Suicide and Birthtime
by
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Abstract

About 800,000 people around the world (WHO, 2016) commit suicide every year and yet the causes and patterns are still poorly understood. Here, we compare the birth data (date, time and place) of 617 individuals who committed suicide with 1324 individuals who did not. The subjects were born between 1900 and 1985 in different countries of the northern hemisphere. Fifteen astrological hypotheses were tested. Significant differences between the two groups were found in the angular separations between the Sun, Moon, Uranus, Neptune and Pluto and some mean values of the positions of the celestial bodies at the moment of birth.

Introduction

Suicide is commonly an event that generates feelings of incomprehension and perplexity not only in bereaved relatives and friends, i.e. at a purely personal level, but also in professional counsellors. The results of the available cause research on suicide range from mental disorder to a rational conscious decision. Although many theories exist, no single one would appear to be generally applicable (O'Connor & Nock, 2014, p. 1).

Some studies (cf. below) address possible correlations between individuals' birth month on suicide risk. However, no study that considers suicide and astrological factors based on the exact time of birth was found.

Research question

Astrology has no known mechanism to account for the effects of celestial positions on terrestrial events. However, since the absence of a mechanism does not invalidate the observations or statistically significant correlations, we took the liberty to explore the following rather general research question: "Are there any differences in astrological factors of suicides and non-suicides at the moment of birth?" By astrological factors we refer to aspects between the Sun, the Moon and the planets, as well as their positions in signs and houses, as they correspond with claims in the astrological literature.

The data

The data source of the suicide group (SG) is the Lois-Rodden-Data Collection. (Rodden 1979). All individuals with the attribute "Death: Suicide", born between 1900 and 1985 in

places in the northern hemisphere[1] were selected. Only the top ratings of reliability of birth data (AA, A and B) were used in the sample.

Of the 617 subjects with accurate birth data in the suicide sample, 25.8% (159) were women and 74.2% (458) were men. This gender distribution is very similar to that found by the World Health Organisation in the Western world. 72.3% in this sample were born in the US, 13.0% in France, 3.9% in Italy, 3.2% in Germany and 2.1% in the United Kingdom. The remainder is distributed among another 20 countries. The mean of the birth years is 1942.54, SD = 15.21 (Figure 1).

The control group (CG) contains the birth data of n = 1324 known individuals, born in the same period as the sample in the northern hemisphere, who died a non-suicidal death. Birth dates are taken from the so-called VIP file of the astrology software Sarastro, which is largely based on data from the International Horoscope Dictionary[2] (Taeger, 1991).

A comparison of the groups using a t-test shows no significant differences in the subjects' gender, month and time. However, members of the control group were born an average of 7 years earlier and this difference impacts the position of the slow-moving planets in the signs. The birthplaces differ by only 2 degrees in the mean latitude, but the mean longitude shifts 32 degrees to the west.

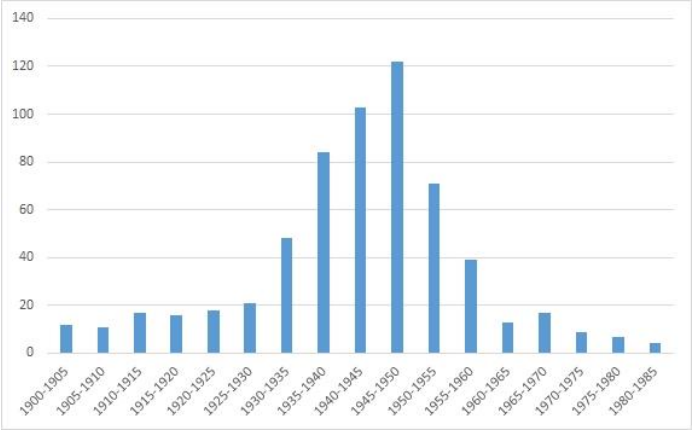

Figure 1. Frequency of suicides over year of birth.

[1] [1]The restriction to the northern hemisphere was made because of the fundamentally different distributions of the Ascendants north and south of the equator.

[2] The celebrities of the control group may or may not have special features in their charts. Anyway, it is certain that they did not commit suicide.

