It’s not you, it’s Capricorn: Testing Astrological Compatibility as a Predictor of Marital Satisfaction

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Abstract
It is a popular belief for those who adhere to the tenets of astrology, that the astrological sign an individual is born under will influence who is considered the best romantic match for that person. To date, no research in Communication has addressed this issue. In the present study, we test predictions about marital satisfaction based on astrological compatibility. In contrast, predictions about marital satisfaction based on Attachment Theory are tested. The Barnum Effect is also considered.
One could argue that the oldest theory of personal relationships is astrology. There is a long standing belief (i.e., since before the advent of Christianity) among some that the position of the stars and planets when a person is born will have a lasting impact on that person’s personality, career options, and relationships with others (Crowe, 1990). Despite the long history, or perhaps in part because of it, it is also likely that there is no theory that relates to personal relationships that is as widely denounced by scholars as astrology (e.g., Kelly, 1998). However, despite scholarly skepticism astrology remains popular among the general population (Evans, 1996). Of course, the popularity of astrology may be for entertainment rather than enlightenment purposes. Yet, it is likely that at least a segment of the population may be influenced by consumption of astrological predictions.

A surprisingly vibrant literature examining astrology in the social sciences exists (Crowe, 1990; Kelly, 1998). This research frequently focuses on sun sign astrology. Sun sign astrology focuses exclusively on the position of the sun on the day a person is born and is the type of astrology that is present in most mass media outlets. Natal astrology has been examined less extensively and involves a more elaborate description of the position of heavenly bodies at the exact time of birth.

I frequently employ astrology when teaching courses on research methods (see Ward & Grasha, 1986). Astrology has numerous things to recommend it as a tool for teaching research methods. First, it offers a series of very testable predictions. Second, it is a topic that, in my experience, is able to generate more student interest than many other theories of personal relationships. My discussions with students about how astrology may be tested ultimately led me to decide to develop a study to test astrological predictions.

Armed with only an abecedarian knowledge of astrology but a passion for research design, I determined to think about a way to test astrological predictions as they pertain to personal relationships. Looking at astrology in the domain of personal relationships is intriguing for a variety of reasons. First, astrology makes fairly consistent predictions about who will and who will not work well as couples (Crowe, 1990). Second, this has been an area in the social scientific study of astrology that has been largely untested. I was able to uncover only two published works (Sachs, 1999; Silverman, 1971) attempting to study astrological predictions about the compatibility of people based on their sun signs (i.e., astrological compatibility).

Three fundamental issues arise in attempting to study astrological compatibility. Obviously, astrological compatibility must be examined to see if it is related to relationship compatibility. Also, if a relationship exists, potential moderators or alternative explanations must be systematically considered. Finally, there is value in considering the effect size of any associations based on astrological predictions. The issues are addressed in the following sections.

**Astrological Compatibility**

There have been a variety of studies addressing the utility of astrology to people’s lives. Often the focus of these studies is whether astrological sign predicts personality characteristics. One can find a number of studies that report significant associations between zodiac sign and personality trait or behavior (e.g., Fuzeau-Braesch, 1992; Jackson, 1979; Mitchell & Tate, 1998; Pellegrini, 1973; Smithers & Cooper, 1978; van Rooij, Brak, & Commandeur, 1988). However, many other studies find no significant effects for zodiac sign (e.g., Abdel-Khalek & Lester, 2006; Bastedo, 1978; Fourie, 1984; Hartmann, Reuter, & Nyborg, 2006; Hume & Goldstein, 1977; Russell & Wagstaff, 1983). Results concerning natal astrology are similarly ambiguous (e.g., Carlson, 1985; Ertel, 1988; Gauquelin, Gauquelin, & Eysenck, 1979; 1981; Wyman & Vyse,
2008). Generally, although there are mixed results, studies tend to be more disconfirming than supportive of astrological predictions (Crowe, 1990; Kelly, 1998).

