter	-46.0	22.15%	-1.368	0.91	-3.481	1.00
32.7	28.64%	Positive rules applied to Jupiter	30.7	27.12%	-3.507	1.00	-4.303	1.00
-42.4	18.59%	Negative rules applied to Venus	-43.8	18.88%	-2.824	1.00	-2.921	1.00
34.6	31.39%	Positive rules applied to Venus	32.0	29.38%	-3.727	1.00	-4.814	1.00
-40.5	20.06%	Negative rules applied to Saturn	-39.8	19.59%	-1.698	0.96	-1.819	0.97
37.4	32.18%	Positive rules applied to Saturn	38.0	32.18%	-1.861	0.97	-2.951	1.00
-31.7	15.79%	Negative rules applied to Rahu	-33.4	16.85%	-3.017	1.00	-3.703	1.00
33.8	28.68%	Positive rules applied to Rahu	38.0	32.94%	0.505	0.31	1.282	0.10
-30.4	16.48%	Negative rules applied to Ketu	-34.6	17.50%	-4.751	1.00	-3.738	1.00
32.7	28.68%	Positive rules applied to Ketu	36.1	29.00%	0.096	0.46	-2.429	0.99
-43.6	19.67%	Negative rules applied to lord of 1st house	-40.7	18.88%	-0.565	0.71	-1.393	0.92
36.7	33.67%	Positive rules applied to lord of 1st house	31.4	31.11%	-5.840	1.00	-5.281	1.00
-43.8	20.16%	Negative rules applied to lord of 2nd house	-42.4	19.78%	-1.398	0.92	-2.017	0.98
32.3	31.75%	Positive rules applied to lord of 2nd house	32.0	30.62%	-2.319	0.99	-3.958	1.00
-42.7	19.35%	Negative rules applied to lord of 3rd house	-41.6	19.71%	-1.542	0.94	-3.006	1.00
31.2	30.84%	Positive rules applied to lord of 3rd house	32.8	30.94%	-0.954	0.83	-2.827	1.00
-43.3	19.70%	Negative rules applied to lord of 4th house	-42.4	19.78%	-1.580	0.94	-2.529	0.99
31.9	31.24%	Positive rules applied	29.4	29.06%	-3.886	1.00	-4.900	1.00

		to lord of 4th house						
-43.3	19.38%	Negative rules applied to lord of 5th house	-41.0	19.10%	-0.862	0.81	-2.140	0.98
30.1	29.74%	Positive rules applied to lord of 5th house	30.5	29.92%	-1.703	0.96	-2.623	1.00
-41.5	19.35%	Negative rules applied to lord of 6th house	-41.8	19.51%	-2.229	0.99	-2.685	1.00
34.7	32.57%	Positive rules applied to lord of 6th house	30.0	30.43%	-5.232	1.00	-5.012	1.00
-41.4	19.25%	Negative rules applied to lord of 7th house	-42.2	19.69%	-2.442	0.99	-3.079	1.00
32.0	31.39%	Positive rules applied to lord of 7th house	31.7	30.59%	-2.401	0.99	-3.893	1.00
-40.4	18.39%	Negative rules applied to lord of 8th house	-41.1	18.80%	-2.472	0.99	-2.977	1.00
33.0	30.88%	Positive rules applied to lord of 8th house	32.5	30.92%	-2.486	0.99	-2.893	1.00
-41.4	19.03%	Negative rules applied to lord of 9th house	-43.0	19.74%	-2.876	1.00	-3.380	1.00
32.2	31.36%	Positive rules applied to lord of 9th house	32.1	30.86%	-2.063	0.98	-3.243	1.00
-46.0	20.41%	Negative rules applied to lord of 10th house	-42.6	20.33%	-0.386	0.65	-2.442	0.99
32.9	31.83%	Positive rules applied to lord of 10th house	31.9	30.70%	-2.770	1.00	-3.988	1.00
-44.9	20.11%	Negative rules applied to lord of 11th house	-42.3	19.76%	-0.768	0.78	-2.057	0.98
36.4	33.24%	Positive rules applied to lord of 11th house	30.6	30.00%	-5.714	1.00	-5.877	1.00
-40.9	18.74%	Negative rules applied to lord of 12th house	-42.4	19.34%	-2.905	1.00	-3.361	1.00
32.6	31.12%	Positive rules applied to lord of 12th house	32.4	31.35%	-2.203	0.99	-2.686	1.00
-31.3	30.30%	Negative rules applied to house1	-28.8	28.74%	-0.229	0.59	-0.872	0.81
22.0	22.45%	Positive rules applied to house1	23.3	23.99%	-0.642	0.74	-0.569	0.72
-30.5	29.37%	Negative rules applied to house2	-30.7	29.68%	-1.978	0.98	-2.261	0.99
22.6	22.69%	Positive rules applied to house2	22.2	22.51%	-1.982	0.98	-2.013	0.98
-30.1	29.72%	Negative rules applied to house3	-30.6	30.09%	-2.139	0.98	-2.263	0.99
18.7	19.79%	Positive rules applied to house3	20.5	20.96%	-0.063	0.53	-0.673	0.75
-28.5	27.70%	Negative rules applied to house4	-28.6	28.91%	-1.764	0.96	-2.704	1.00
20.7	20.83%	Positive rules applied to house4	21.3	22.17%	-1.090	0.86	-0.604	0.73
-30.7	30.21%	Negative rules applied to house5	-31.1	30.39%	-2.050	0.98	-2.077	0.98
23.3	23.43%	Positive rules applied to house5	20.6	21.46%	-3.802	1.00	-3.435	1.00
-30.1	29.57%	Negative rules applied to house6	-29.4	29.65%	-1.452	0.93	-2.120	0.98
21.8	22.64%	Positive rules applied to house6	20.6	21.16%	-2.564	0.99	-3.106	1.00
-31.7	30.50%	Negative rules applied to house7	-29.3	29.41%	-0.333	0.63	-1.258	0.90
21.6	21.95%	Positive rules applied to house7	21.7	22.34%	-1.522	0.94	-1.416	0.92
-29.7	29.37%	Negative rules applied to house8	-30.7	30.05%	-2.565	0.99	-2.531	0.99
20.3	20.38%	Positive rules applied to house8	22.3	22.71%	-0.019	0.51	0.232	0.41
-29.8	29.03%	Negative rules applied to house9	-29.4	29.21%	-1.527	0.94	-2.046	0.98
21.3	21.61%	Positive rules applied to house9	20.9	21.39%	-1.920	0.97	-1.972	0.98
-28.7	28.54%	Negative rules applied to house10	-29.2	28.77%	-2.117	0.98	-2.119	0.98

