

# Laboratory exercises for psychology courses : scientific study of horoscopes\*

by Betty Sunerton and Catherine S. Fichten  
Dawson College

This article describes three studies suitable for use as classroom lab exercises in psychology classes dealing with the following topics: research methods, correlation, expectancy effects, personality measurement, and astrology. An appendix, available from the authors, contains all necessary materials and forms (except for the daily newspaper horoscope forecasts needed for Study 3), optional statistical tests, and reprints of our research findings on this topic.

The lab exercises are designed to illustrate the use of the scientific method in answering questions about everyday events; they provide answers to the following questions:

## STUDY 1

A. What is the validity (perceived accuracy) of astrologically-based personality descriptions?

B. Do expectancy effects influence judgments of the accuracy of astrologically-based personality descriptions?

## STUDY 2

A. Are there sex differences in horoscope reading habits and in belief in astrology?

B. Is the personality dimension "locus of control" related to horoscope reading and belief in astrology?

## STUDY 3

A. What is the validity (perceived

usefulness) of daily horoscope forecasts?

B. Do expectancy effects influence judgments of the usefulness of daily horoscope forecasts?

## METHOD

One, two, or all three studies may be done with the same students. If Study 1 is included, it should be done first and before any mention of astrology is made.

For each study, there are two options, A and B. Option A deals with question A, option B with question B. Note that option B is always the more complex and requires that option A be done first.

Before the labs are presented, you may want to ask the class:

- 1) How could one find out if personality descriptions based on "handwriting analysis" are accurate? (Study 1)
- 2) How could one find out whether males and females differ in their horoscope reading habits? (Study 2)
- 3) How could one find out if people with particular types of personality are more likely to read horoscopes than others? (Study 2)
- 4) How could one find out whether horoscopes are useful? (Study 3)

If you want your students to make predictions about mean ratings, correlations, etc. you will probably want to discuss some of the issues raised in the discussion sections of

the studies before proceeding to the analysis of data.

Students can score their own answers and ratings. Means can easily be calculated in class by a few students with calculators. Scattergrams can be plotted on a board. If your students, like our beginning students with no knowledge of statistics, you may want to stop your data analysis there and simply tell your students about statistical tests. If your students are more sophisticated, you may wish to do some statistical analyses. (The formulae for t-test and Pearson r are included in the appendix available from the authors.) For any correlational analysis where students do not report their own data, you can use data of binomial and class section to match up results.

## STUDY 1

### MATERIALS NEEDED

- 1) A copy of the "Personal Descriptions" (in the Appendix available from the authors) for each student. (This is a set of 12 astro-

\* This manual was prepared for and funded by the Institutional Research Committee of Dawson College. Requests for the Appendix should be sent to Betty Sunerton, Dawson College, 535 Viger Street, Montreal, Quebec H2L 2P3.



**Option B**

The above plus

2) A copy of the Rotter Internal/External Locus of Control (I/E) Scale (in Appendix available from the authors), for each student and

3) Rotter Scale administration instructions, scoring master and norms (in Appendix available from the authors).

**PROCEDURE****Option A**

If you want to answer only question A, "Are there sex differences in horoscope reading habits and in belief in astrology?":

1) Have the students fill out the "Horoscope Reading Habits" form.

**Option B**

If you are also dealing with question B, "Is the personality dimension "locus of control" related to horoscope reading and belief in astrology?", do the above and

2) administer the Rotter Scale to all students. Make sure that students understand that they must always choose the statement closest to their views even when they believe neither or both.

**DATA ANALYSIS****Option A**

If you are only dealing with question A:

1) Calculate the average male and female scores on questions 4 and 5 of the "Horoscope Reading Habits" form.

**Option B**

If you are dealing with question B as well, do the following in addition to the above.

2) Explain to your students how to score their Rotter Scale.