The study of astrology with regard to personal relationships is much less well developed. Silverman (1971) examined marriage records to see if individuals getting married tended to match astrological predictions about compatible and incompatible pairings. No significant differences from expected probabilities were found for any pairings, tending to dispel the astrological hypothesis. However, Sachs (1999) conducted a similar analysis using Swiss marriage statistics over a seven year span. For pairings that significantly exceeded expected probabilities, 12 of 13 indicating a greater than expected likelihood of marrying emerged from pairings that astrology predicted were compatible (but see von Eye, Lösel, & Mayzer, 2003 for a critique).

The use of marriage statistics as indicators of compatible pairings has the advantage of allowing access to a great deal of data. Sachs (1999), for instance, essentially used the entire Swiss population of marriages over a seven year period as a data source. However, this measure is also problematic. If we assume a small effect size for astrological compatibility a dichotomous choice between marrying or not is going to be relatively insensitive.

In order to provide a more useful test of the effects of astrological compatibility on personal relationships, it was decided to focus on the relational satisfaction of individuals who were married. By measuring the self reported marital satisfaction of married individuals, effects do not have to rise to the level of preventing marriage to be notable. Specifically, it is anticipated that if astrology does effectively predict pairings that should and should not be successful, relational satisfaction should be highest for those predicted to be successful and lowest for those predicted to be unsuccessful.

Hypothesis 1: Individuals will be more satisfied in astrologically compatible relationships than in those with lower astrological compatibility.

Potential Moderators or Confounds

Knowledge of astrology. One of the better known studies that supports astrology was conducted by Mayo, White, and Eysenck (1978). Mayo et al. found hypothesized patterns of personality based on predictions derived from astrology. This finding has been criticized as being largely due to individuals in the sample having knowledge of their sun signs. Eysenck and Nias (1982) argued that this finding was based on a self-attribution process. Specifically, they found that the ability of astrology to predict personality was predicated on the subjects having knowledge of astrology.

One approach to understanding how attribution processes could explain the relationship between astrology and self reported personality is the Barnum effect (Fichten & Sunerton, 1983). The Barnum effect is the finding that people are likely to accept descriptions of themselves that include personality characteristics that are common in the population. This effect is stronger when: (1) people believe the description was created specifically for them; (2) the description is favorable rather than unfavorable; (3) the description lacks specificity; and (4) the traits mentioned are more common in the population. Glick, Gottesman, and Jolton (1989) supported the Barnum effect by demonstrating that people were more likely to accept an identical description of themselves when they were told it was based on their zodiac sign than when they were told it was based on another sign.

Clearly, predictions based on astrology meet a number of conditions that would promote the Barnum effect. Astrological compatibility is unique for the individual, at least to the extent that it is based on the date of birth of that person. Although some signs may be associated with
more positive predictions than others (Hamilton, 2001), relational predictions in astrology tend to be general predictions of who will or who will not work well together thus there are positive associations available for each sign. Further, relational success and troubles are both common in the population.

One would anticipate that the Barnum effect would be most prevalent among those who believe in astrology. These people should be: (1) most likely to know what predictions exist for different pairings; and (2) most motivated to incorporate these beliefs into their self-concepts. The following hypothesis is proposed:

Hypothesis 2: Reported belief in astrology will significantly interact with astrological compatibility to predict marital satisfaction such that those who report the most belief in astrology will be most strongly influenced by astrological compatibility.

However, belief may not be a necessary condition for the Barnum effect. Hamilton (1995) found belief in astrology did not significantly influence whether a person identified a description based on their horoscope or one based on a different sign as pertaining to them in a blind comparison. However, people overall were more likely to identify the description based on their sun sign as accurate than the description based on another sign. Because a large number of the participants were able to correctly identify their own sign, Hamilton argued that the Barnum effect may not require belief in astrology to be effective. For astrological compatibility to be influenced by the Barnum effect, minimally a person would need to know the astrological sign of themselves and their spouse. Van Rooij (1994; 1999) found knowledge of astrology was a necessary precondition for individuals to be more likely to select an astrollogically derived description of themselves than other descriptions. This minimal knowledge criteria is tested in hypothesis 3.