21.8	21.76%	Positive rules applied to house10	22.2	22.71%	-1.354	0.91	-0.989	0.84
-32.0	31.93%	Negative rules applied to house11	-32.8	32.11%	-2.396	0.99	-2.222	0.99
23.9	24.56%	Positive rules applied to house11	20.0	20.96%	-4.845	1.00	-4.986	1.00
-31.2	30.65%	Negative rules applied to house12	-27.9	28.10%	0.356	0.36	-0.177	0.57
20.7	21.22%	Positive rules applied to house12	21	21.53%	-1.215	0.89	-1.478	0.93

**Conclusion:** Null Hypothesis could not be rejected for any of the planet, house or lord of house for compliance with set of negative or positive rules tested since the p-value is  $> 0.05$  in all cases. The total astrological negativity or total positivity, associated with the entities that arise through compliance of negative or positive rules respectively, is not significantly different in both the groups despite opposite life patterns. The rules tested and the underlying principles therefore are not empirically valid.

## 5. Conclusions

This article examines few fundamental principles of Vedic astrology through a systematic empirical experiment conducted on 742 birth charts of people who have been celebrities and 509 charts of people who have not been celebrities and have led ordinary lives. Each of the 21 fundamental principles of Vedic astrology we tested was found to be invalid as the compliance was not significantly different between both groups. Further, to examine whether these principles act together to create differentiation, the comprehensive test of comparing astrological positivity and negativity of all entities (planets, houses, and house lords) has been demonstrated as a potential empirical approach. If the principles we tested were true, we should have seen significant differences in the total negativity or positivity of the two groups for at least one planet, house or lord of the house, but there were none. Thus, our results proved that neither these principles are valid individually nor in combination. Two of our earlier experiments on similar lines for other pairs of the group, namely mentally disabled versus intelligent and Cancer versus no cancer, had shown the similar results for the same set of principles. It shows just how invalid they are across the board and beyond any doubt. While there could be arguments on what additional rules we should have tested, the results we presented deserves explanation on the basis of astrology as to why testing of 21 most fundamental principles fail when tested individually (for planets, houses and lords of houses as applicable) and why none of the 34 entities could show any difference in terms of astrological negativity or positivity between two groups despite completely opposite life patterns. Since the principles we tested are something that one cannot do away with, in the everyday practice of astrology, their invalidity proven through our test raises many questions about the accuracy of the predictions of Vedic astrology in general and career in particular.

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