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THE SUICIDE NOTES OF MURDER-SUICIDES

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Abstract: Suicide notes from murder-suicides were compared with notes from suicides in general. Few differences were identified, but the murder-suicides had fewer positive emotions in their suicide notes, but not more negative emotions or anger, suggesting that the murder-suicides were not simply angry over their interpersonal conflicts but rather more generally distressed.

Murder followed by suicide is not uncommon among samples of suicides. Buteau, et al. (1993) found a murder-suicide rate in Quebec (Canada) in 1988-1990 of 0.18 as compared with a murder rates of 2.35 per 100,000 per year and a suicide rate of 13.13. The murderer-suicides were primarily men, under the age of 40, using firearms, with recent marital separation and mental disorder. They killed spouses (32%), children under the age of 14 (35%) and strangers (23%). In Kentucky from 1985-1990, 6 percent of the homicides and one percent of the suicides were murder-suicides (Anon, 1991). The rate of murder-suicide was 0.3. In England, Milroy (1993) found that 5%-10% of murders were followed by suicide. These incidents usually were male assailants killing spouses, followed by children. Shooting was the most common method.

Aderibigbe (1997) classified American murder-suicides using victim-murderer relationship. The most common types were fathers murdering children, spouses murdering each other, lovers murdering consorts and extra-familial victims. Murders by mothers were less common than murders by fathers, and murders of children under the age of 16 were rare. Perpetrators were most often male and used firearms.

Haines, Williams and Lester (2010) compared the suicides of 22 Australian individuals who murdered another before dying by suicide with 22 other suicides matched for age and sex. The murder-suicides were in better physical health than the suicides, more often angry, violent and hostile prior to the murder-suicide, and more often motivated by interpersonal conflict. There were trends for the murder-suicides to less often have been never married, more often employed, more often using a gun for the suicide, less often withdrawn, less often anxious prior to the murder-suicide, but more often acting erratically or in a bizarre fashion. The two groups did not differ in whether they had previously attempted suicide, whether they left a suicide note, or in their recent psychiatric status.

The aim of the present study was to see whether an examination of the suicides of murder-suicides would throw more light on the psychodynamics of their acts

Method

A sample of 261 consecutive suicide notes were obtained from the Medical Examiner’s

files in one Australian state. Six of these were murder-suicides, all written by men. The content of these six suicide notes was compared with the content of the suicide notes of the 190 other male suicides using the Linguistic Inquiry Word Count (Pennebaker, et al., 2001).

The LIWC is a computer program that searches and counts words in 72 content categories in documents. The categories include emotions, both positive and negative, cognitive processes, personal pronouns and other aspects (such as prepositions, question marks and numbers), words concerned with activities (such as sports and music, and words concerned with issues such as death and religion. Apart from *word count* and *words per sentence*, the scores are in percentages.

Because of the small number of suicide notes from murder-suicides, the t-tests comparing the suicide notes of the two groups were calculated assuming equal variances and unequal variances of the two samples. Again, because of the small sample of suicide notes from murder-suicides, trends ($p < 0.10$) are shown in addition to statistically significant differences.

Results

The results are shown in Table 1. Some of the differences have minimal psychological relevance (such as the use of abbreviations). However, the suicide notes from murder-suicides did have fewer words expressing positive emotions and optimism. The suicide notes from the murder-suicides were more concerned with social processes (relationships with others) and less concerned with hobbies and activities (music, religion, eating and grooming). These notes were less concerned with the present but did not differ in past tense verbs.

Discussion

The suicide notes from murder-suicides differed significantly from the comparison suicide notes in 12 scores and there were trends in three other scores. All six of the murder-suicides were motivated by interpersonal conflict, and so it was expected that their notes would have more negative emotions and, in particular, more anger. This was not found. However, the notes written by the murder-suicides had fewer positive emotions. This suggests that the murder-suicides were not simply angry over their interpersonal conflicts but rather more generally distressed. For example, this suicide note is addressed to his parents:

> I cannot cope with life anymore. I am that twisted up inside. By the time you get this note [my wife and son] and me your son will be all dead. No one else is getting my wife and son, so we will all die together. I am so sorry to kill [my son] but, if he grows up and knows that I killed his mum and myself, he will hate me

The writer was 28 years and separated from his wife. He used a gun, and his psychological state was described as distressed; angry/hostile/violent, and sad/tearful/depressed. His motivation for the suicide was described as interpersonal conflict and loss. This extract from his suicide note does not express anger, but there are no positive emotions, and the note is concerned with social processes (with his parents to whom the note is addressed and his wife and

son).[1]

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Table 1: Differences in the content of suicide notes from murder-suicides

Assuming Equal Variances

Variable	murder-suicides		controls		t	p
	M	SD	M	SD		
Word count	418.8	435.9	167.8	256.2	2.31	.022
Words/sentence	15.8	7.1	11.7	5.8	1.67	.096
Other	3.5	1.5	1.1	1.6	3.74	<.001
Articles	5.72	2.69	3.71	2.82	1.72	.087

Assuming Variances Not Equal

Question marks	0.00	0.00	0.02	0.12	1.82	.017
Abbreviations	0.07	0.14	0.39	2.53	1.68	.094
Other	3.5	1.5	1.1	1.6	4.01	.009
Number	0.74	0.61	1.98	3.34	3.59	.002
Positive emotions	2.98	1.45	5.04	5.91	2.82	.016
Optimism	0.31	0.34	0.71	1.21	2.45	.035
Sad	0.12	0.15	0.39	0.67	3.48	.004
Social	12.86	3.53	9.53	6.89	2.19	.069
Present	10.03	2.15	12.57	5.97	2.59	.033
Down	0.04	0.10	0.19	0.81	2.17	.036
Music	0.00	0.00	0.03	0.12	3.09	.002
Religion	0.08	0.14	0.43	1.26	3.20	.002
Eating	0.01	0.03	0.22	0.95	2.95	.004
Grooming	0.00	0.00	0.03	0.19	2.23	.027

[1] His note also contained a last will and testament and instructions.

