

Suicide Studies, 2021, 2(3)

Contents

The end of suicidology continued: David Lester	2
An ecological study of handedness and suicide rates: David Lester & Behnam Tavakkol	6
Nick: Drake: An analysis of the song lyrics of a suicide: David Lester	12
An examination of the lyrics of musicians who died by suicide: John F. Gunn III & David Lester	15
Body Mass Index, ectomorphy, and suicidality: Results from the 2009 Youth Risk Behavior Survey: David Lester & John F. Gunn III	23
Body attitudes and suicidal ideation: B.C. Ben Park, Jung-Jin Kim & David Lester	29
Police officer suicides after the Capitol riot: David Lester	35
The language of suicide: David Lester	37

THE END OF SUICIDIOLOGY CONTINUED

David Lester

I am well-known for claiming that we have reached *the end of suicidology* (Lester, 2000, 2019). By this, I mean that I do not think that researchers and theoreticians will advance our understanding of why people die by suicide. There are several aspects to this.

Suicide is Statistically Rare

First, suicide is statistically rare (Lester, 1994). Rare events are very difficult to predict. However, there are rare events in the physical world (such as hurricanes and lightning strikes) that are rare, but their mechanisms of development are understood.

Too Many Articles Published

Second, the literature of suicide is becoming so large that a comprehensive view of it is not possible. In my four books entitled *Why People Kill Themselves*, I reviewed every work on suicide that I could find from 1897 to 1997. I used abstracts from *every* discipline. I don't think any one person could do this anymore. I just now downloaded the articles on suicide and self-harm from SafetyLit¹ for May 2, 2021, and there were 106 articles listed. In 52 weeks, that would extrapolate to 5,512 articles in 2021.

Obscure and Low Prestige Journals

I am not sure that SafetyLit searches all the possible journal domains: anthropology, gender studies, media studies, criminal justice studies, etc. Furthermore, many academic institutions and researchers frown on predatory journals (that is, those that charge a fee²), and most of those articles are not included in abstracting services. However, this does not mean that none of them are making a useful contribution to the field.

For example, my cohort theory of suicide (Lester, 1984) proposed that each cohort of the population born may have only a limited number of potential suicides. If this cohort has a high suicide rate early in life, then it will have a low suicide rate later in life, and *vice versa*. I found this theory in an article by Uematsu (1961) published in *Acta Medica et Biologica* which is not a commonly perused journal. (An article by M. Uematsu in 1961 is listed in PubMed, but it is not his article on suicide.)

If we are seriously interested in studying suicide, then some person or team might profitably search predatory journals for articles on suicide. The most prestigious journals often refuse to publish innovative and short articles on topics. In the good old days, the two journals *Psychological Reports* and *Perceptual & Motor Skills*, published by Robert and

¹ www.safetyleit.org/archive.htm

² Some prestigious charge submission and publication fees too.

Carol Ammons, would often publish an article on a new idea, and this idea would appear in the prestigious journal many years later with more substantial research supporting it. The original idea, however, would be in the Ammons's journals.³

Low Levels of Suicidality

It has often been argued that an understanding of suicidal ideation or of suicide attempts may not advance our knowledge of those who die by suicide. The best that can be said is that the three groups have a limited, quite small overlap in causative factors. Lester, et al. (1979) proposed how this problem might be overcome (by dividing a sample of attempted suicides into groups by the level of their suicide intent and then extrapolating to completed suicides), but their proposal has received very little attention. Recently, I argued that suicidologists should focus on completed suicides (Lester, 2021).

A Small Test of My Hypothesis

Of course, those 106 articles in the May 2, 2021, issue of SafetyLit are only a minuscule sample of the literature on suicide that will appear in 2021. However, was anything useful published, useful, that is, for furthering our understanding on completed suicide?

A suicide had a rust stain on his finger from the gun

Suicides who used poisoning differed in age and sex from those using other methods.

Omitting suicides by poisoning, 16% of those using other methods tested positive for opioids.

Barriers to transitioning from the ER to outpatient treatment

Pediatricians asking parents about safe gun storage

Patients with major depression, with and without suicidal ideation, differed in their core structural network connectome as noted in the MRIs;

Incarceration of parents and substance misuse contributed to planning suicide in young African Americans

On an addiction recovery program

Zero genetic influence in attempted suicides using genome-wide association

A case of suicide using a table saw

Contact with a suicide prevention worker reduced subsequent risk of attempted suicide in veterans

I'm getting tired already. For all those articles from 1897 to 1997, I had a 3-by-5 card filled out! So, far two of the ten articles are on completed suicide but are of little or no interest. Let me focus on those that remain on the list that seem to be on completed suicide.

