

The Effect of Horoscopes on Women's Relationships

Susan Blackmore and Marianne Seebold*

Abstract

An experiment was designed to try to find out whether women's relationships are affected by what they read in their horoscopes. Forty-six female undergraduates were randomly assigned to two groups. One group was given a horoscope that contained positive love advice; the other neutral love advice. All participants completed an Astrology Awareness Questionnaire. Questionnaires concerning the women's relationships were completed both before and after they received the horoscopes, with about six weeks between the two. Scores on the relationships questionnaires did not change after the neutral advice, and were slightly (though not significantly) higher after the positive love advice. Levels of knowledge of and belief in astrology were high, but very few subjects said they would change their behaviour according to what they read in their horoscope.

Introduction

Astrology columns in newspapers and magazines are widely read (Gallup and Newport, 1991; Bauer and Durant, 1997) but we do not know whether the people who read them make serious decisions, or alter their behaviour, on the basis of what they read. This is important because extensive scientific research has failed to support most of the claims of astrology. If people simply read their horoscopes for fun and are not affected by what they read, then the failure of astrology's claims does not matter. On the other hand, if people's lives are affected by what they read in their horoscopes and in astrology columns then they are potentially basing their lives on false information, and this does matter, both for the individuals concerned and for everyone else.

In 1984 the Committee for the Scientific Investigation of Claims of the Paranormal campaigned for American newspapers and magazines to carry a disclaimer alongside astrology columns saying that they were to be read for entertainment only and had no basis in scientific fact. Although the number of publications doing so has steadily risen, by 1998 only 60 U.S. newspapers carried the disclaimer out of the many thousands that have astrology columns. Editors are unwilling to use the disclaimer, often arguing that it is not needed because their readers don't take the column seriously and already read it

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only for fun. If they are right, then this disclaimer is irrelevant. However, if people's lives are affected by what they read then the implications are serious and the disclaimer might help. For this reason we tried to find out.

Astrology has been defined as "The study that deals with the connections believed to exist between the positions of the planets at the moment of someone's birth and that person's character, development, profession, marriage and general life history" (Eysenck & Nias, 1982). Based on this definition, the 'astrological hypothesis' is that these connections really do exist.

There is little doubt that experimental tests have generally failed to support the astrological hypothesis. In several experiments people have been given an interpretation based on their own birth chart and one or more interpretations based on a different chart. All showed that people were unable to pick out their own (e.g. Carlson, 1985, or see Culver & Ianna, 1988; Dean, 1987a; Dean, Mather & Kelly, 1996 for reviews). In other experiments, subjects were given their own chart together with a reversed chart and asked to pick their own. They did not do better than chance (Dean 1987b). Some experiments could be deemed unfair by astrologers so it is important that astrologers agree in advance that a method of testing is fair. This was the case in another study by Dean (1987b) in which subjects were chosen for extreme introversion or extraversion, and stability or instability according to the Eysenck Personality Inventory. 45 astrologers were given the birth charts of these people and asked to rate their personalities on the same scales. A further 45 astrologers were asked to guess. Those using the charts did slightly worse than those who guessed.

A well-known study found weak correlations between sun signs and personality (Mayo, White and Eysenck, 1978) but this effect disappeared when only people unfamiliar with astrology were tested. Rooij (1994) confirmed the findings of Mayo *et al* in finding that people born with the sun in a positive sign (Aries, Gemini, Leo, Libra, Sagittarius, Aquarius) were more extravert and those with the sun in a negative sign (Taurus, Cancer, Virgo, Scorpio, Capricorn, Pisces) more introvert. However, this was found only with people who had some astrological knowledge, suggesting that the result is due to self-attribution. That is, people who know what they are supposed to be like according to their sun sign will complete questionnaires accordingly. Pawlik and Buse (1984) confirmed the self-attribution theory using a large sample of 799 people with varying familiarity with astrology. People may even alter their personality to fit their knowledge of astrology. Fichten and Sunerton (1983) found that when participants knew the astrological descriptions of their sign they rated their description as a more accurate depiction of their personality than the other eleven signs specified for them, suggesting that people incorporate aspects of astrological analysis into their long-term self concepts. Glick and Snyder (1986) found that people actively seek out predictions that fit in with their horoscopes and ignore the predictions that do not. Hamilton (1995) also showed that knowledge of astrology can affect long-term self concept even in people who are not strong believers in astrology. As he points out, this suggests that astrology may limit personal growth. Given that astrology is often promoted as an aid to personal growth, this conclusion should be given serious consideration.

