A Reevaluation of Kyosti Tarvainen's Quantitative Research on Marriage Compatibility

David Cochrane

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Introduction

Kyosti Tarvainen is one of the few astrology researchers in the world who conducts rigorous quantitative studies to determine if astrological rules work. In a pioneering study that he conducted in 2011 he analyzed the birth charts of over 20,000 married couples to determine if there are astrological configurations at the time that they were born that are consistent with the rules given by astrologers for determining marriage compatibility.

Kyosti's research confirmed that the rules for determining marriage by modern western astrologers do indeed work. He found statistically significant planetary configurations formed between the charts of the married couples that are described in highly respected astrology books.

Reevaluating and replicating research is critically important to verify that there were no flaws in the research and to determine if the results are confirmed when the data is analyzed with different statistical tests. When I notified Kyosti that I was interested in replicating his research, he enthusiastically supported the idea and he provided me copies of papers that describe the research. A final form of the paper was published in the January/February 2011 issue of *The Astrological Journal*, volume 53, number 1.

A strong motivation for this research was to determine if modern western astrological variables are supported by rigorous quantitative research. The author has been obtaining positive results using the Vibrational Astrology theoretical framework as a basis for research for several decades. Positive results from research that uses ideas based on the modern western theoretical framework would increase the domain of variables that can be used in future research, thereby improving confidence levels and effect sizes.

By critically assessing the research methods employed and reanalyzing the data with different software and different statistical tests we gain new insights and perspectives on what Kyosti discovered in his research. In this research the data is analyzed in ways a bit different from the way the data was analyzed in the original study by Kyosti to help shed some light on what the results of the research are telling us.

Kyosti's Research Findings

Michel and Francoise Gauquelin collected the birth data of over 20,000 married couples and one or more of their children. All of the data was obtained from hospital records and the birth times are recorded in the hospital records. This is an extraordinarily useful database for research! I could not find a description of exactly what the procedure was for obtaining this data, but evidently the husband, wife and children were either born in the same hospital or other hospitals in Paris, France, and the Gauquelins were able to access the birth records. We can guess that the birth data was handwritten from the birth records. The process must have been extremely time consuming. Some manual errors in writing and transcribing the data from what we can guess was in paper form to computer files. Perhaps a more direct procedure of transferring the data from hospital computer files to the research computer files was not possible. It is very unfortunate that documentation on how the data was collected is not readily available. In any case, even if there are some errors in the data, the database is an extremely valuable resource for astrological research. Citing popular books on rules for marriage compatibility, Kyosti developed the models (which we shall refer to as AstroSignatures) for marriage compatibility shown in Table 1.

AstroSignature 1: Sun in the partner's 1st, 5th or 7th house. Among 13 house systems tested, Koch houses produced the best p value with p<.01 and the Equal House System produced the next best p value with p<.02. We shall refer to this AstroSignature as the *House Synastry Index*.
AstroSignature 2: Conjunctions and trines between the Sun, Moon, Mercury, Venus, Jupiter, Ascendant and MC. The orbs for aspects is 7 degrees, except if the Sun or Moon is involved in the aspect in which case the orb is 9 degrees. Kyosti refers to this AstroSignature as the Harmony Index. Evidently the *Harmony Index* is the score on this AstroSignaure and does not include planets in each other's houses.

Table 1. The two AstroSignatures in Kyosti Tarvainen's Compatibility Research.

Kyosti reports that "For the 20,895 Gauquelin families the average harmony index is 6.865. The corresponding average value for control families is 6.828: there is an excess of 0.54% in the data. Simulations with randomly generated data sets showed that there is only a 2% probability that this or greater excess is due to pure chance, and (since the percentage is less than 5%) it is said that the parents have in a statistically significant way harmonious interaspects of conjunctions and trines between SO, MO, ME, VE, JU, AS and MC."

