Analysis on Skeptical Analysis

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Summary

This paper follows the analysis of a CSI & Skeptical Inquirer member on the Grandmasters and Sports studies. Each of the arguments raised by this analyst is reviewed and clarified by the author of these researches.

Introduction

First of all, I would like to thank the CSI member who spent some personal time to evaluate and give his opinion on the relevance of the studies. However, I think it is important to clarify some elements that were not taken into account in his analysis.

This article takes up each of the arguments that underestimate the actual value of the data and proposes new tables that confirm the robustness of results.

Some Clarifications

Huge sample sizes will inflate the most trivial differences to impressive statistical significance.

This is not the case in this study. As example, this table shows how **Nbs** numbers are scaled down in order to calculate p value = .0023 in the most conservative manner.

Conjunctions	*Mercury*	***Nbs***
Yes	92	4,173
No	193	12,846
Total	285	17,019
Scaled down **Nbs**	(4,173*285) / 17,019 = 69.881015	(12,846*285) / 17,019 = 215.11898

Therefore, this argument cannot be invoked in the CSI analysis.

The observed monthly distribution of births varies between countries, between periods, and even between different ethnic groups in the same country.

These factors have no significance in this study. The control groups data are based on RAE facts caused by the introduction of a cut-off date into sport drafts:

http://www.slate.com/articles/sports/sports_nut/2008/04/the_boys_of_late_summer.html

Therefore, at least in this sports study, this argument cannot be invoked in the CSI analysis.

The occurrence of conjunctions is non-uniform due to planetary retrograde...

This is why studies provide a breakdown per period into Section 3**.** Percentages displayed for most periods confirm the resilience of conjunctions regardless the apparent motion of planets.

Therefore, this argument cannot be invoked in the CSI analysis.

An associated pitfall that Gauquelin occasionally (and inadvertently) did not avoid was to calculate chi-squared values using a control group for the expected values instead of the theoretical values.

Each of many randomized control groups will compute slightly different percentages (see **Grandmasters** and **Sports** annexes) that should not be exceeded by theoretical values. Such theoretical control group would not attenuate conclusions of the researches.

Therefore, this argument cannot be invoked in the CSI analysis.

One standard way to overcome this problem, and also the problem of mistaking statistical significance for practical significance, is to look at the actual association between results in a 2 x 2 contingency table.

This third argument refers to the Phi coefficient (ϕ) formula, used to evaluate the practical significance of a statistical result. Following examples explain how such formula can distort results of a statistical study:

The first table shows a coefficient of zero (ϕ = 0.0), having both vessels A and B water-filled at 50%. The last table, on the other hand, displays a very high coefficient (ϕ = 0.8). Not surprisingly, it is easy to see that connected vessels A and B are water-filled in *inverse proportion*.

ϕ = 0.0	**A**	**B**
Water	5	5
Air	5	5
Volume	10	10

ϕ = 0.4	**A**	**B**
Water	7	3
Air	3	7
Volume	10	10

ϕ = 0.8	**A**	**B**
Water	9	1
Air	1	9
Volume	10	10

In my astrological studies, the ϕ coefficient will always be low, since it is impossible for the comparative data to evolve in *inverse proportion*.

As another example, in the first table, container A contains 90% apples, while container B contains 10% apples (ϕ = 0.8). Despite the huge difference in %, it is possible to almost nullify the ϕ coefficient (ϕ = 0.03) by simply inflating the values in column B!

ϕ = 0.8	**A**	**B**
Apples	9	1
Oranges	1	9
Total	10	10

ϕ = 0.08	**A**	**B**
Apples	9	1,000
Oranges	1	9,000
Total	10	10,000

ϕ = 0.03	**A**	**B**
Apples	9	10,000
Oranges	1	90,000
Total	10	100,000

Thus, in the same way, rather than comparing only the astrological conjunctions identified, it is possible to dilute the ϕ coefficient by injecting the complete data files into calculations.

Indeed, according to astrology they could now be denied being a grandmaster or team player, while ordinary people who happened to have one could claim automatic status.

Here is the conclusion of the chess study:

It would be wrong to conclude that the ☌ ☿ ♀ is the primary condition to succeed in chess. It illustrates perhaps rather some dynamic that occurs itself in anyone who enjoys activities involving logic.

Grandmasters Annex

The control group (Table 1) has 56,480 random dates for the period 1880-1990. Date distribution peaks from 11.29% to 5.66%. In the second table, dates are shifted within 300 days.

Control Group

J	F	M	A	M	J	J	A	S	O	N	D
11.29%	9.54%	9.36%	8.28%	7.54%	6.40%	5.66%	6.63%	7.27%	8.46%	9.08%	10.48%

☌ ☿ (±2.0º) with ♀ ☉

GM vs Shifted days	Data	♀	☉
Grandmasters	190	**48.42%**	51.58%
+000 Shift	5,443	37.31%	62.69%
+060 Shift	5,257	37.44%	62.56%
+120 Shift	5,207	38.24%	61.76%
+180 Shift	5,124	38.47%	61.53%
+240 Shift	5,336	37.69%	62.31%
+300 Shift	5,265	38.06%	61.94%

Percentages displayed for the shifted days does not differ significantly.

Sports +6 Years Annex

The control group (Table 1) has 39,886 random dates for the period 1950-1990. Date distribution peaks from 11.58% to 5.83%. In the second table, dates are shifted within 300 days.

Control Group

J	F	M	A	M	J	J	A	S	O	N	D
11.58%	9.78%	10.15%	9.32%	9.14%	8.42%	8.18%	7.77%	7.01%	6.72%	6.10%	5.83%

☌ ♀ (±2.0º) with ☿ ☉ ♂

Sports vs Shifted days	Data	☿	☉	♂
Sports 1950-1990	726	34.99%	30.58%	**34.44%**
+000 Shift	3,782	38.82%	33.69%	27.50%
+060 Shift	3,629	40.37%	33.09%	26.54%
+120 Shift	3,656	39.88%	32.85%	27.27%
+180 Shift	3,625	39.64%	32.74%	27.61%
+240 Shift	3,615	40.66%	33.36%	25.98%
+300 Shift	3,824	39.04%	35.12%	25.84%

Percentages displayed for the shifted days does not differ significantly.