The method

The positions of the planets were calculated in the apparent longitude of the tropical zodiac. The Ptolemaic aspects are used with an orb of 5 degrees. The comparison of distributions was done with the Chi-squared test, that of averages with the t-test. A problem arises with the conventional calculation of averages of circular data (e.g. planetary positions). It can lead to completely absurd results. Figure 2 illustrates the difference between the conventional and the circular calculations[3] of a mean value as used in this study.

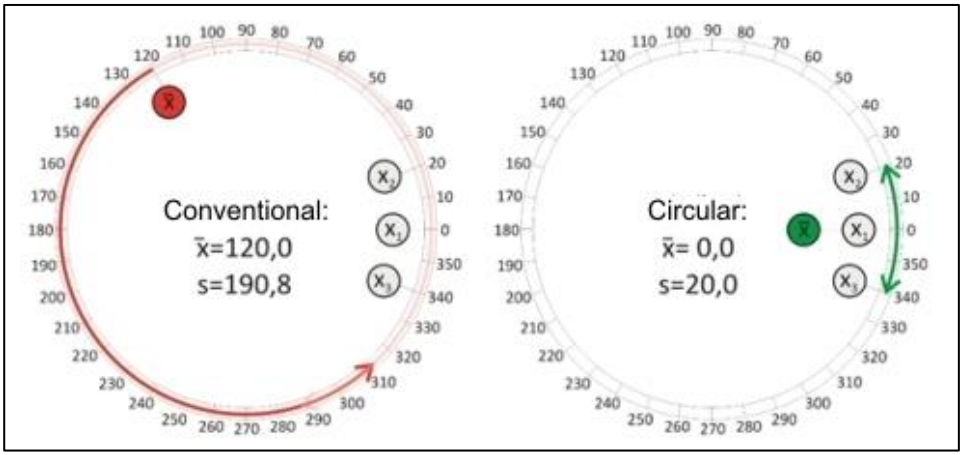

Figure 2: On the left, the result for mean $\bar{x}$ and standard deviation s of x_1=340", x_2=0" and x_3=20" resulting from the usual calculation, on the right the result taking into account the circular character of the variables (i.e. considering three variables, each 20 degrees apart).

Excursus on the frequency of births over the course of a year

As mentioned above, there are some studies that have examined the relationship between birth month and suicide risk. However, they differ considerably in their results and in their samples. A British study (Salib & Cortina-Borja, 2006, p. 416) and a German study (Köhler, 1977, p. 41) found the highest risk of suicides for births in the period around "late spring, early summer" while a Finnish study (Karhumaa et al., 2013, p. 238) indicates August. A Hungarian study (Gonda et al., 2012, p. 75) reports a maximum for July-born and a minimum for autumn-born. A German study (Danneel, 1977, p. 23) denies any

[3] To calculate the statistical parameters, the ecliptical longitudes are transformed so that the position of the object at the end of the greatest distance from its predecessor becomes the origin of the circle (X_3 in Fig. 2).

relationship between “geophysical or cosmic factors” and suicide because of Poisson-distributed days of birth.

In principle, two types of seasonal birth patterns could be distinguished worldwide until the 20th century (Doblhammer et al., 1999, p. 6): the so-called European pattern shows the maximum number of births in early spring with a steady decline in births in the following years months. In contrast, the American pattern is characterized by a minimum in spring - usually around April - followed by a steady increase in births until early autumn. In Germany, the change from the European to the American pattern in the second half of the 20th century is recognizable with some limitations (Schwentker, 2012, n.p.) (Fig. 3).

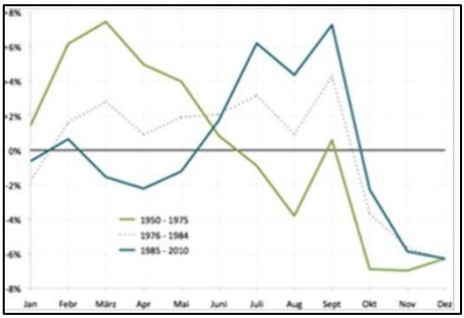

Figure 3: Deviations of births per day from annual mean in Germany (Stat. Bundesamt, 2012).