The Reevaluation of Kyosti's Research

In both Kyosti's original research and in this reevaluation study the marriage data was downloaded from the Cura website at http://cura.free.fr/gauq/17archg.html. The downloading and importing of the data was done by each researcher independently. Some slight differences can arise from differences somewhere in the process from downloading, importing and calculating the charts. In fact, Kyosti reports data for 20,895 and in my research that are data for 20,916 couples. There were 21 cases of birth data that were removed in Kyosti's research because the age of one of the couples was 13 years or less at the time of having a child (personal communication from Kyosti), which is suspicious and suggests that there was an error in transcribing the data from the hospital records to handwritten notes and then to a computer file, which is likely the process that was involved. Removing 13 cases from 20,912 cases is expected to have a negligible effect. Nevertheless, cleaning data is an important first step in any research. I learned of this step taken to clean the data after conducting this research project, and I did not go back and remove this data from my data collection and replicate the study because it would be a very time-consuming process, and the effect from removing this data would undoubtedly be negligible because it is a very small percent, 1/10 of 1% or about .001, of the data.

The original research conducted by Kyosti was conducted using the Mathematica software, and this replication study was conducted using the Sirius astrology software and the R statistical software. We expect these differences in software to make a negligible difference because the t-test that is used to analyze the data is well-defined and invariably implemented properly in any major software.

This replication result confirms the statistical analysis conducted by Kyosti. There are 2 major differences and 1 minor difference between the methods used by Kyosti to analyze the data and the way that the data was analyzed in this study. These differences are:

1. The method of creating control groups.
2. The statistical test used.
3. The removing of 21 couples with suspect data in Kyosti's research.

As mentioned earlier, item #3, the removal of 21 couples, about .001 of the data could not possibly have a dramatic effect on the statistical results, but the other 2 factors do have an effect.

In the current study the control group was created in a very fast and efficient manner, but arguably slightly less rigorous than the more elaborate method used by Kyosti. In both studies a shuffled control group is made. In a shuffled control group, the husband-wife couples are exchanged with other couples. For example, suppose there are 4 married couples as follows:

Albert and Alice
Bob and Barbara
Charles and Carol
Daniel and Donna

In the shuffled control group in this study, the married couples are:

Albert and Barbara
Bob and Alice
Charles and Donna
Daniel and Carol

In the replication study the 20,916 birth charts are sorted by the birth date of the husband, and then the first two couples exchange spouses, the next 2 couples exchange spouses, etc. For example, if the 4 couples listed above are listed by chronological age of the husband from oldest to youngest (in addition to being in alphabetical order), then the shuffled control group couples would be as shown above.

This procedure ensures that the spouses have a similar age difference as in the actual marriage partners, so consequently the control group has a very similar distribution of astrological variables as the original group. This very conservative control group gives us very high confidence that any differences found between the experimental group and control group are real differences and are not spurious.

In Kyosti Tarvainen's research a similar procedure was used of shuffling spouse birth data with a partner of a similar age. In Kyosti's study, however, multiple control groups are created. The p-value produced by the comparison of each control group to the actual married couples varies. As more control groups are added, the p-value stabilizes and the control group is this large group of couples.

A likely source of even greater differences in the statistical results from Kyosti's original research and this replication study is the way in which the p value is calculated. In this replication study that t-value is calculated with a t-test, which is undoubtedly the most common statistical test that is run for an experimental group and control group with values that are continuous. Kyosti's research uses a more elaborate way to create the control group by identifying at what percentile rank the mean of the experimental group falls within the range of scores of the control group.

A t-test includes a consideration of the standard deviation of the group, and the standard deviation is calculated by summing up squared differences from the mean, while the straight

percentile method used by Kyosti is the percentile rank of the experimental group within the control group scores and does not include in the calculation the standard deviation. Kyosti's method does not rely on the assumption that the data conforms to a normal distribution.