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IS THERE A NATURAL SUICIDE RATE? AN UPDATE AND REVIEW[2]

Bijou Yang and David Lester

Abstract: Yang and Lester proposed the existence of a natural suicide rate, that is, that the suicide rate of a country could never be zero, and they demonstrated how this hypothesis might be explored. This article reviews the research conducted to date on this hypothesis

In times of full employment, the unemployment rate is unlikely to be zero. Even in times of full employment, some employees will quit or be fired and, between jobs, these individuals will be unemployed. This is called *frictional unemployment*, consisting of *search unemployment* and *wait unemployment*, that is, those searching for employment or waiting for employment. In addition, there is *structural unemployment* which results from changes over time in consumer demand and industrial development, and which affects the demand for labor both occupationally and geographically. Moreover, there is unemployment caused by seasonal demand such as construction work and agricultural migrant work. These three types of unemployment, present during times of full employment, constitute what has been called the *natural rate of unemployment* (e.g., McEachern, 2003). The implication is that there can never be a zero unemployment rate. The best that can be attained is the natural rate of unemployment.

Lester and Yang (1997) analyzed three theories relating the suicide rate to economic cycles and found that all of those theories predicted that the curve had a positive intercept on the y-axis during normal economic conditions. Durkheim's (1897) classic theory of suicide proposed that suicide rates would be higher at very high levels of social integration (the degree to which the members of a society are bound together in social networks) leading to *altruistic suicide* and at very low levels of social integration, leading to *egoistic suicide*. Durkheim's theory also predicted that suicide rates would be higher at very high levels of social regulation (the degree to which the members of the society have their desires controlled by societal norms and values), leading to *fatalistic suicide*, and at very low levels of social regulation, leading to *anomic suicide*. However, Durkheim did not stipulate that the suicide rate would be zero at intermediate levels of social integration and social regulation. Maris (1981), a sociologist, speculated that the suicide rate could never be zero no matter how ideal the social-economic conditions were. Yang and Lester (1991) proposed, therefore, that the suicide rate of a society could never be zero even if both the economic and the social conditions were made ideal from the point of view of suicide.[3]

Viren (1999) discussed whether there was a natural rate of suicide (or as he sometimes referred to it in his paper, a natural level of suicide). However, he changed the meaning of this term considerably. Viren acknowledged that the societal suicide rate was determined by both social factors and economic factors, and he proposed that the natural rate of suicide was the

[2] Part of this essay is based on Lester and Yang (2005).
[3] Lester (1994) extended this and proposed the existence of a natural homicide rate.

suicide rate that prevails when income is growing at the expected rate of long-term growth (Viren, 1999, p. 1429). This leaves the suicide rate as determined solely by social (or structural) factors. This is quite different from the definition suggested by Yang and Lester.

Viren presented data from a time-series analysis of the Finnish suicide rate from 1878-1994 to support his hypothesis that, once economic conditions were factored out, the suicide rate would be non-zero and positive. He examined the impact of GDP per capita, bankruptcies, unemployment and the stock price index, as well as controls for the sex distribution, average age of the population and urbanization. He found that economic variables were associated with the Finnish suicide rate. However, this data analysis does not appear to be pertinent to the issue of whether the suicide rate of a society can ever be zero.[4]

Goldney (2003) has proposed a similar idea to the natural suicide rate by hypothesizing that "there is a base rate of suicide in all communities" (Goldney, 2003, p. 141). Goldney suggested that, even in a theoretically ideal world with an optimum psychosocial environment, there would be a base rate of suicide in the range of 5 to 10 per 100,000 per year. Variations from this base rate are primarily a result of psychosocial factors. Rates lower than the base rate lack credibility and are a result of inadequate documentation. Typically, more accurate documentation of suicides results in a higher suicide rate, a phenomenon seen in Ireland where the influence of the Roman Catholic religion (which views suicide as a sin) resulted in suicides being classified as accidental or undetermined death (Cantor, et al., 1997) Rates higher than the base rate are a result of suicidogenic psychosocial factors such as easy access to lethal methods for suicide and poor socio-economic conditions (e.g., high divorce rates and high unemployment rates).

Goldney implied in his presentation of this hypothesis that the base rate of suicide is primarily a result of a "basic biological substrate (p. 145), that is, genetic and physiological factors. He suggested, therefore, that a nation with a suicide rate close to the base rate should base their suicide prevention efforts on a traditional illness model, focusing on the management of psychiatric disorders and the appropriate use of psychiatric medications. Nations with a suicide rate higher than the base rate should focus instead on changing the psychosocial environment to lower the suicide rate, using tactics such as restricting access to lethal methods for suicide, proposing media guidelines for reporting suicides, and improving the socio-economic conditions that are risk factors for suicide.

There is some research that bears on the variation in this base rate. For example, Kondrichin and Lester (1997) have speculated that Finno-Ugrians (primarily Finnish and Hungarian people and to a lesser extent Estonians) may have a high suicide rate, and they found that the percentage of Finno-Ugrians in European nations was associated strongly with the national suicide rates ($r = 0.58$).