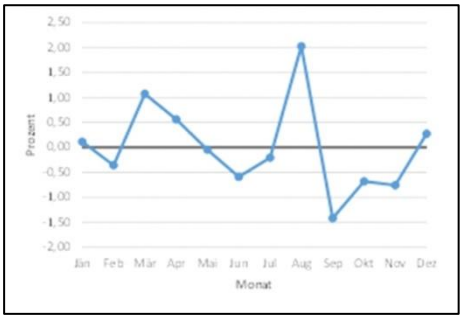

Figure 4: Deviation of births per day from annual mean in the group of suicides (SG).

It is noticeable, that September births were always above average, whereas August births always formed a local minimum. So, it is even more surprising that the maximum number of births in the suicide group is in August. (Fig. 4).

According to a recent study (Martinez-Bakker et al., 2014, supra), the birth month correlates with the maximum number of births with the latitude of the place of birth. The farther north a birthplace is, the sooner the birth will (statistically) take place during the year (Fig. 5).

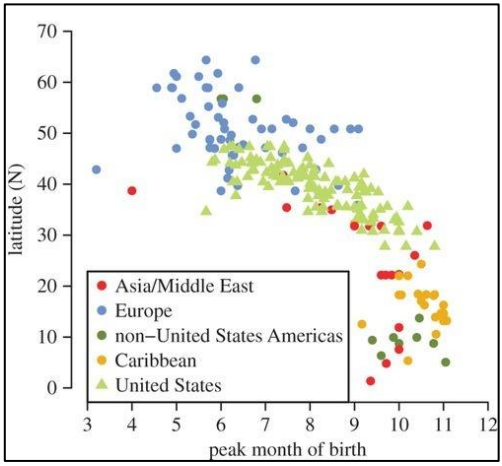

Figure 5 The months with the maximum number of births vs. geographical latitude of the birthplace.

For this reason, and due to the heterogeneity of the geographical and seasonal data of the study, it does not make too much sense to develop hypotheses about differences in monthly births. Nevertheless, it seems remarkable that a homogeneity test with the chi-squared test with ($\chi 2$ (1; n = 1941) = 3.80; p = .051) practically invalidates an assumption of equality of the distributions and the month of August with the standardized residual of 1.5 ($p < 0.07$) is weakly highlighted.

However, the distributions of the births by the signs of the zodiac (Fig. 6) show a clear difference ($\chi 2$ (1; n = 1941) = 5.18, p = .023), with an emphasis on the sign Leo (standardized residual 1.8, p <0.04). In this case signs are a more significant division than month.

Figure 6: The frequency of births in the signs as a percentage of SG and CG.

Also, the frequency of births during a day are subject to permanent change (Matthews & Curtin, 2015, p. 1). The maximum, which was originally between midnight and sunrise, has since the second half of the 20th century increasingly shifted into the doctors' preferred working hours (Stacey, 2017). For this reason, a consideration of the house positions was initially omitted.

The hypotheses

There is scant coverage of suicide in astrological literature. Wolfgang Döbereiner (1980, p. 147), a major German astrologer, notes in the chapter on the Sun-Uranus constellation that this may lead to suicidal tendencies as a consequence of a "prenatal impregnation". Moreover, Moon-Uranus, which he describes as "the desire of the soul to experience the hereafter" should also be considered. Suicidal tendencies are also mentioned in Döbereiner (1980, p. 95) in the description of the Moon-Neptune characteristics.

An idea of the complexity of astrological relationships can be found in Howard Leslie Cornell's Encyclopaedia of Medical Astrology (1979, p. 832). The list of factors is very extensive. Nevertheless, Cornell's text contains hints that, presumably by many professional astrologers, will not be considered as necessary and certainly not as sufficient but often as observable preconditions. They concern zodiacal signs with the most personal celestial bodies the Moon, the Sun and Neptune as a symbol of transcendence and Pluto as a symbol of dying as the ultimate transformation (Hand, 1990, p. 50 ff.).

Cornell describes the signs as the significators. Further assumptions arise when we translate psychological factors into the language of astrology. James Hillman~~n~~ (1997, p. 51): "Because suicide is a certain way of entering death and because the problem of

entering death releases the most profound fantasies of the human soul, *to understand a suicide we need to know what mythic fantasy is being enacted*." Astrological equivalents of this statement could be Neptune (Rudhyar, 1963) or variations of the archetypes Cancer and Pisces: Moon in Pisces, Moon in the 12th house and Moon-Neptune aspects.