A t-test assumes a normal distribution, but is very robust when the sample size is large. In other words, the t-test works well with large samples that do not have a normal distribution even though the t-test is developed with the assumption that the data is normally distributed. Actually, it is the sampled mean across many samplings of the data that needs to be normally distributed and this is the case even when the data is not normally distributed.

"These tests (t-tests, etc.) are said to be appropriate only when the outcome (dependent) variable is normally distributed. In fact, this assumption is critical for small samples but is irrelevant above a certain sample size. Linear models make inferences about means; as long as the means are normally distributed, the inferences will be valid. Fortunately, means tend to follow a normal distribution even when the variable itself does not. This concept, called the Central Limit Theorem, is illustrated in Figure 4: even when the underlying trait follows a highly skewed distribution, the means approach a bell curve as the sample size increases. What is "sufficiently large" will vary from problem to problem; but researchers estimate that, even with extreme deviations from normality, a sample size of approximately 80 is usually enough to run a t-test [1]; and much smaller sample sizes will suffice if the deviations from normality are more modest." (Dealing With Non-normal Data by Kristin L. Sainani, PhD. *https://onlinelibrary.wiley.com/doi/pdf/10.1016/j.pmrj.2012.10.013)*

"As the sample size increases, that sampling distribution converges on the normal distribution, regardless of population shape." Several examples of normally distributed means generated from non-normal distribution of the variable are given to show how statistical tests that assume a normal distribution work well with data that is not in a normal distribution. The point is also made that no data n the real world fits a normal distribution perfectly. Statistical tests are used to estimate values. In the examples shown in the PowerPoint slides that can be downloaded from this website page the examples show that in most cases even with sample sizes of only a few dozen cases a p-value of .05 produced by a statistical test is likely to be estimating an actual p-value between .04 and .06, so it is very close to the actual p-value. (Silly or Pointless Things People Do When Analyzing Data: 1. Testing for Normality as a Precursor to a t-test By Bruce Weaver. *https://www.researchgate.net/publication/299497976_Silly_or_Pointless_Things_People_Do_When_Analyzing_Data_1_Testing_for_Normality_as_a_Precursor_to_a_t-test)*

Table 2 summarizes the results of the statistical tests conducted in the original study by Kyosti and in this reevaluation study. The last row in this table is the results of the replication of Kosti's AstroSignature. The other rows provide information on variations of the formula. The distribution-free percentile ranking method used by Kyosti is comparable to a 1-tailed t-test rather than a 2-tailed t-test so the p-values in Table 1 for this reevaluation study show 1-tail p-values. The results confirm the findings of the original study. In the original study the finding of

p<.02 and in the current study the finding of p<.06 are in a reasonable range of what we would expect given the significant difference that using a percentile ranking versus a t-test is likely to produce and what is likely to be a smaller effect from the different methods for creating the control group. We did not confirm what the exact cause of the discrepancy in the p-values is, but the results are as expected. Also, this reevaluation study obtained slightly higher Effect Sizes than in the original study, as measured by the ratio of the means of the experimental group and the control group. In the original study this ratio was 0.0054 and in the current study it is 0.0058. The more elaborate method for creating the control group and the percentile method for calculating the p-value most likely increase the power of the statistical test, i.e., the ability of the statistical test to detect the difference in the scores between the two groups. Thus, the current study confirms the statistical results of the original study, and it also suggests that the simpler method for creating the control group and the simpler t-test for determining the p-value results in a slight loss of power but not so great a loss of power that future researchers should avoid using the computationally less expensive way to create the control group and determine the p-value.