Rihmer (1991) noted that the density of imipramine-binding sites in the brains of normal and depressed people varies greatly from nation to nation, and this may reflect differences in the propensity to develop depressive disorders. Lester (1991) found that the density of imipramine

[4] Other researchers who have accepted Yang and Lester's proposal of a natural suicide rate, but without adding new empirical data include Voracek (2005),

binding sites correlated strongly with national suicide rates (r = 0.55). Risk factors such as the Finno-Ugrian gene and the density of imipramine-binding sites in the brains may contribute to a natural suicide rate.

It is likely, therefore, that the base rate of suicide (Goldney) or the natural rate of suicide (Yang and Lester) is determined both by the physiological characteristics of the population and the level of unavoidable stress.

Soper (2017) summarized these views as follows:

> These modern statistical findings echo those of Durkheim (1897) from more than a century ago: observing no social conditions under which zero suicides can be expected to occur, he [Durkheim] infers that suicide prevails as a 'necessary imperfection' – a 'social fact'. Many researchers have come to the view that some level of suicidality probably comes with the territory of being human (Baechler, 1979; Fox, 1971; Maris, 1981; Stengel, 1964), an assessment reflected in an acceptance in some quarters that, while some suicides may be prevented, the complete elimination of suicide can be set aside as an impossible goal (O'Connor, Platt, & Gordon, 2011). (Soper, 2017, p. 23)

Empirical Tests of the Proposal of a Natural Suicide Rate

As discussed above, Yang and Lester (1991) hypothesized that the suicide rate of a society could never be zero even if the economic and the social conditions were made ideal from the point of view of suicide. Lester (1988) studied the association of 27 social variables with state suicide rates. Three variables were strongly associated with the suicide rate (divorce rate, interstate migration, and church nonattendance), and their analysis showed that these variables produced a multiple R for predicting the suicide rate of 0.85.

Using the 48 states in the USA in 1980 as a sample, Yang and Lester derived regression equations using the socio-economic variables to predict the states' suicide rates. When they set the three socio-economic variables (divorce rate, interstate migration, and church nonattendance) to ideal values (e.g., the divorce rate was set to zero), the predicted suicide rates were always positive. Yang and Lester estimated that the natural suicide rate of suicide was about 6.01 per 100,000 per year in the United States, a value similar to that proposed by Goldney. The male and female suicide rates were also positive and nonzero using this technique, 11.6 and 0.9, respectively. Other selections of variables also produced positive nonzero suicide rates (for example, divorce, migration, and longitude). It is possible, of course, that some other selection of socioeconomic variables might conceivably produce a high multiple *R* and a negative constant term in the multiple regression, the analyses Yang and Lester supported the proposition that, if socioeconomic conditions were made ideal from the point of view of producing a low suicide rate, the suicide rate of American states would still be positive and nonzero.

Yang and Lester (2004) studied ten nations for which data were available for the suicide rates of the regions of each nation (state, province or county). Data for the divorce and unemployment rates were available for each region of each nation and regression equations were

calculated for each nation to predict the suicide rate. For example, the regression equation for Norway in 1980 was:

Suicide rate = 5.834 +4.37*divorce rate + 0.40*unemployment rate

Setting the divorce and unemployment rates to zero gives an estimate of the natural suicide rate for Norway as 5.8 per 100,000 per year. Yang and Lester presented the actual suicide rate and the estimated natural suicide rate for the ten nations as follows:

Nation	Natural suicide rate	Actual suicide rate
Austria	15.7	26.0
Finland	11.2	24.7
France	16.8	19.2
Germany	15.5	21.4
Japan	17.0	17.5
Norway	5.8	12.4
Poland	4.6	12.7
Switzerland	14.2	24.7
Taiwan	7.9	9.9
USA	8.1	12.0

The estimated natural suicide rate was in each case positive and less than the actual suicide rate. The Spearman rank correlation coefficient between the two rates was 0.57 and statistically significant. Yang and Lester concluded that the natural suicide rate may differ by nation. Why might this be so? Yang and Lester noted that nations do differ in variables that might affect the suicide rate. For example, it has been proposed that the Finno-Ugrian gene (found primarily in Finnish and Hungarian people) increases the risk of suicide (Voracek, et al., 2003), that the distribution of blood types is associated with psychiatric disorder and suicide (Lester, 2004), and that nations differ in the levels of various neurotransmitters in the brains, thereby possibly affecting the suicide rates (Lester, 1991). These physiologically factors may be important in determining the different natural suicide rates in different nations. However, these explanations are speculative at the present time and require further research.

Yang and Lester (2009) then extended their ecological (regional study) to include Russia, for which the estimated natural suicide rate was 24.6 in 1993 (compared to an actual suicide rate 41.4 in 1995, and they corrected the values for Poland (5.0) and the United States (8.2).

Yang and Lester (2009) also examined the estimated natural suicide rate using time-series analyses for thirteen nations, again using divorce and unemployment rates to estimate the natural suicidal rate (and using both OLS regression and the Cochrane-Orcutt correction for serial autocorrelation). Their results were as follows:

Nation

	Estimated suicide rate (OLS)	Estimated suicide rate (corrected)	Suicide rate in 1985
Australia	12.5	12.6	11.5
Austria	15.9	15.7	27.7
Belgium	10.3	10.7	23.1
Canada	7.0	7.8	12.8
Denmark	11.2	11.6	27.7
England/Wales	11.5	10.5	8.8
Japan	25.0	7.3[5]	19.4
The Netherlands	5.0	5.2	11.3
Norway	2.9	3.0	14.1
Sweden	19.3	20.4	18.2
Taiwan	10.3	9.9	11.9
USA	8.8	8.6	12.3
West Germany	18.0	20.6	20.7

Andriessen, et al. (2015) estimated the natural suicide rate in Belgium to be 12.06 in a time series study from 1950-1997 (16.65 for men and 7.50 for women) and 10.91 for an ecological study over the 10 provinces in 2005, after setting the divorce and unemployment rates to zero.