Hypothesis 3: Awareness of one’s own and one’s spouses’ sun sign will significantly interact with astrological compatibility to predict marital satisfaction such that those who report awareness of both signs will be most strongly influenced by astrological compatibility.

Season of birth. Another possible explanation of how astrology may seem to predict personality is that personality is actually influenced by season of birth or pregnancy (Wendt, 1978). Indeed, Fourie (1984) found a seasonal effect predicted extraversion scores for individuals better than did astrological sign. Castrogiovanni, Iapichino, Pacchierotti, and Pieraccini (1998) review a variety of ways in which season of birth is related to factors associated with personality. A season of birth explanation would effectively explain the results found by Sachs (1999). Sachs found the most frequent pattern for successful pairings based on astrology were for individuals who partnered with someone with the same sun sign. Of course, people who share the same sign would typically be born in the same season. To account for this possibility, season of birth is examined as an alternative predictor of marital satisfaction. Specifically, individuals who are matched on season of birth are predicted to be better pairings than those whose season of birth differ.

Hypothesis 4: Individuals who match season of birth with their spouses will report greater marital satisfaction than those who do not match season of birth.

Effect Size and Astrological Compatibility

In studies that have found that astrological sign is significantly related to personality, the findings have invariably produced small effects (Crowe, 1990). This raises the issue of the utility of astrology even if it is assumed to be accurate. In the present study, astrological compatibility
will be compared to a competing theoretical mechanism. By comparing effect sizes for astrology and another theoretically grounded predictor of relational satisfaction, one can derive a standard by which astrology may be judged.

In assessing an appropriate competing theory, a number of considerations were viewed as relevant. Obviously a theory that relates to satisfaction in relationships was needed. In addition, a theory that focused on relatively stable characteristics of individuals was viewed as desirable in that it would be similar in nature to astrology which makes stable long term predictions. For this reason, attachment theory was selected.

Attachment theory and relational satisfaction. Attachment theory addresses relatively stable characteristics of individuals that have emerged from the experiences of early relationships with caregivers and that tend to function automatically (for a review see Hazan & Shaver, 1994). Because of the relative stability and long lasting nature of attachment styles, the theory presents a useful comparison with astrology. According to attachment theory, attachment styles form in individuals addressing two specific dimensions: anxiety and avoidance. Anxiety reflects the degree to which people feel concern about being rejected by another in relationships. The avoidance dimension reflects the extent to which people pursue or eschew interdependence.

Individuals who display low anxiety and low avoidance in relationships are referred to as having a secure attachment style (e.g., Kane et al., 2007). People who do not demonstrate a secure attachment style display either high anxiety (i.e., preoccupied attachment style), high avoidance (i.e., dismissing attachment style) or both (i.e., fearful attachment style) in relationships. A number of studies indicate that people who have a secure attachment style should be more satisfied in close relationships than those who do not (e.g., Bello, Brandau-Brown, & Ragsdale, 2008; Feeney, 1999; Kane et al., 2007; Yum & Li, 2007). It is anticipated that people who self report that they have a secure attachment style will report higher levels of satisfaction in close relationships than those who do not.

Because the effects of attachment style are firmly rooted in established theory and because this theory shares elements in common with astrology (i.e., both make relatively stable and long lasting predictions about personality and behavior), these effects are viewed as an excellent contrast for the purposes of this study. Given the small effect sizes that have been produced in past research supportive of astrology, it is predicted that attachment style will lead to a stronger overall effect on relational satisfaction than astrological compatibility will. Thus, the following hypothesis is proposed:

Hypothesis 5: The effect of attachment style on relational satisfaction will be stronger than the effect of astrological compatibility on relational satisfaction.

Method

Participants

556 married individuals were recruited to participate in this study. Approximately 55% of participants were male and 45% were female. The average age of participants was $M = 39.36$, $SD = 13.73$, range: 18 to 75.

Procedures

Individuals were recruited by students in undergraduate communication courses to fill out an on-line survey. They reported basic demographic information about themselves (age, sex) and answered a series of items regarding their attitudes and their satisfaction in their marriage. After completing the bulk of the questionnaire, participants were asked information pertaining to their
own and their spouses' zodiac sign. Information about participants' specific sun sign was kept until the end of the questionnaire to help avoid biasing responses.