Re-sear-cher	Aspects, Houses or Both	1-tailed p-value	Means and Percent Increase	Cohen's D	t-value (Welch's t-test)	SD (Each group and Pooled)
KT	Koch Houses	.01				
KT	Equal Houses	.02				
KT	Aspects and Koch houses	.01	6.865, 6.828 0.54%			
DC	Equal Houses Only (no aspects)	.32	5.09, 5.02 0.0101	0.005	0.47	6.02 6.03 6.02
DC	Aspects only, varying strength aspects (50 pts for each aspect)	.10	303.21, 301.49 0.0057	0.012	1.26	140.52 138.67 139.60
DC	Aspects & Koch houses, varying strength aspects (50 pts for each aspect and house placement)	.09	327.26, 325.40 0.0057	0.013	1.32	144.73 142.88 143.81

DC	Aspects only, constant strength (50 points for each aspect)	.06	606.18, 602.67 0.0058	0.015	1.53	236.79 234.16 235.48
DC	Aspects & Koch houses, constant strength for aspects (50 points for aspects and houses)	.06 (1-tail Mann-Whitney = .12)	630.23, 626.58 0.0058	0.015	1.56	240.11 237.40 238.76

Table 2. Results from the research studies. “KT” indicates Kyosti Tarvainen’s original study and “DC” indicates this replication study by David Cochrane.

The R script used to calculate Welch’s t-test Cohen’s D and other values is shown in Table 3. There are some additional lines in the R Script for determining the extent to which the data deviates from a normal distribution, but these results are not reported in this paper because they do not significantly impact the results of the study. These lines of the R script are included for researchers who wish to explore these additional details.

```
iinstall.packages('stringr')
install.packages('lsr')
install.packages('stats')

# CHANGE THE FOLLOWING LINE TO WHERE THE FILES ARE:
setwd('c:/util/articles')
library(stringr)
library(lsr)

# ***** RUN ONLY THE 2 CONSECUTIVE LINES DESIRED: *****
# Kyosti's Full Formula with Variable Strength Aspects:
FileNameExpG = 'Kyosti_Final_Full_VarS_ExpG.TXT'
FileNameCtlG = 'Kyosti_Final_Full_VarS_CtlG.TXT'

# Kyosti's Full Formula with maximum Strength Aspects;
# ***** THESE ARE THE FILES TO USE TO REPLICATE KYOSTI'S RESULTS *****
FileNameExpG = 'Kyosti_Final_Full_MaxS_ExpG.TXT'
FileNameCtlG = 'Kyosti_Final_Full_MaxS_CtlG.TXT'

# Run only one of the control groups below.
# Control groups not swapped to see range of p-values:

FileNameCtlG = 'Kyosti_Final_Full_MaxS_CG1NoSwa.TXT'
FileNameCtlG = 'Kyosti_Final_Full_MaxS_CG2NoSwa.TXT'
FileNameCtlG = 'Kyosti_Final_Full_MaxS_CG3NoSwa.TXT'
```

```
FileNameCtlG = 'Kyosti_Final_Full_MaxS_CG4NoSwa.TXT'
FileNameCtlG = 'Kyosti_Final_Full_MaxS_CG5NoSwa.TXT'
FileNameCtlG = 'Kyosti_Final_Full_MaxS_CG6NoSwa.TXT'
FileNameCtlG = 'Kyosti_Final_Full_MaxS_CG7NoSwa.TXT'

# Kyosti's Aspects Only Formula with Variable Strength Aspects:
FileNameExpG = 'Kyosti_Final_AspectsOnly_VarS_ExpG.TXT'
FileNameCtlG = 'Kyosti_Final_AspectsOnly_VarS_CtlG.TXT'

# Kyosti's Aspects Only Formula with Variable Strength Aspects:
FileNameExpG = 'Kyosti_Final_AspectsOnly_MaxS_ExpG.TXT'
FileNameCtlG = 'Kyosti_Final_AspectsOnly_MaxS_CtlG.TXT'

#Kyosti's Houses Only, Equal House System
FileNameExpG = 'Kyosti_Final_HouseEqHou_ExpG.txt'
FileNameCtlG = 'Kyosti_Final_HouseEqHou_CtlG.txt'

# ***** RUN ALL LINES BELOW *****

dataExpGrp <- read.csv(FileNameExpG)
x=dim(dataExpGrp)
dates = word(trimws(dataExpGrp[1:x[1],1]),start=1,end=1,sep=fixed(" "))
datevalEG = as.numeric(dates)

dataCtlGrp <- read.csv(FileNameCtlG)
x=dim(dataCtlGrp)
dates = word(trimws(dataCtlGrp[1:x[1],1]),start=1,end=1,sep=fixed(" "))
datevalCG = as.numeric(dates)

testval <- t.test(datevalEG,datevalCG)
testval
cohensD(datevalEG,datevalCG)
wilcox.test(datevalEG,datevalCG) # note: although "wilcox" this is Mann-Whitney

# ***** LINES BELOW FOR SEEING IF DATA DISTRIBUTION IS NORMAL: *****
hist(datevalEG, breaks=21, xlim=c(0,1200))
hist(datevalCG, breaks=21, xlim=c(0,1200))
qqnorm(datevalEG)
qqline(datevalEG)
qqnorm(datevalCG)
qqline(datevalCG)

random_dist <- rnorm(length(datevalEG), mean = mean(datevalEG), sd =
length(datevalEG))

ks.test(datevalEG,random_dist)
```