Empirical study of this issue is limited by two factors. First, data need to be available for regions of a nation or over time for variables that are associated with the suicide rate. Second, the variables chosen must be such that it is obvious what their value should be in an "ideal" society, that is, variables that minimize the suicide rate. It is obvious that, since unemployment is associated with an increase in the suicide rate (Platt, 1984), an ideal society would have a zero unemployment rate. It is not clear what the marriage rate, the birth rate or the emigration rate should be for a society to have a minimal suicide rate.

Other Empirical Tests of the Natural Suicide Rate Hypothesis

Kunce and Anderson (2001-2002) used panel data from all 50 states of the United States plus the District of Columbia for the period 1985-1995. They also used age-adjusted rates which control for the fact that the state populations vary in their age distribution. Kunce and Anderson used eight variables to predict the suicide rate: unemployment rate, medical household income, divorce rate, residing in non-metropolitan areas, Christian church adherent, poverty rate, single occupancy households, and percent of the population that was non-white. The constant term was 1.28, and so Kunce and Anderson concluded that the natural suicide rate of the United States was 1.28.

This is, of course incorrect. Using their variables, the estimate of the American natural suicide rate is 1.28 only if all the eight variables are set to zero. This would mean, for example, zero Christian church adherents, and zero median household income, situations that would not be

[5] This rate in the published report appears to be incorrect.

expected to result in zero suicides. The Christian church adherent variable should probably be set to one hundred percent, but it is by no means clear to what the median household income should be set. This is why Yang and Lester restricted their predictor variables to divorce and unemployment rates since it is clear that these should be set to zero in an ideal society.

Andrés and Halicioglu (2011) tested Yang and Lester's hypothesis of a natural suicide rate using data from 15 OECD nations for the period 1970-2004, using divorce and unemployment rates as the predictor variables. Andrés and Halicioglu noted that Yang and Lester did not address the issue of spurious regression, carry out any diagnostic checks of their regression equations, explore the impact of lag in the response of suicide rate to socio-economic variables, and explore gender disparities. Andrés and Halicioglu remedied these omissions and found that, for the total suicide rate, the constant term was positive for 14 of the 15 nations (Finland was the exception) and statistically significant for 12 of the 14 nations. The constant term was positive for the male suicide rate in 14 of the 15 nations (again Finland was the exception) and positive for the female suicide rate for 14 of the 15 nations (the UK was the exception). The positive constant term was statistically significant for 12 of the 14 nations for the male suicide rate and for 12 of the 14 nations for the female suicide rate. Andrés and Halicioglu concluded that "[t]he results at the aggregate level confirm the study of Yang and Lester (1991) but our results are more robust" (p. 26).

Andrés and Halicioglu concluded that Turkey had the lowest natural suicide rate (3.64) and Japan the highest (13.98). For males the range was from the UK (4.73) to Belgium (15.44) while for females the range was from Italy (5.60) to Japan (16.76).

Additional Issues Concerning the Natural Suicide Rate

Gmel, et al. (1998) investigated the association over time of alcohol consumption and suicide in Switzerland from 1950 to 1990. They found only a weak association and only for women. In looking at their data, Gmel et al. noticed a single harmonic long-term wave, peaking in 1950 and 1980 with a trough in 1965. They noted that harmonic trends are often seen as reflecting "natural" waves of phenomena, and they saw this as consistent with Yang and Lester's proposal of a natural rate of suicide. Harmonic waves reflect long-term fluctuations around a mean. Gmel et al. point out that, if this explanation is correct, then an explanation must be found for the harmonic wave.

Anyikwa, et al. (2021) noted that Yang and Lester did not address the issue of whether the suicide rate of a nation will revert to the natural suicide rate after an exogenous shock.

Discussion

A review of the literature indicates that many scholars have proposed hypotheses consistent with the existence of a natural, non-zero suicide rate. Empirical research has, on the whole, supported the hypothesis, although more research needs to be done to validate the hypothesis.

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THOUGHTS ON WHO ARE THE MOST INFLUENTIAL SUICIDOLOGISTS

David Lester

There is a great deal of interest these days on ranking the leading suicide researchers (as there is in other fields). It is far from easy to make judgments about this issue.

Problems with Criteria for Greatness

The use of Google Scholar for determining the top suicidologists is hindered by the fact that most researchers explore topics other than suicide. For example, of my own 35 papers published in 2020, only 22 were on the topic of suicide or related issues. To take other examples, Thomas Joiner also studies eating disorders, while Steven Stack studies marriage and many other topics. Therefore, the total citations, h-index and i10-index are not accurate as measures of suicide research productivity and influence for researchers with multiple interests.

The titles of articles may also be misleading, with or without subtitles. Heidi Hjelmeland and Birthe Loa Knizek's article in *Death Studies* in 2021 has the title: The emperor's new clothes? A critical look at the interpersonal theory of suicide. The word *suicide* is in the subtitle but not the title.

My most cited article (6,785 citations as of June 25, 2021) is:

> Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism: the hopelessness scale. *Journal of Consulting & Clinical Psychology, 42*, 861-865.

This paper is based on psychiatric patients who have attempted suicide, but the word *suicide* does not appear in the title or subtitle.