Measures

Astrological compatibility. Each participant was asked to record their own and their spouses' date of birth. This was used to identify the sun sign for participants and their partners. Astrological compatibility was then calculated using predictions derived from two sources: www.astrology.com and Sachs (1999).

Because Sachs (1999) is the only source that has previously reported significant effects for astrological compatibility and relational satisfaction (i.e., decision to marry), it was considered an important source. It should be noted that Sachs (1999) is not an astrology text but rather a series of statistical tests looking for differences based on sun sign. Sachs argued that astrology would lead to an expectation that zodiac signs assigned to the same element would be most compatible (e.g., Earth: Capricorn, Virgo, Taurus; Water: Cancer, Scorpio, Pisces; Fire: Aries, Leo, Sagittarius; Air: Aquarius, Gemini, Libra). Furthermore, it is argued that when zodiac signs are arrayed in a circle with Earth as its center the signs at 90 and 180 degrees opposing a sign will produce the poorest matches. This leads to three groupings in which all non-identical pairings are viewed as poor pairings (i.e., Aries/Cancer/Libra/Capricorn; Taurus/Leo/Scorpio/Aquarius; and Gemini/Virgo/Sagittarius/Pisces). A score of one would be assigned to all favorable pairings and a score of negative one would be assigned to all unfavorable pairings. All other pairings would be assigned a score of zero.

Not all astrological predictions are identical. There is logic in testing multiple sources in a test of the validity of astrology (Silverman, 1971). Because the Barnum effect was proposed as a possible explanation for the effects of astrological compatibility, a source that provided specific astrological predictions about relationships and that was readily available to all participants was deemed desirable. Astrology.com was selected because: (1) it provides a clear delineation of astrological compatibility by sun sign pairing (see table 1); and (2) it was the top result returned in a Google search making it a likely possible source for people seeking this information. As all participants entered their results on-line, it was assured that all had access to the internet and therefore potentially could have reached this cite. The predictions of Astrology.com share elements in common with those of Sachs (1999) but are different enough to provide a comparative test. The overall correlation in our sample between the predictions based on Sachs and those based on Astrology.com can be found in table 2.

Overall, for astrology.com 155 pairings were coded as unfavorable, 146 were coded as moderate, and 211 were coded as favorable. For Sachs (1999), 132 pairings were coded as unfavorable, 295 were coded as moderate, and 129 were coded as favorable.

Marital satisfaction. Marital satisfaction was measured using a six item measure, scaled from 1 to 7, derived from La France (2009). The six items (I am satisfied with my relationship; My relationship makes me happy; My partner is not very good to me (reverse coded); I'm enjoying my relationship; I am dissatisfied with my current partner (reverse coded); I couldn't be happier in my relationship with my partner) were reliable, \( \alpha = .92, M = 5.94, SD = 1.36 \). Higher scores indicated greater satisfaction with the relationship.

Zodiac belief. In order to test the Barnum effect, belief in astrology was examined. A six item measure, scaled from 1 to 7, was used to measure belief in astrology. The six items (My horoscope has accurately predicted events in my life; A horoscope can provide some useful information; I believe my fate may be predicted by the stars; My horoscope influences how I
make decisions; People underestimate how useful their horoscope can be; A person’s horoscope is unrelated to what happens to them(reverse coded)) were reliable, \( \alpha = .82, M = 2.48, SD = 1.20. \)

**Zodiac use.** As another measure related to the Barnum effect, self reported use of astrology was examined. A six item measure, scaled from 1 to 7, was used to measure use of astrology. The six items (I never read my horoscope (reverse coded); I seek out my horoscope when I get the chance; I enjoy the daily horoscopes provided in newspapers, on-line, etc….; I look for my horoscope on a consistent basis; I read my horoscope at least once a week; I regularly check my horoscope) were reliable, \( \alpha = .90, M = 2.79, SD = 1.58. \)

**Zodiac awareness.** Whether or not participants were able to identify their own and their spouses’ sun sign was examined. To be able to rely on past predictions about relational pairings, a person would minimally need to know their own and their partners sun signs. Participants were asked both the date of birth of themselves and their partners and also their own and their partners’ zodiac sign. These were compared to determine awareness of zodiac sign. Overall, 250 participants correctly identified their own and their partners zodiac sign. 306 participants inaccurately identified either their own or their partner’s sign.