Table 3. The R Script used to produce t-test results and Cohen's D.

To provide additional documentation on the procedure conducted for this replication study, the details of the AstroSignature created in the Sirius software are given in Table 4. These details enable future researchers to replicate this study and build upon the findings. Note that whether the strength of the aspect is constant for all aspects or whether it varies according to the orb is not indicated in Table 4. This is a setting in the Sirius software that affects the entire table, and the analyses were conducted with both the setting for constant strength for an aspect regardless of the orb and with the setting for proportional strength. With constant strength an aspect given 10 points receives 10 points regardless of the orb. With varying orb, the aspect would receive, for example, 7.5 points if the orb was 25% of the maximum allowable orb. Another separate setting that applies to the entire AstroSignature is the house system used for house placements, so it also does not appear in Table 4, and, similar to the setting for whether the aspect strength is constant or varying, it is set by selecting an option in the software to select the house system that is used.

The Harmony Index AstroSignature can be summarized as a conjunct or trine between any of the following planets: Sun, Moo, Mer, Ven, Jup, Asc or MC. If the Sun and Moon are involved, the orb is 9 degrees Otherwise the orb is 7 degrees. Simple errors can be made when specifying each aspect included in the Harmony Index, so in Table 4 we list the items in the Harmony Index in more detail to prevent errors in future studies that researchers may undertake.

Part 1: A's planets conjunct B's planets (49 Items):
A's Sun conjunct B's Sun, Moo, Mer, Ven, Jup, Asc or MC with a 9° orb (7 items)
A's Moo conjunct B's Sun, Moo, Mer, Ven, Jup, Asc or MC with a 9° orb (7 items)
A's Mer conjunct B's Sun or Moo with a 9° orb (2 items)
A's Mer conjunct B's Mer, Ven, Jup, Asc or MC with a 7° orb (5 items)
A's Ven conjunct B's Sun or Moo with a 9° orb (2 items)
A's Ven conjunct B's Mer, Ven, Jup, Asc or MC with a 7° orb (5 items)
A's Jup conjunct B's Sun or Moo with a 9° orb (2 items)
A's Jup conjunct B's Mer, Ven, Jup, Asc or MC with a 7° orb (5 items)
A's Asc conjunct B's Sun or Moo with a 9° orb (2 items)
A's Asc conjunct B's Mer, Ven, Jup, Asc or MC with a 7° orb (5 items)
A's MC conjunct B's Sun or Moo with a 9° orb (2 items)
A's MC conjunct B's Mer, Ven, Jup, Asc or MC with a 7° orb (5 items)

Part 2: B's planets conjunct A's planets (49 Items): Same as above except swap A and B.

Part 3: B's planet trine A's planet (49 items): Same swap A and B, & trine instead of cnj.