Many researchers collaborate with others, and some work in teams. How much credit should each author get for one publication? Steven Stack and myself have published 16 articles and two books together. Here is a recent contributor list from a recent article of mine appearing in *Psychiatry Research.*

> Conceptualization: Isabella Berardelli
> Data collectiion: Salvatore Sarubbi, Elena Rogante, Denise Erbuto, Maria Rosaria Cifrodelli
> Formal analysis: Salvatore Sarubbi, Marco Innamorati
> Methodology: Isabella Berardelli, Elena Rogante, Denise Erbuto
> Project administration: Maurizio Pompili, Isabella Berardelli
> Supervision: Marco Innamorati, David Lester Maurizio Pompili
> Original draft: Isabella Berardelli, Salvatore Sarubbi
> Writing - review; editing: Marco Innamorati, David Lester, Maurizio Pompili

Does each contributor get one point for this article? In addition, in some departments, the head of the department gets his or her name on the article even if he or she did not contribute to it. Citation counts are also thought to be inadequate unless one distinguishes between citations by others and citations of one's own works.

There are some scholars who focus on one area of suicidology. For example, Andriessen, et al. (2015) identified the ten most cited articles on bereavement after a suicide which were published in (only) three core journals on suicide.

The era may be thought to play a role. Researchers who were cited and influential in the 1950s may now no longer ever be mentioned. Because the volume of studies of suicide has increased dramatically in recent decades, so have citations. Perhaps the number of articles on suicide each year should be used to weight citation amounts?

Personal Judgments

Then, of course, we can make our own personal judgments. I wrote reviews of the suicide literature from 1897 to 1997, trying to read every scholarly article, chapter and book on suicide. The review was published in four books with the title *Why People Kill Themselves*, covering the periods 1897 to 1967, the 1970s, the 1980s, and 1990-1997 after which the task became too time-consuming for me. Had I kept going, I would not have had enough time to conduct my own research.

My choices were for greatness were:

1800s: Emile Durkheim, of course. I would also now add Sigmund Freud who is responsible the theory of suicide as aggression directed toward the self, what Shneidman has called *murder in the 180th degree*.

1950s: Andrew Henry and James Short (whose work has been relatively ignored (except by me) but whose integrated theory (sociological plus psychological) is quite remarkable.

1960s: Edwin Shneidman and Norman Farberow, of course, but also Charles Neuringer for his ground-breaking work on the cognitive processes of suicidal individuals, and Alex Pokorny for drawing attention to the role of climate and other factors which had been neglected.

1970s: Aaron Beck and David Phillips. Phillips is rarely cited these days, but his work on the role of the media was ground-breaking.

1980s: Antoon Leenaars for his work on suicide notes, Steven Stack for his sociological studies, Stephen Platt for his work on unemployment, and David Lester (myself).

It might be thought inappropriate to include myself, but here is part of my Wikipedia entry.

> His work on suicide has focused on (1) crisis intervention by telephone, (2) preventing suicide by restricting access to the means for suicide, (3) studies of the diaries left by suicides, (4) suicide in the oppressed, including African American slaves, Native Americans, Holocaust victims, the Roma, and prisoners, (5) reviews of research on and theory concerning suicide from 1897 to 1997, and (6) innovative ideas including suicide as a dramatic act, suicide and culture, and suicide and the creative arts.

Who would I choose for the 1990s? For the period1990-1997, I chose no one. I did not think that any creative researcher or theorist had appeared in those years. [6]

For the period 1998-2021, I have not kept up with the literature, but I have written negative reviews on the state of the art in suicidology (*The End of Suicidology*, Nova, 2019). From my limited awareness of the suicidology literature (for 1897 to 1997, I was obsessive and compulsive in my search and perusal of *everything*), I would choose Thomas Joiner. There have been many critics of his theory and the domination by his former students and by himself of research, but there was a novel feature of the theory (the inclusion of burdensomeness), and there is no comparable recent theory to compete with Joiner's.

I would also choose Cas Soper whose writings are not well known, but he has thrown down the gauntlet in his arguments against traditional theory and research and argued for an evolutionary theory of suicide. In addition, Jie Zhang has proposed a new theory of suicide and conducted some major research studies in China.

Two of my close colleagues (John Gunn and Steven Stack) also nominated Angus Deaton, Edward Klonsky, Matthew Nock, Rory O'Connor, and Ian Rockett.

I may have missed an important figure or two, and each of you may choose different researchers and theorists. (You would be wrong, of course!)

Published Lists

Expertscape

Expertscape (www.expertscape.com/ex/suicide) based their rankings for 22,043 articles published since 2008 and compiled as of February 3, 2019. However, Expertscape searches only medical journals (PubMed) and so misses psychological and social sciences research. It is therefore, biased.

[redacted] Pompili, M
[redacted] Hawton, K
[redacted] Turecki, G
[redacted] Brent, D
[redacted] Joiner, T
[redacted] Oquendo, M

[6] For my proposals for these eras, I am not sure that, today, in 2021, I would include all of those listed above.

[redacted] Lester, D
[redacted] Nock, M
[redacted] Gunnell, D
[redacted] Mann, J John
[redacted] Sher, L
[redacted] De Leo, D
[redacted] Pirkis, J
[redacted] Serafini, G
[redacted] Yip, P S F
[redacted] Conwell, Y
[redacted] Girardi, P
[redacted] Rihmer, Z
[redacted] Innamorati, M
[redacted] Nordentoft, M
[redacted] Baca-García, E
[redacted] Gonda, X
[redacted] Sareen, J
[redacted] Milner, Allison
[redacted] Anestis, Michael
[redacted] Stanley, B
[redacted] Courtet, Philippe
[redacted] Hom, Melanie A
[redacted] Conner, K
[redacted] Apter, A
[redacted] Kõlves, Kairi
[redacted] Bossarte, R
[redacted] Large, M
[redacted] Wasserman, D
[redacted] Ilgen, Mark
[redacted] Robinson, Jo
[redacted] Erlangsen, A
[redacted] Kapur, Nav
[redacted] O'Connor, R
[redacted] Jollant, F
[redacted] Miller, Matthew
[redacted] Ballard, E
[redacted] Stanley, Ian H
[redacted] Chang, S-S
[redacted] Ribeiro, J D
[redacted] Bryan, Craig
[redacted] Caine, E
[redacted] Fazel, Seena
[redacted] Kessler, R C
[redacted] Baldessarini, R J
[redacted] Borges, G
[redacted] Zhang, Jie