In summary, the following null hypotheses are checked:

As set out in tables 1 and 2, there is no significant difference between suicides and non-suicides in terms of:

$H0_{1.1\text{-}1.7.}$: the mean-positions of Sun, Moon, and the planets Mercury to Saturn in the signs,
$H0_{2.1\text{-}2.6}$: the frequency of aspects between Sun and Uranus, Moon and Uranus, Sun and Neptune, Moon and Neptune, Sun and Pluto and Moon and Pluto,
$H0_3$: the frequency of the Moon in the 12th house,
$H0_4$: the frequency of the Moon in the sign Pisces.

The main findings of the study

First, the mean and standard deviations of the ecliptic lengths were calculated in a circular and conventional manner. The differences are considerable (Tab. 1). While the conventional calculation always results in a fictious mean around 180 degrees for the fast-moving bodies, the circular calculation shows the actual averages. Looking at the slow-moving planets it becomes clear that most of the birth dates are from the 1940s and 1950s. The positions of the outer planets in their signs are therefore irrelevant to this investigation.

Tab. 1: Mean and standard deviation of planets' positions in SG.

Body	Circuular			Conventional		
	M	Sign of M	SD	M	Sign of M	SD
SO	128.4	LE	103.1	174.51	VI	105.15
MO	261.8	SG	104.3	183.59	LI	107.67
ME	6.4	AR	102.6	181.44	LI	106.08
VE	338.1	PI	103.8	177.06	VI	103.88
MA	151.4	VI	97.3	171.22	VI	97.9
JU	237.6	PI	96.5	189.77	LI	100.48
SA	67.2	GE	95.9	164.66	VI	100.99
UR	63.6	GE	64.0	118.48	CN	92.63
NE	180.1	LI	33.3	180.12	LI	33.31
PL	128.4	LE	22.9	128.37	LE	22.89

The homogeneity of the data was investigated according to Welch by carrying out the t-test with modified degrees of freedom on the differences to the mean value. Thereafter,

the t-test was calculated for both homogeneous and heterogeneous variances. It showed that the differences are negligible.

The results of the t-test showed (Tab. 2) that for Mercury and Saturn H0 is accepted, while for Sun, Moon, Venus, Mars, Jupiter, Uranus, Neptune and Pluto the null hypothesis is rejected. The differences are highly significant

Tab. 2: Values of the t-test comparisons between SG and CG

H0	Description	t	df	p
1.1	Mean position of Sun in signs	20.605	1939	.<001
1.2	Mean position of Moon signs	10.792	1939	<.001
1.3	Mean position of Mercury in signs	1.121	1939	.263
1.4	Mean position of Venus in signs	67.265	1939	<.001
1.5	Mean position of Mars in signs	2.477	1939	.013
1.6	Mean position of Jupiter in signs	6.657	1939	<.001
1.7	Mean position of Saturn in signs	0.719	1939	.472

The testing of hypotheses 2 and 3 was done with the chi-squared test. The results are summarised in Table 3.

Tab. 3: Values of the chi-squared test comparisons between SG and CG.

H0	Description	$\chi^2(1;n=1941)$	p
2.1	Frequency of Sun-Uranus aspects	1.38	.239
2.2	Frequency of Moon-Uranus aspects	9.29	.020
2.3	Frequency of Sun-Neptune aspects	32.0	.570
2.4	Frequency of Moon-Neptune aspects	4.13	.042
2.5	Frequency of Sun-Pluto aspects	5.46	.019
2.6	Frequency of Moon-Pluto aspects	0.33	.566
3	Frequency of Moon in Pisces	4.77	.029
4	Frequency of Moon in the 12th house	6.22	.013

In all comparisons with $p < 0.05$, the frequency of the aspect is significantly higher in the group of suicides than in the group of non-suicides.

In the results of Table 2 and 3 the possibility of a cumulative type 1 error is not considered. An alpha-adjustment according to Benjamini-Hochberg shows however, that of the 10

rejected null hypotheses, with the exception of $H0_{2.4}$ (Moon–Neptune-aspects), all results meet even strict statistical conditions.