Astrologers may reasonably object that sun signs are too crude to predict personality accurately and that more information should be used. Clarke (1996) used the positions of sun and moon and the ascendant, but found no support for the claim that positive signs are associated with extraversion and water signs with emotionality.

Others may argue that for a proper assessment the whole birth chart is needed. This leads to a simple prediction. If the astrological hypothesis is correct then correlations between personality and the whole birth chart will be much higher than correlations between personality and just the sun sign. If the self-attribution theory is correct then the reverse should be true. Correlations between personality and sun sign should be higher because most people know something about their sun sign but very few know about their whole chart or its astrological implications for their personality. This was tested by King (1995) who drew up charts for 69 people and gave them Eysenck's EPQ and an astrology questionnaire, correlating extraversion with sun sign, ascendant and the whole chart. She found that, if anything, the relationship with the ascendant was the strongest. However, all the correlations were weak and only 52 subjects gave their time of birth. This is clearly an interesting hypothesis that needs further testing.

All this research suggests that people's personality may be affected by what they read in horoscopes, even though that information is invalid. In spite of this, most people claim not to take astrology seriously. For example, Bauer and Durant (1997) in a survey of just over two thousand British people, found that while 44% of respondents said they read a horoscope or personal astrology report 'often' or 'fairly often', only 6% claimed to take what it said either 'seriously' or 'fairly seriously'. Few surveys have asked whether people alter their behaviour according to what they read in horoscopes. Gorer (1947) found that 5% said they followed advice in horoscopes, 18% occasionally did so, and 77% said they never did. In a study by Miller (1983), fewer than 2% of college graduates said they changed their behaviour because of horoscopes. However, even if people claim not to be affected, we could not know whether they were right in that self-assessment. It may be the case that people are affected by their horoscopes while remaining convinced that they are not. For example, they may be biased by what they have read in their horoscope when they make important decisions about their love life, their career or their finances.

The two most common topics covered in horoscopes and astrology columns are money and love (Adorno, 1974; Svenson & White, 1995). Both are important in people's lives and it is therefore important to know whether people's decisions are affected by reading potentially false information in horoscopes. An experimental method for finding out is to assign subjects randomly to separate groups and give them horoscopes which make opposite predictions or assessments of their financial or romantic prospects. Their behaviour or self-assessment can then be measured to see whether it is affected by the horoscope.

This method was used by Bailey (1997) to study gambling behaviour. She gave 30 subjects a questionnaire about their spending on the National Lottery both before and after they received a personalised horoscope. They were divided randomly into three groups. For one group the horoscope contained an added statement that they would be

specially lucky in the near future and should take their chances, for the second that they would be unlucky and should avoid wasting cash on useless pursuits, and the third contained no reference to luck. Unfortunately the subjects spent so little on the lottery that no meaningful results could be obtained on spending. However, those given the unlucky reading became significantly less confident about winning something on the lottery. Sixty-two subjects completed the astrology questionnaire and Bailey found that believers in astrology rated their horoscopes as far more accurate than non-believers. Only 11% said they would let their behaviour be influenced by what an astrologer said, with believers being more likely to say so.

The study reported here uses a similar method to investigate the effect of horoscopes on women's relationships. Women only were used in the study because astrology columns are far more often targeted at women than men readers, and surveys show that women more often read them than men do (Svenson, 1990).