- Gibbons, R
- Fountoulakis, Konstantinos N
- Wilcox, H
- Guillaume, S
- Amore, M
- Møller, H
- Page, A
- Bridge, Jeff

Omitted 27,568 lower-scoring

Apparently, this list was based on simply the number of articles published with suicide in the title. One assumes that they searched for titles with suicid*. However, this list does not discriminate between articles and editorials/comments. Several of those on the list carry out very little research but, rather, publish brief comments on suicide (and other topics).

Vogelzang, et al. 2011

Vogelzang, et al. (2011) search the Web of Science for articles on suicide PLUS depression, which obviously limits the range of articles on suicide, for the period 1900-2007. The top 15 researchers in order of number of publications were:

JJ Mann
MA Oquendo
Y Conwell
J Lönnqvist
A Apter
DA Brent
CF Reynolds
HY Meltzer
HS Akiskal
K Hawton
RJ Baldessarini
A Roy
J Angst
V Arango

Clearly, this does not tap leading suicidologists. Only some of those on this list contribute meaningfully to suicidology.

Ionnadis

The lists provided by Ioannadis (2016) do not focus on suicide, but rather on all papers published by scholars. It is not easy, therefore, to identify the suicidologists, and it is impossible to identify the scores for only suicide research. Ionnadis ranks the top 2% of scholars in the world and his c scores for the top ten on the Expertscape list are shown below:

[redacted] Pompili, M	3.83
[redacted] Hawton, K	4.65
[redacted] Turecki, G	4,23
[redacted] Brent, D	not scored
[redacted] Joiner, T	4.56
[redacted] Oquendo, M	4.02
[redacted] Lester, D	4.40
[redacted] Nock, M	4.45
[redacted] Gunnell, D	4.40
[redacted] Mann, J John	3.77

Keith Hawton leads, with Thomas Joiner second.

Web of Science

The Web of Science publishes the top 100 suicidologists based solely on the number of articles on the topic. The top 10 are shown below. I do wonder who anonymous is and how he or she is so prolific! The Web of Science appears to do the best job of capturing articles on suicide in all disciplines.

D Lester	1163
Anonymous	659
JJ Mann	470
K Hawton	370
M Pompili	314
G. Turecki	296
TE Joiner	295
D Gunnell	293
MA Oquendo	280
N Kapur	234
D De Leo	227

Comment

Of course, it would appear to be objective if greatness could be quantified, but the numbers generated will always be criticized on some grounds. For myself, I prefer the subjective method, that is, my own evaluation of the contributions made by suicidologists!

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Thomas.
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Suicide Studies, 20201, 2(4)

FOUR YOUNG WOMEN WHO DIED BY SUICIDE: AN EXAMINATION OF THEIR DIARIES

David Lester & Linda Collins

Abstract: Very little research studies the thoughts and emotions of individuals close to the time of their suicide. The present study examined changes in the thoughts and emotions of suicides as the day of their suicide grows closer. The last few months of the diaries of four young women who died by suicide were analysed using the Linguistic Inquiry Word Count (LIWC). No commonalities were found across the four diaries. Suicides may be unique, and only theories that propose general constructs may be able to account for the majority of suicides.

It has long been of interest how the thoughts and emotions change in people who are planning their deaths by suicide. An early study by Keith-Spiegel and Spiegel (1967) found that psychiatric patients who died by suicide in the hospital showed an improvement in mood on the day prior to their suicide, while Lester (2010) observed a calming in the mood of a young man who left two tape recordings for his parents six and two hours prior to his suicide. The second recording had more positive emotions and fewer negative emotions. There was more concern with others and less concern with the reasons for his impending act.

Looking at a longer time period, Pennebaker and Stone (2004) found that the percentage of positive emotions increased over the last year of the life of a young woman who died by suicide while the percentage of negative emotions declined. They examined the last year of her diary, dividing the period using the five books containing the diary and documented a decrease in references to herself. Words concerned with death and sex declined, while words concerned with religion increased.

The problem with case studies is that the results found for the single case may not have relevance for other individuals. A larger sample would permit more robust and generalizable findings, but the diaries of suicides that are available for research studies are hard to obtain. The present paper looks at four diaries from young women who died by suicide in order to explore whether there were commonalities across all four diaries.

Method

During the last twenty years, the senior author has acquired the diaries of several suicides. Some have been published (such as the diary of Cesare Pavese, the Italian novelist), while others have been given to the senior author by close friends and relatives of the suicides in order to advance our understanding of suicide. Four of the diaries are from young women.

Name	Number of diary entries	Time period
Katie	18	110 days
Electra	13	107 days
Sara	26	95 days
Victoria	19	76 days

Katie (a pseudonym) was a 20-year-old university student who killed herself in her dormitory apartment during summer school (Lester, 2004). She had a history of sexual abuse at the hands of her father, and her mother was institutionalized with schizophrenia. Katie had been anorexic. At the time of her suicide, she had a boy-friend who was the person who found her dead in the dormitory.