Part 4: B's planets conjunct A's planets (42 Items): Same as the above 3 sections of 49 items except remove Sun cnj Sun, Moo cnj Moo, Ven cnj Ven etc. so the aspects are as follows:

B's Sun conjunct A's Moo, Mer, Ven, Jup, Asc or MC with a 9° orb (6 items)
B's Moo conjunct A's Sun, Mer, Ven, Jup, Asc or MC with a 9° orb (7 items)
B's Mer conjunct A's Sun or Moo with a 9° orb (2 items)
B's Mer conjunct A's Ven, Jup, Asc or MC with a 7° orb (4 items)
B's Ven conjunct A's Sun or Moo with a 9° orb (2 items)
B's Ven conjunct A's Mer, Jup, Asc or MC with a 7° orb (4 items)
B's Jup conjunct A's Sun or Moo with a 9° orb (2 items)
B's Jup conjunct A's Mer, Ven, Asc or MC with a 7° orb (4 items)
B's Asc conjunct A's Sun or Moo with a 9° orb (2 items)
B's Asc conjunct A's Mer, Ven, Jup or MC with a 7° orb (4 items)
B's MC conjunct A's Sun or Moo with a 9° orb (2 items)
B's MC conjunct A's Mer, Ven, Jup or Asc with a 7° orb (4 items)

Table 4. The 189 items in the Harmony Index. The items are divided into 4 parts which are similar to each other. Same planet-to-same-planet, such as Sun cnj Sun, are removd from Part 4 because they are already included in Part 1.

The House Synastry Index is much shorter than the Harmony Index. The House Synastry Index consists of just 6 items: A's Sun in B's houses 1, 5 or 7 and B's Sun A's houses 1, 5 or 7.

Discussion and Conclusions

Kyosti Tarvainen's research of over 20,000 married couples who have recorded birth times is an extremely important pioneering first step in assessing whether rules for astrological compatibility work. The astrological community has been extremely lax in taking steps to verify whether astrological rules actually work. Initial research projects in any field are a starting point for other researchers to work from and to develop well-supported useful ideas. Kyosti's research was published 10 years ago and after a decade a follow-up study has finally been conducted.

Two conclusions from this reevaluation study are: **(1)** There is no support for zodiac signs. Research that I conducted independently on the Gauquelin data agrees with this conclusion

from Kyosti's study that zodiac sign compatibility could not be confirmed. **(2)** Future researchers can look at Sun in the first, fifth and 7th houses of the spouse and at conjunctions and trines between Sun, Moo, Ven, Jup, Asc and MC to see if there is a slight tendency for these planetary configurations to be confirmed. The indications that these planetary configurations from Kyosti's research are very weak to negligible, but perhaps they will be confirmed in future research.

Kyosti's research study is exploratory research, and not confirmatory research. In confirmatory research, the researcher states a specific hypothesis before any of the data is analyzed. A cutoff point of $p<.05$ can be used in a strict hypothesis test. In exploratory research the researcher explores various possibilities to see if a good model can be built. Exploratory research is for the purpose of building a model. Confirmatory research is for the purpose of testing a model. Because many possibilities are considered in exploratory research, it is advisable to have a higher bar for p-values. In my astrological research I require a p-value of around $p<.001$ to consider the planetary configuration potentially important. There are other requirements in addition to this cutoff value, as described below.