Interpretation of the results

Among the suicides, the number of births in August, or in particular when the Sun was in Leo, is above the expected value. This result is surprising because, according to the birth statistics of the total population, August coincides with a relative minimum of births.

As far as the mean values of the positions of the sun, the moon and all the planets except Mercury and Saturn are concerned, it turns out that there is a significant difference between suicides (SG) and non-suicides (CG) in a circular calculation. With a conventional calculation, this effect is not observed. The SG's mean of the Sun is in Leo, while the CG's is in Aries. Sun and Moon in fire signs are not sufficient as an indication of narcissistic tendencies, but they do not contradict ~~a~~ assertions by psychologists (Links, 2013).

Of the hypotheses derived from the astrological suicide models, the Döbereiner Sun-Uranus hypothesis (Döbereiner, 1980, p. 143 ff.) could not be confirmed. However, Döbereiner includes ten different variations of Sun and Uranus under the term Sun-Uranus. These variations were not examined in this work.

A highly significant feature, however, are aspects between the Moon and Uranus. The Döbereiner analogy (Döbereiner, 1980, p. 138) for this configuration "It is the symbol of the soul bird - in Europe the wild goose, in Asia the crane - the symbol of the soul that leaves the body to experience the hereafter ". Thomas Ring associates ~~with~~ this aspect with an individual who is determined to be unconventional with a "sensitive but irritable mind "(Ring, 2003c, p. 295).

In contrast to the Sun-Neptune aspects, the frequency of the Moon-Neptune aspects only are above the expected value. Döbereiner (1980, p. 86) calls this configuration the "undine syndrome". By this he is not referring to the sleep disorder (according to ICD-10, a classification of mental and behavioural disorders), but to the eponymous myth. Undine is a female water spirit who can only acquire a soul by marrying an earthly man, and it is an unfaithful husband that causes her death. The analogy is that this configuration often instils the feeling of being unentitled to uniqueness. Therefore, as a compensatory measure, a life is sought and derived from external identities. "Without orientation from oneself, without living out of oneself" (Döbereiner, 1980, p. 95), a psychic weakness develops, which strives for anaesthetics and can lead to suicidal tendencies.

Thomas Ring describes this configuration as a "state of affairs somehow on unstable ground, attracted by unknown horizons" (Ring, 2003c, p. 298), and mentions that panic may result from being abandoned.

Cornell's hypothesis (1979, p. 283) on Sun-Pluto aspects could be confirmed by the results, in contrast to those Moon-Pluto aspects. Liz Greene (1983, pp. 60-65), in order to convey the Plutonic energy, refers to a description of the Sumerian goddess Ereshkigal (Greene, 1983, p. 62): "If we do not adore it, the power becomes the Ereshkigal experienced as depression and abysmal despair, helplessness and futility, as an unacceptable yearning and transformative-destructive energy [...]. Ereshkigal's realm is dark. It stands for the repressed if it overpowers the ego."

It is interesting that the hypotheses derived from Hillman's view of mythic fantasy applied to the Moon Neptune theme could be confirmed. In summary, five moon constellations differentiate suicidality from non-suicidality. This is technically beneficial because the moon is the body with its highest speed and thus the least likely to incur artifacts.

Concluding remark

A number of further interesting details can be found in the data. For example, the distribution of some planets in the Gauquelin sectors (Fig. 5). This will be the basis of further investigations.

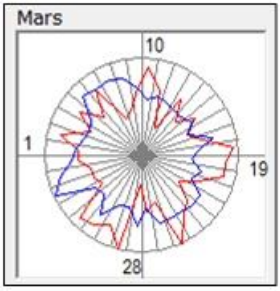

Figure 7: Distribution of Mars of SG (red) und CG (blue) in the Gauquelin-sectors.

It cannot be determined whether the results of this study are based on cosmic, geodynamic or (currently) unknown contexts. All that is certain is that the results cannot be ruled out as random statistical data.

This paper was accepted as part of my thesis for a Batchelor of Science degree in Psychology at the Sigmund Freud University of Vienna.

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