**Seasonal matching.** It was proposed that if the results found by Sachs (1999) could be explained if individuals matched with partners based on season of birth. We examined seasonal matching by using the reported birthdates provided by participants for themselves and their spouses. Pairings were then assigned a 1 if they shared the season of birth (i.e., summer, winter, fall, spring) and a 0 if they differed in the season of their birth. 118 pairings were identified as sharing the season of birth. 397 pairing were identified as differing in season of birth.

**Attachment style.** Participants filled out Bartholomew and Horowitz’s (1991) self-selection measure of attachment styles. This measure requires participants to identify which of four paragraphs best describes their own relational style. Past research has found this classification system effectively distinguishes avoidance and anxiety in relationships (e.g., Guerrero & Bachman, 2006). Overall, 260 participants identified themselves as having a secure attachment style. 86 identified their attachment style as fearful; 40 identified their attachment style as preoccupied, and 94 identified their attachment style as dismissive. All secure attachments were coded 1 and all non-secure attachments were coded 0.

**Results**

**Astrological Belief**

Self reported marital satisfaction was regressed onto two measures of zodiac compatibility, a dummy code reflecting endorsement of a secure attachment style, season of birth compatibility, a dummy code reflecting awareness of both self and partner zodiac sign, self reported belief in astrology, and self reported use of astrology as well as all two-way interactions. Overall, the regression produced a significant effect, \( R = .34, p < .05. \) Significant partial correlation effects emerged for zodiac compatibility as generated using astrology.com, \( \beta = .36, p < .05, \) but not as generated using Sachs (1999), \( \beta < .01, p > .05. \) Significant effects also emerged for awareness of zodiac signs, \( \beta = -.28, p < .05, \) for zodiac belief, \( \beta = -.54, p < .05 \) and for the seasonal compatibility, \( \beta = -.29, p < .05. \) Endorsement of a secure attachment style was not a significant predictor of marital satisfaction, \( \beta = .06, p > .05, \) although the effect was in the predicted direction. The interaction between zodiac compatibility based on Sachs (1999) and awareness of zodiac signs was significant, \( \beta = .17, p > .05. \) No other interactions were significant. It is worth noting that the pattern of significant findings pertaining to astrological compatibility does not change if regressions run using Sachs or astrology.com predictions independently of each other.
Hypotheses 1 is supported by the data if we use the predictions based on astrology.com. Astrological compatibility predicts satisfaction in married couples. However, the hypothesis is not supported if the test is based on Sachs (1999).

Hypothesis 2 is not supported. Using measures of belief and use of astrology, no significant interactions emerge with either measure of astrological compatibility.

Hypothesis 3 is supported, if we rely on the Sachs (1999) measure of astrological compatibility. Our results indicate that Sachs was able to predict relational compatibility if the principle focus is on those individuals who could accurately identify their own and their spouses’ zodiac sign. For astrology.com hypothesis 3 is not supported.

Hypothesis 4 is not supported, although the effect of season of birth was significant. Individuals who were born in the same season as their spouse reported less satisfaction than those born in different seasons.

Finally, hypothesis 5 is not supported. The measure of secure attachment produced a $\rho_r = .02$ when regressed on marital satisfaction. The partial correlation for astrological compatibility, when based on astrology.com, was $\rho_r = .11$. Furthermore, as the effect for secure attachment did not significantly differ from $\rho_r = .00$, it is also apparent that secure attachment style did not produce a significantly stronger effect than the findings for astrological compatibility based on Sachs (1999), $\rho_r = .00$.