Subjects rated their current relationships using a specially designed questionnaire. They were then randomly assigned to one of two groups, one receiving a horoscope with positive love advice, the other with neutral love advice. They then completed the relationships questionnaire a second time to see whether the horoscopes had had any effect. Subjects also completed an awareness of astrology questionnaire and their scores were correlated with the difference between their two relationship scores to determine whether those women with higher knowledge of and belief in astrology were more affected by the horoscope.

Method

Subjects

Subjects were 46 women undergraduates (studying psychology, humanities or nursing) at the University of the West of England. Mean age was 26 years. The real purpose of the study was not explained to them beforehand. They were told that the purpose of the study was to investigate women's belief in astrology and their attitudes towards their relationships, and that they would be given an individual horoscope as a token for taking part. Informed consent was obtained and they were fully debriefed at the end of the study. Subjects were randomly assigned to the positive and neutral groups by tossing a coin.

Procedure

There were three sessions, all conducted in classes at the university. In the first session all subjects (initially 61) completed the astrology and relationship questionnaires. In the second session, two weeks later, they were given their personalised horoscopes. In the final session, about a month later, they completed the relationship questionnaire once more. Some students did not attend the relevant lectures and their questionnaires or horoscopes were sent to them via their pigeon holes. 46 of the students completed all the questionnaires.

Materials

Awareness of astrology questionnaire

There is no widely accepted tool for measuring belief in or knowledge of astrology. Therefore a questionnaire was developed especially for this study. It consisted of 12 yes/no questions about knowledge of astrology (e.g. Have you ever had a personal horoscope done? Do you think that astrology is just superstition? Would you alter your behaviour due to material that you read in your horoscope?) and the question "How much do you believe in astrology?" to be answered by marking a line from 'not at all' to 'completely'. The questionnaire was piloted before use and any ambiguous or confusing questions were changed. One point was given for positive answers to the first 12 questions and these were added to provide an overall score. The belief question correlated positively with this score ($r = 0.87$) (r = Pearson's product-moment correlation coefficient). The questionnaire is reproduced in Appendix 1.

Relationship Assessment Questionnaire

Existing questionnaires were consulted (Fincham, Fernandes and Humphreys, 1993) but none was suitable for this experiment. The best known questionnaires are all many years old and designed mainly for married couples (Gottman, 1979). For example the Locke-Wallace Marital Adjustment Scale (Locke & Wallace 1959) is well validated and widely used, but was not suitable for the sample used here which consisted of undergraduate students, in un-married, married, homosexual and heterosexual relationships. Therefore a new questionnaire was developed to assess how happy women were with their current relationship. This was piloted first on five women and then, after some changes, on twenty more women. Split half reliability was satisfactory ($r = 0.59$). There were twelve questions, such as "How happy are you currently with your relationship?" and "How much do you trust your partner?", each followed by a line labelled "Not at all" at one end and "Completely" at the other. Subjects had to mark the line at the position best corresponding to their answer. Distance on the line was measured in centimetres for each question, reversed for negative questions, and the results added to give an overall relationship score. Possible scores ranged from 0 to 120. The questionnaire is reproduced in Appendix 2.

Horoscopes

Twelve different horoscopes were written, one for each sun sign, based on the Hearst Co-operation's Internet horoscope profiles (1998), the horoscope section of Cosmopolitan Magazine (Hyde, 1999) and a Teach Yourself Astrology book (Mayo and Ramsdale, 1996). Embedded in the middle of each was the 'love' section in one of two versions (making 24 horoscopes altogether). This was either positive in tone, describing the person's love life as looking stronger and more passionate this month and giving advice on how to make it even better, or neutral, advising the reader to put more effort into personal relationships this month and suggesting how problems can be overcome by listening to each other's needs. Negative advice might have had a stronger effect but for ethical reasons we did not wish to use this. The horoscopes were checked by five people, including an astrologer, to ensure that they sounded realistic and appropriate. Examples are given in Appendix 3.