Electra (a pseudonym) was a 22-year-old woman who had dropped out of college (Osborne, 2008). She had been raised by an aunt and uncle. She had been sexually abused in her early years and abandoned by her mother, but Electra idolized her. She was in therapy but perhaps not well understood by her psychotherapist.

Sara (a pseudonym) was a 33-year-old single woman felt unloved and unwanted, a burden to the family, and an outcast. Sara went to college but quickly dropped out (Lester, 2017). During the time of her diary, she was working part-time as a waitress and then for a small store selling window blinds. She needed help for her food and rent from charities and was living in an apartment by herself. Sara was taking anti-depressants after making a suicide attempt.

Victoria was 17 when she died by suicide (Collins, in press). Her childhood and adolescence were free of trauma. Victoria had suspected attention deficit disorder and had failed some of her exams but, on the other hand, she was brilliant at English and obtained A’s. She had a tendency toward perfectionism.

The diary entries were analysed using the Linguistic Inquiry Word Search (LIWS) which was developed by Pennebaker, et al. (2001). Apart from word count and the words per sentence, the other measures are expressed as percentages. For example, the measure for anger is the percentage of words expressing anger relative to the total word count. It is possible, of course, for a particular word to fit into two or more categories. For example, a swear word may also be a sexual word. There are 72 content categories scored by the LIWC.

Results and Discussion

The diary entries can be analysed by the number in the sequence of entries or by the day of the entry number the first entry day 1 and counting the days after that. For example, for Victoria, the entries range from 1 to 19 and the day of the entry from day 1 to day 76. The results were similar for both methods, and Table 1 presents the results by the day of the entry.

No content category was statistically significant for all four women. For the two content categories which were statistically significant for three of the women, references to sensory and perceptual process declined for all three but, for anger, two women (Katie and Victoria) showed

less anger over time, while Sara showed more anger.

For content categories for which two of the women had statistically significant trends, two content categories increased over time: word count and anxiety. Six content categories decreased over time: unique words, long words, seeing, motion, sleeping/dreaming and swearing. It seems, therefore, that, although the diary entries grew longer, the words used were simpler (shorter and with fewer unique words). Two women showed an increase in words concerned with anxiety (Victoria and Sara)

Interestingly, none of the four women showed an increase in words concerned with positive emotions or positive feelings, contrary to the previous report on Katie, but that previous report was based on a year-long diary whereas the present study, in order to make the four diaries comparable, focused on the last four months of Katie's diary.

This study of the diaries of four young women who died by suicide failed to find meaningful commonalities across all four diaries. This suggests that each suicide had unique qualities and that, perhaps, theories that attempt to account for *all* suicides may fail to capture their uniqueness unless they propose general processes. Theories that propose narrow concepts, such as perceived burdensomeness (Joiner, 2005) or entrapment (Gilbert & Allan, 1998) may explain only a small percentage of suicides. In contrast, more global concepts such as psychache (Shneidman, 1993) and stress-diathesis (Gunn & Lester, 2014) may apply to the majority of suicides.

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Table 1: Changes over the last 4 months by day

Dimension	Examples	Katie	Victoria	Electra	Sara
Word Count		456*		616**	
Words per sentence		555**	-388*		
Sentences ending with ?			-685***		
Unique words (type/token ratio)		-587***		-549*	
% words captured, dictionary words					
% words longer than 6 letters				-485*	-394**
Total pronouns	I, our, they, you're				
1st person singular	I, my, me				
1st person plural	we, our, us				-381*
Total first person	I, we, me				
Total second person	you, you'll				
Total third person	she, their, them				
Negations	no, never, not				
Assents	yes, OK, mmhmm				
Articles	a, an, the				
Prepositions	on, to, from		-450*		429**
Numbers	one, thirty, million		349	-540*	
Affective or Emotional Processes	happy, ugly, bitter				
Positive Emotions	happy, pretty, good				
Positive feelings	happy, joy, love				
Optimism and energy	certainty, pride, win			-548*	
Negative Emotions	hate, worthless,				
Anxiety or fear	nervous, afraid, tense		306		473**
Anger	hate, kill, pissed	-583**	-417*		363*
Sadness or depression	grief, cry, sad				
Cognitive Processes	cause, know, ought				
Causation	because, effect, hence				
Insight	think, know, consider				
Discrepancy	should, would, could			-529*	
Inhibition	block, constrain				
Tentative	maybe, perhaps, guess		.-417*	.	
Certainty	always, never				
Sensory and Perceptual Processes	see, touch, listen	-599***	-328		-552***
Seeing	view, saw, look	-486**	-364		
Hearing	heard, listen, sound		-356		
Feeling	touch, hold, felt				
Social Processes	talk, us, friend			465	

Communication	talk, share, converse				
Other references to people	1st pl, 2nd, 3rd per prns				
Friends	pal, buddy, coworker				
Family	mom, brother, cousin				-357*
Humans	boy, woman, group				
Time	hour, day, oclock				
Past tense verb	walked, were, had	-368			
Present tense verb	walk, is, be				
Future tense verb	will, might, shall				368*
Space	around, over, up		-405*		
Up	up, above, over		-527**		
Down	down, below, under				
Inclusive	with, and, include	-598***			
Exclusive	but, except, without				
Motion	walk, move, go	-515**	-424*		
Occupation	work, class, boss				
School	class, student, college		-496**		
Job or work	employ, boss, career				
Achievement	try, goal, win				489**
Leisure activity	house, TV, music				-554***
Home	house, kitchen, lawn				-486**
Sports	football, game, play		-561**		
Television and movies	TV, sitcom, cinema		-564**		
Music	tunes, song, cd				-378*
Money and financial issues	cash, taxes, income	457*			
Metaphysical issues	God, heaven, coffin				261
Religion	God, church, rabbi				
Death and dying	dead, burial, coffin				562**
Physical states and functions	ache, breast, sleep	-609***			
Body states, symptoms	ache, heart, cough				
Sex and sexuality	lust, penis, fuck		286		
Eating, drinking, dieting	eat, swallow, taste				375*
Sleeping, dreaming	asleep, bed, dreams	-400**			-552**
Grooming	wash, bath, clean				
Swear words	damn, fuck, piss	-520**	-419*		
Nonfluencies	uh, rr*				
Fillers	youknow, Imean				