Although the statistical analysis conducted by Kyosti is sound, this research is primarily of an exploratory nature and not of a confirmatory nature. Exploratory research builds a model rather than tests a model. Kyosti found that he could not confirm compatibility based on zodiac signs so he left them out of his formula. He found that conjunctions and trines work but he did not include sextiles, which modern western astrologers regard as being similar to trines but weaker in strength, so sextiles could be added and given a lower weight than conjunctions and trines in future studies. Only the Sun is included in Kyosti's house synastry formula because only the Sun was found to have an effect. These decisions are reasonable in exploratory research. A cutoff point of $p<.05$ or $p<.01$ is appropriate in a strict hypothesis test where the researcher specifies before analyzing the data precisely what is expected. In exploratory research where one analyzes several possible important independent variables, a much higher p-value is needed to give optimism that one may have identified an important variable that can be confirmed in future research. My colleagues and I have conducted numerous exploratory research studies in astrology and we set the cutoff p-value in these studies at around $p<.001$ in 2-tailed t-tests. A p-value of $p<.001$ in a 2-tailed test is equivalent to $p<.0005$ in a 1-tailed test. A t-test has lower power to detect differences as compared to the comparative rank scoring method used by Kyosti. A rough estimate is the p-value of $p<.001$ is roughly equivalent to a p-value of $p<.0001$ in the one-sided test with higher power than the standard t-test or ANOVA used in my research. The obtained p-value of $p<.02$ is at last 20 times weaker than the criteria that I use in my research and perhaps more than 100 times weaker. Thus, Kyosti's research is able to detect minute differences between the experimental group and control group. This is similar to a measurement of the height between people that is 1/10 of an inch, which is so small as to be meaningless even though it is measurable. T-test and other tests have lower power so cannot detect minute differences like this. The very high power and very large sample size combined with $p<.02$ results produce an Effect Size which is so small as to be completely meaningless for astrology practitioners even in the extremely unlikely case that a significant difference was

found. Thus, the p-value of p<.02 is not compelling in the context of the exploratory research study that Kyosti conducted and the statistical analysis performed. Nevertheless, researchers can investigate the planetary configurations in Kyosti's AstroSignature in future research to see if these astrological can be confirmed.

Using the stricter criterion of p<.001 for research of this nature Gisele Terry and I were able to develop an AstroSignature for bipolar disorder that was confirmed in a later study which was a strict hypothesis test! ("The Astrology of Bipolar Disorder: A Scientific Breakthrough" by David Cochrane published in 2022 is available from booksellers internationally including amazon.com) Confirmation of an astrological model in a strict hypothesis has almost never been achieved in astrology. This breakthrough discovery would not have been possible if a p-value in the range of p<.01 was used in the exploratory research.

Also, in this reevaluation study a variation of the AstroSignature was created in which the strength of the aspect varies depending on the orb. Modern western astrologers state that the smaller the orb of the aspect, the stronger it is. However, when the strength of the orb is included in the AstroSignature, the p-value becomes less significant, i.e., the p-value is higher and the t-value is lower. This result contradicts theory.

The very low value of Cohen's D of .01 to .02, as shown in Table 2 also confirms any association between selection of marriage partners in this database and rules for romantic and marital harmony tested in Kyosti's study are extremely weak at best and more likely are non-existent. The proportion of the means in the range of .0054 to .0058 also confirms that the Effect Size is almost trivial. That (1) the Effect Size is almost trivial, (2) that the p-value of p<.02 in research with an exploratory element is not compelling, (3) that the findings in the reevaluation study are not consistent with the idea that aspects with smaller orbs are stronger, and (4) that the choice of the planetary configurations, such as only Sun in the other person's houses, and not including sextile and oppositions are somewhat arbitrary combine together to give us very little confidence that there is an actual relationship between these planetary configurations are actually more common in these married couples than in people who are not married.

The marriages took place in Paris, France in the early 20th century. Marriages at the time involved a formal process of the man first visiting the home of the wife and meeting with the parents and then meeting with other family members and then gradually the couple are able to see each other without being accompanied by other people. The motivations for marriage and the process involved may be different from today. Perhaps much more importantly, perhaps the ability of people to select a compatible marriage partner is not very good in the sense that the astrological compatibility factors are not in effect. The astrological compatibility may, in fact, be accurate but the people were not good at picking a good marriage partner.

The conclusion is very clearly and unambiguously that any support for the conjecture that the rules for astrological compatibility tested provide useful and reliable information is extremely weak at best and more likely does not exist.