Discussion

The Case for Astrology

The findings in this study provide some support for astrological compatibility. If one considers the predictions derived from the popularly available astrology.com source, marital satisfaction is significantly predicted by astrological compatibility. Furthermore, the effect for astrological compatibility is not significantly lower than that for predictions based on attachment theory. Attachment theory is a well established theory in personal relationships that has previously provided significant effects for secure versus unsecure attachment styles on relational satisfaction (Yum & Li, 2007). Thus, despite a small effect size, it can be argued that astrological compatibility merits at least some consideration.

In addition, a variety of factors that could moderate the effects of astrological compatibility (i.e., Barnum effect) or that could provide an alternative explanation for the findings (i.e., season of birth) were considered. Astrological compatibility appears to provide an effect that cannot be explained by the Barnum effect, for the predictions based on astrology.com, or matching pairings based on season of birth.

The Case against Astrology

Although a case can be made for astrological compatibility, a case can also be made against it. The predictions for astrological compatibility based on Sachs (1999) were not significant. However, the interaction between astrological compatibility based on Sachs and awareness of one’s own and one’s spouses’ sun sign was significant. This indicates that the Barnum effect did apply in this case. The interaction indicates a significant effect based on the predictions derived from Sachs for those individuals who were able to identify their own and their spouses’ sun signs. This finding indicates that the way that astrology effects relational satisfaction is via self fulfilling prophesies by people with awareness of astrology.

It is interesting that neither self reported use of nor belief in astrology interacted with astrological compatibility. This may reflect the overall low scores individuals tended to report for these measures. For instance, over 90% of participants reported a score of 4 or lower on a seven point scale for belief in astrology. Nevertheless, past research also finds that awareness or
knowledge of astrological predictions appears to be sufficient to moderate the effects of zodiac signs on personality judgements (Hamilton, 1995; Van Rooij, 1999). This implies that very little is required to allow astrology to have an influence even if that impact is moderated. Of course, even if astrological compatibility is limited to those people who are aware of astrological predictions, it should still merit consideration as a factor influencing personal relationships. However, the basis of this effect would be grounded in psychological rather than astrological foundations.

It is interesting to note that belief in astrology was negatively and significantly associated with marital satisfaction. Past research has examined how belief in or use of astrology has been found to be significantly predict to personality traits (e.g., Fitchen & Sunnerton, 1983; Shaughnessy et al., 1990). Thus, it may be that individuals inclined to use astrology are also prone to marital problems. Ironically, if one assumes that astrology does help to effectively predict relational success, this finding indicates that those most likely to benefit from such knowledge (i.e., users of astrology) are also prone to be more dissatisfied.

The Case for Additional Research

The results from this study are far from conclusive. However, the results do point to the potential utility of examining astrological compatibility and / or the Barnum effect in the domain of personal relationships. One advantage in this study over others that have examined astrology is that a variety of factors were considered in addition to astrological compatibility. When effect sizes are very small, as in the case of astrology (Crowe, 1990), having additional variables reduce the total amount of error variance should help provide a clearer picture. To that end, it is worth noting that the variables involved in this study accounted for a relatively small amount of the overall variability in marital satisfaction, $R^2 = .11$. Employing additional factors that predict marital satisfaction may provide a better picture of the role of astrological compatibility on relational satisfaction.

It would also be informative to examine astrological compatibility in other relationships than simply married couples. It is possible that married couples will have had more ample opportunity to adjust to problems arising from astrological incompatibility than those who are dating. Thus, one might find stronger effects for astrological compatibility in couples that have been together for shorter periods of time. It might also be informative to look at astrological compatibility where different individual pairings may be directly compared as in the case of friendships or siblings. Clearly, if astrological compatibility is a valid source of relational satisfaction it has broad reaching implications.

Overall, I remain skeptical regarding whether or not astrology can successfully predict relational success. Clearly, some evidence from this study supports the concept of astrological compatibility as does the success of my own marriage (i.e., we predicted to be successful by both astrology.com and Sachs, 1999). However, the results from this study are somewhat ambiguous and clearly call for additional testing. Many would maintain that my skepticism is a very natural offshoot of being a social scientist. Others may be more likely to contend that my skepticism is a very natural consequence of being a Capricorn. Further research may be needed to address this question as well.
References