Results

Results for the astrology questionnaire are shown in Table 1. It can be seen that all subjects knew their sun sign, very few (13%) said they would consult an astrologer before getting married or settling down, and only 15% said they would alter their behaviour due to material they read in horoscopes. Total scores on the 12 questions correlated highly positively with the final belief question ($r_s = 0.81$, $n = 46$, $p = < 0.001$) (r_s = Spearman's rho correlation coefficient).

Table 1: Results of Astrology Awareness Questionnaire

Question number	Question	% said Yes
1	Knows her star (sun) sign	100
2	Knows her moon sign	22
3	Regularly reads horoscopes in newspapers/magazines	70
4	Values advice given by astrologer	39
5	Astrologer has compiled personal horoscope for her	15
6	Thinks sign description accurately reflects personality	85
7	Would consult an astrologer before getting married/settling down	13
8	Has read teach yourself astrology book/taken astrology course	24
9	Thinks astrology is NOT just superstition	72
10	Would alter behaviour due to material read in horoscope	15
11	Finds out star signs of people she has relationships with	89
12	Has read book about star sign in love or year ahead for star sign	78

Mean scores on the relationship questionnaire are given in Table 2. For subjects given the positive horoscope mean scores increased slightly afterwards, while scores for those given the neutral horoscope did not change. The difference in score before and after receiving the horoscope was recorded for each subject and these differences compared between the two groups. The difference is in the expected direction but did not reach

statistical significance ($t = 0.64$, $df = 44$, $p = 0.26$ 1-tailed). (A result is said to be statistically significant when the p value is less than 0.05. That is, such a result would be expected by chance less than one time in twenty).

Table 2: Mean Scores on Relationships Questionnaire
(possible range 0-120)

Horoscope type	Number of subjects	Mean before horoscope	Standard deviation	Mean after horoscope	Standard deviation
Positive	24	89.9	18.3	92.1	19.5
Neutral	22	91.5	23.8	91.4	19.0

We expected that women whose knowledge of and belief in astrology was higher would be more likely to be affected by what they read in their horoscope. This effect should be detectable in the group that received the positive love advice but not in the neutral group. For each subject the difference between the first and second relationship score was correlated with their astrology score. For the 'positive' group the correlation was positive and significant ($r = 0.39$, $n = 24$, $p = 0.03$ 1-tailed). For the 'neutral' group the correlation was also positive but not significant ($r = 0.30$, $n = 22$, $p = 0.09$ 1-tailed). These results were, therefore, as we had expected. This supports the prediction that those who know more about astrology are more affected by what their horoscope says.

Discussion

The results did not show that horoscopes with positive love advice significantly improved women's rating of their relationships more than those with neutral advice. However, the effect was in the expected direction and was greater for those women who had greater knowledge of and belief in astrology. Such effects are important because they could potentially limit women's personal growth, distort their relationships and reduce their own control over the most intimate aspects of their lives.

More generally, the questionnaire results confirm the strong influence of astrology on women's lives. 72% do not think astrology is just superstition and almost 90% said that they find out the sun signs of people they have relationships with. 78% had read a book concerning their sun sign in love. Even though only 15% said they would alter their behaviour according to what they read in a horoscope, these results suggest that astrology may influence women's behaviour in many ways.

There were various weaknesses in the present experiment which could be improved upon in future research. Although subjects were assigned randomly to groups, they were not in fact well matched for their initial relationship scores. A bigger sample would help reduce this problem, or subjects could be matched for relationship scores before assignment to groups.

The biggest problem was in designing the love advice. We had ethical approval to carry out the experiment using only positive and neutral advice, not negative advice, even though negative advice might be expected to have a more powerful effect. In fact newspaper astrology columns routinely include negative suggestions (Adorno, 1974), and Svenson and White (1995) have shown that the type of wording used in horoscopes generates dependence, helplessness and irrationality, and portrays readers as unlucky in love. Future experiments might, with appropriate precautions, include negative love advice.