Suicide Studies, 2021, 2(4)

COMMENT ON "AN EXAMINATION OF THE LYRICS OF MUSICIANS WHO DIED BY SUICIDE"

STEFAN GINGERICH

Minnesota Department of Public Health

Some questions about this article.

Kurt Cobain's lyrics have always been interesting to me. According to his Wikipedia page, he did not put much stock in the meaning of his lyrics, at least not outwardly. An article quoted him as saying that he was not trying to be cryptic or confusing with his lyrics, but they are full of contradictions and that was just how he liked his art. How would a lyrical analysis account for an artist who is intentionally contradicting himself or herself, or being sarcastic?

There's also the issue of musical publication bias. Record companies or producers may attempt (and be successful) in filtering out possibly offensive lyrics that they think will not sell or resonate with the public, resulting in their exclusion from an album. What effect, if any, do you think this might have on lyrical analysis of this kind?

Finally, was there a reason you did not include *Incesticide* in your analysis of Cobain's lyrics?

Suicide Studies, 2021, 2(4)

THE FUNDAMENTAL ATTRIBUTION ERROR AND ITS IMPLICATION FOR SUICIDOLOGY

DAVID LESTER & JOHN F. GUNN III

Abstract:

A discussion of whether suicidologists neglect external factors in explaining suicide.

The fundamental attribution error (Heider, 1958; Ross, 2001) is the "most robust and ubiquitous finding in the domain of interpersonal perception" (Jones, 1990, p. 164). The fundamental attribution error is the tendency to attribute another person's behavior to their dispositional qualities rather than situational factors. Langdridge and Butt (2004) reviewed and critiqued the research on this phenomenon.

What is a typical experiment conducted on the fundamental attribution error? Li, et al. (2012) presented undergraduate students four scenarios. One was

> Sara Martin is a top executive at a pharmaceutical company that recently developed a new and expensive drug for treating malaria. Shortly after the company developed the drug, there was a significant outbreak of malaria in Africa. In response, Sara Martin decided to donate a lot of medicine to the countries in Africa needing assistance. (p. 284)

The students were asked to rate on 7-point scales their answers to questions, such as: (a) Sara's features (such as her character, attitude or temperament) that influenced her behavior, and (b) features of the environment that surround Sara (such as the social atmosphere, social norms, or other contextual factors that affected her behavior. Li, et al. found that Protestants endorsed internal attributions more than did Catholics (although there was no difference in external attributions).[7],[8]

This type of study raises two questions for suicidology. First, do suicidologists tend to make the fundamental attribution error? It may be that suicide researchers and theorists vary in whether they make this error or not. For example, sociological suicidologists may differ from psychological suicidologists in the tendency to make this error, but sociologists are usually focused on suicide rates whereas psychologists focus on the individual who dies by suicide. However, the issue is more pertinent to suicide prevention. To what extent do suicide prevention tactic make the fundamental attribution error? The majority of suicide prevention tactics (such as crisis hotlines and antidepressants) focus on the individual whereas only a minority of suicide prevention tactic focus on the environment (such as gun control and preventing access to suicide venues). None of the current tactics focus on improving the quality and nature of the life of the population as a whole.

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[7] It is obvious that the fundamental error has similarities to the construct of locus of control, that is, whether people attribute their behavior to internal forces, the actions of powerful others (external forces) or chance.

[8] This article was published in the Journal of Personality & Social Psychology which, by its title, encompasses both internal; and external attributions.

A second question is whether the fundamental attribution error is valid for suicidal behavior. Suicide is extremely rare. In the United States, only 14 people will die by suicide each year out of every 100,000. The interpersonal environment is similar for millions of Americans in any year, but only a few will die by suicide. Can suicide really be attributed to external factors (e.g., external precipitating factors)?

In the case of the suicide of Sylvia Plath, at the time of her death her husband (Ted Hughes) had deserted her and her two children for another lover. She was living alone with her two children in a cold London apartment and suffering from influenza. She had a history of depression (probably bipolar depression) and had been hospitalized and subjected to ECT during her undergraduate years. Lester (2008) discussed how he, like many feminists, had always been angry at Ted Hughes, blaming him for Plath's suicide (external attribution). Later, Lester realized that thousands of marriages break up every year, often leaving wives with children to raise in social circumstances that pose great difficulties. Lester, therefore, used internal attributions to explain Plath's suicide.

Researchers, of course, have examined the role only of superficial and distal external factors in suicide. Separations and divorce are distal variables. We have come across no study in the last 50 years that examined the actual interactions within the interpersonal networks of suicidal individuals. Anecdotal reports exist, such as Richman and Rosenbaum's (1970; Rosenbaum & Richman, 1970) observations of next of kin interacting with attempted suicides in the hospital, but no meaningful research studies. In the 1960s, Hattem (1964) studied the attempted suicides and their spouses and drew conclusions about their interpersonal interactions, while Lester (1969) found that suicidal undergraduates were more often dependent on people whom they resented than were non-suicidal undergraduates. Such research has been rare since the 1960s.

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