3) Have your students hand in (anonymously) a sheet with their Rotter Scale score and their answers to questions 4 and 5 on the "Horoscope Reading Habits" form OR have them hand in their completed and scored Rotter

Scale and their "Horoscope Reading Habits" forms. If you do the latter, use their birthdates to match up data for individual subjects. Plot scattergrams on the board (Rotter and Question 4, Rotter and Question 5, Question 4 and Question 5). If you wish, you may calculate the correlation coefficient (formula is in the appendix available from the authors).

**DISCUSSION TOPICS AND METHODOLOGICAL ISSUES****Option A**

1) Discuss possible interpretations of any sex differences found with regard to horoscope reading habits.

**Option B**

2) Give your students some background on the dimension of locus of control. Discuss its possible relationship to horoscope reading habits.

3) Discuss the meaning and significance of the scattergrams and/or correlation coefficients.

**STUDY 3****MATERIALS NEEDED**

1) Horoscope forecasts from one or two daily newspapers published the day before the day you do the lab. One set must be taken from an out-of-town newspaper which carries a different astrologer from the one(s) in the major paper(s) in your city. (We used the *Toronto Star*.) The second (optional) set should come from the local paper most widely read by your students. (We used the *Montreal Gazette*.) *The forecasts must be re-ordered in a random sequence and specific references to astrological signs deleted.*

2) A copy of the "Horoscope Rating Form" (Table 3) for each student. This provides instructions and the form for rating each forecast on a 10-point scale.)

**PROCEDURE****Option A**

If you want to answer only question A, "What is the validity (perceived usefulness) of daily horoscope forecasts?":

1) read the randomized newspaper horoscope forecasts aloud to your students. It is recommended that each be read twice. As soon as you have finished reading one, have the students rate it (on the "Horoscope Rating Form") as to how useful the information or advice would have been to them the preceding day. (The 10-point scale of usefulness is explained on the form.)

**Option B**

If you are also dealing with question B, "Do expectancy effects influence judgments of the usefulness of daily horoscope forecasts?", do the above and

2) read the horoscope forecasts in the same order to a different group of students but identify the zodiac sign for each forecast just before reading it.

**DATA ANALYSIS****Option A**

1) Identify the signs of the forecasts.

2) Have the students (a) circle the rating of the forecast for their own signs and (b) calculate the mean rating for the other 11.

3) Calculate class means for (a) and (b) above.

**Option B**

4) Compare the two means (a) and (b) above of the class which rated forecasts which were identified by zodiac sign and the means of the class which made the ratings without knowing the zodiac signs. In other words, the Table 4 below should be filled in.

**DISCUSSION TOPICS AND METHODOLOGICAL ISSUES****Option A**

1) Ask your students why only an

TABLE 3

## Horoscope rating form

Rate each forecast on a scale from 1-10 with 1 = useless, 10 = very useful.

## Yesterday : Newspaper A

Forecast No. How useful would this advice/information have been for you yesterday?

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

## Yesterday : Newspaper B

Forecast No. How useful would this advice/information have been for you yesterday?

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

out-of-town paper was used, (or why both out-of-town and local papers were used).

2) Ask why the forecasts were in random order and not identified.

3) Discuss the meaning of the following comparisons :

(a) The difference(s) between class mean ratings of own and other 11 signs (for both newspapers, if two were used).

(b) the differences between ratings of forecasts from the two newspapers.

## Option B

(c) the differences between ratings in the class where the signs were identified and the one where they were not.

## NOTE

1/ The personality descriptions were taken from Naylor, John, **Your 1981 Astrology Guide** (Globe Mini-Mags 713-724). New York: Globe Communications Corp., 1980. Specific references to zodiac signs were deleted. The "Barnum" paragraph was the paragraph described by Snyder C.R., Shenkel, R., & Lowery, C. Acceptance of personality interpretations: The "Barnum effect" and beyond **J. Consult. & Clin. Psychol.**, 1977, **45**, 104-114. This paragraph contains statements with a high base rate of occurrence in the population; data show that people given this description generally believe it to be a good reflection of their own personality.

TABLE 4

Description	MEANS			
	Newspaper A		Newspaper B	
	Own Sign	Average Other 11	Own Sign	Average Other 11
Not identified before rating				
Identified before rating				

## REFERENCES

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