Our participants were told that their horoscopes were drawn up individually for each of them. This might be expected to have more effect than reading a magazine column which is supposed to apply to one in twelve of the population. Future research might use manipulated sun sign columns as well. More generally, the method used here could be adapted to measure the effects of reading manipulated horoscopes or star sign predictions on people's self-concept, happiness with their relationships, and many kinds of behaviour, for example risk taking, money management, or time allocation. With such research we might be able to find out whether astrology columns really are just a bit of harmless fun or whether people's behaviour is influenced without their realising it.

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Appendix 1.

AWARENESS OF ASTROLOGY QUESTIONNAIRE.

Marianne Seebold, Yr. 3.
Psychology and Health Science.

AWARENESS OF ASTROLOGY QUESTIONNAIRE.

Please fill out the following details: (a) *Date of birth*...../...../.....

(b) *Time of birth*.....

(c) *Place of birth*.....

Answer the following questions as quickly and as truthfully as possible by placing a tick in the corresponding box.

(1) Do you know your star (sun) sign ?

YES ☐ NO ☐

(2) Do you know your moon sign ?

YES ☐ NO ☐

(3) Do you regularly read your horoscope in magazines and newspapers ?

YES ☐ NO ☐

(4) Do you value the advice given by the astrologer ?

YES ☐ NO ☐

(5) Has an astrologer ever compiled a personal horoscope for you ?

YES ☐ NO ☐

(6) Do you think that your star sign description accurately reflects your personality ?

YES ☐ NO ☐

(7) Would you consult an astrologer before getting married or settling down with a partner ?

YES ☐ NO ☐

(8) Have you ever read a teach yourself astrology book or taken an astrology course ?

YES ☐ NO ☐

(9) Do you think that astrology is just superstition ?

YES ☐ NO ☐

(10) Would you alter your behaviour due to material that you read in your horoscope ?

YES ☐ NO ☐

(11) Do you find out the star signs of people that you have relationships with ?

YES ☐ NO ☐

(12) Have you ever read a book concerning your star sign in love, or the year ahead for your star sign ?

YES ☐ NO ☐

(13) *How much do you believe in astrology ?*
Please rate your belief on the scale below.

(Not at all)

(Completely)

Thank you for your time in completing this questionnaire, could you please check that you have answered all the questions.

Appendix 2.

RELATIONSHIP ASSESSMENT QUESTIONNAIRE.

Marianne Seebold, Yr. 3.
Psychology and Health Science.

RELATIONSHIP ASSESSMENT QUESTIONNAIRE.

Can you please answer the following questions by marking your answers on the corresponding line, where the ends of the lines equal the strength of your response. For example if you completely agreed with the following statement your answer would look like this:

EXAMPLE: How important is physical attraction in your relationship ?

_____ (Not at all) (Completely)

(1) Do you feel that your partner understands you ?

_____ (Not at all) (Completely)

(2) How happy are you currently with your relationship ?

_____ (Not at all) (Completely)

(3) How often do you argue with your partner ?

_____ (Not at all) (Constantly)

(4) Is jealousy a problem in your relationship ?

_____ (Not at all) (Completely)

(5) Are you happy with the amount of effort that your partner puts into the relationship ?

_____ (Not at all) (Completely)

(6) Has infidelity ever caused problems in your relationship ?

_____ (Not at all) (Completely)

(7) Are you happy with the amount of quality time that you spend together with your partner ?

_____ (Not at all) (Completely)

(8) Do you feel confident about the future of your relationship ?

_____ (Not at all) (Completely)

(9) Does money cause problems in your relationship ?

_____ (Not at all) (Completely)

(10) Do you trust your partner ?

_____ (Not at all) (Completely)

(11) Do your families cause problems in your relationship ?

_____ (Not at all) (Completely)

(12) How satisfied are you with your sex life ?

_____ (Not at all) (Completely)

Thank you for your time in completing this questionnaire, could you please check that you have answered all the questions.

Appendix 3. Examples of Horoscopes

POSITIVE LOVE INFORMATION HOROSCOPE

PISCES:

You may have felt let down and vulnerable recently and prone to questioning your basic ideals. From today though, your ruler Neptune moves in a positive forward direction once more which will tend to renew your faith in human nature over the coming months.

CAREER:

Life is on the up on the work front, so sit back and enjoy it. Watch as your social life really takes off and mask any insecurities with a smile and hearty laugh. People are beginning to notice that you're special in a big way so relax and stop worrying. Over-sensitivity on your side is stopping you from basking in the limelight.

LOVE:

Your love life is looking stronger and more passionate this month. Allowing your partner an insight into what turns you on, and telling them how you really feel will enable the two of you to share your fantasies and dreams. Thus together you can explore new and exciting territories. By sharing and indulging in your fantasies your relationship will reach new and heady heights.

PERSONALITY:

Otherworldly, ultra sensitive and intuitive you give out and in return need to receive a lot of love. Your personality is complex, one side is wildly romantic, sensitive and creative whilst the other can be depressive and frustrated. Don't let your self-critical side invade too far into your life this month.

NEUTRAL LOVE INFORMATION HOROSCOPE.

PISCES:

You may have felt let down and vulnerable recently and prone to questioning your basic ideals. From today though your ruler Neptune moves in a positive forward direction once more, which will tend to renew your faith in human nature over the coming months.

CAREER:

Life is on the up on the work front, so sit back and enjoy it. Watch as your social life really takes off and mask any insecurities with a smile and hearty laugh. People are beginning to notice that you're special in a big way so relax and stop worrying. Over-sensitivity on your side is stopping you from basking in the limelight.

LOVE:

Brace yourself to put more effort into personal relationships this month. Problems can be easily overcome by taking time out to listen to each other's needs. You need to remember that when difficulties arise it takes two to make a relationship work harmoniously. Allowing relationships priority in your agenda this month is essential. Emotional issues are an important aspect of people's lives.

PERSONALITY:

Otherworldly, ultra-sensitive and intuitive you give out and in return need to receive a lot of love. Your personality is complex; one side is wildly romantic, sensitive and creative whilst the other can be depressive and frustrated. Don't let your self-critical side invade too far into your life this month.

Sociability and Astrology: Analysis of the Results of a Psychological Test

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Abstract

The aim of this study is to compare sociability scores with the birth time in calendar and seasonal months of a population of 524 students (Ss) of an average age of 22.09 years, by using the Eysenck and Wilson psychological test. The position of the Sun in eleven out of the twelve zodiacal signs corresponds significantly to alternations of higher and lower sociability for the odd and even signs of the zodiac respectively, this being in conformity with astrological tradition. On the other hand, a significant sinusoidal evolution (COSINOR) in sociability scores appears with a maximum in Libra which can explain the very low score of Aries because of the position of the minimum of the curve at the level of the sign ($p < 0.05$). These results seem to validate the astrological zodiacal signs.

Keywords: astrology, sociability, psychological test, statistical analysis, COSINOR.

Introduction

The problem of correlations between astrological factors, based on data relating to birth, with personality traits has been the object of several studies, few of which have turned out to be positive. Pellegrini (1973) and Angst & Scheidegger (1976) searched, without any success, for a relationship between the solar sign of the zodiac and values obtained through the use of a psychological test (Freiburger PI and CPI). However, Mayo, White & Eysenck (1978) who adopted a similar approach found a clear relationship between the solar sign and extro-introversion: the odd signs (Aries...) are notably more extrovert than the six others (Taurus...). This findings sparked off many years of controversy, usually calling into question the test which was believed to be biased because of "self-attribution" by candidates who were assumed to have had prior knowledge of their signs (Pawlik & Buse 1979, Kelly & Sasklofske 1981, Eysenck & Nias 1982, Russell & Wagstaff 1983). Only Van Rooij et al, 1988, found the results of Mayo et al to be positive, but this seems to have been subsequently refuted by himself (1991).

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