A protocol for a study not yet carried out!!!!

Best practices for psychological autopsies

Two premature studies on COVID and suicide (good studies will not be possible for a year or two)

³ It used to be a joke that you get one point for every article published, except for articles published in the Ammons's journal for which you get a point deducted.

Comment with no data on pesticides and suicide
The death rate in those who ingest pesticides
A comment on someone else's article on the trends in poisoning suicides in Canada – could it be due to misclassification?
Suicide rates by veterans by area (zip code) affected by variables such as latitude, hours of sunshine, rates of firearm ownership, etc.
A case of suicide after taking Dextromethorphan
News coverage of suicide in Brazil
News coverage of suicide in India
Youth suicide on the rise in Malawi
Review of suicide during epidemics of infectious diseases: little robust evidence
Celebrity suicides result in a rise in suicides in the next few days in South Korea
How to reduce suicide in veterans transitioning out of the military
An attempt to predict the impact of California's Mental Health Services Act on suicides. No impact was predicted (This was not a direct study of its impact)
Only white American are less likely to die by suicide after a mental health visit
Patients with primary malignant bone tumors have a higher risk of suicide
Editorial: opioid addicts have a high rate of suicide
Reason for medical students in India to die by suicide (such as academic stress)
In Massachusetts, Workers in occupations with higher injury and illnesses rates and more job insecurity had higher rates of deaths of despair
A comment of an article reporting three suicides using sodium nitrite
An increased suicide mortality rate was associated with weight loss in the year before a suicide

I did not expect any startling discoveries or new ideas, and there were not any.

Perhaps it would be better to study a suicidology journal. *Suicide & Life-Threatening Behavior* is edited by Thomas Joiner, and 32%-45% of the articles in that journal in recent years have been on Joiner's Interpersonal Theory of Suicide (Hjelmeland & Knizek, 2020) which raises ethical issues. Let us look at one issue of the *Archives of Suicide Research* (2021, issue 1), a journal which has less bias.

LGBTQ youth have higher rates of suicidal ideation and behavior: a review
Problems in adult attachment are associated with suicidal ideation: a review
Experience of racial discrimination in Africa-American men is associated with suicidal ideation
Race/ethnic groups who die by suicide differ in substance abuse, physical health and relationship problems
Greater social support is associated with less suicidal ideation in prisoners
Suicidal ideation predicts later attempted suicide in veterans
Emotion dysregulation predicts suicidal ideation in veterans
Lack of optimism, as well as perceived burdensomeness, predicted suicidal ideation in inpatient adolescents
An education program for clinicians increased their knowledge about self-harm in the elderly

Only one study is on suicide (and that studied distal variables by the method used for suicide), and all of the variables studied have been known for a long time to be associated with suicidal ideation and attempts.

Discussion

I realize that I chose a very small sample of articles on suicide. A complete perusal of the thousands of articles in abstract services on suicide for 2021 might reveal a new theory or hypothesis about those who *die by suicide*, but I'm not optimistic.

Grants will be awarded, publications appear, academics will be tenured and promoted as a result, both predatory and non-predatory journals will make money, etc., but we won't be any closer to understanding suicide. Yes, I am a pessimist, but also I wish I had been able to keep scouring the literature after 1997 to see if there was a jewel out there waiting to be discovered, read and brought to the attention of us all.

References

- Hjelmeland, H., & Knizek, B. L. (2020). The emperor's new clothes! *Death Studies*, 44, 168-178
- Lester, D. (1984). Suicide risk by birth cohort. *Suicide & Life-Threatening Behavior*, 14, 132-136.
- Lester, D. (1994). Reflections on the statistical rarity of suicide. *Crisis*, 15, 187-188.
- Lester, D. (2000). The end of suicidology. *Crisis*, 21, 158-159.
- Lester, D. (2019). *The end of suicidology*. Hauppauge, NY: Nova.
- Lester, D. (2021). Suicidologists should stop studying non-lethal suicidal behavior. *Suicide Studies*, 2(1), 24-25.
- Lester, D., Beck, A. T. & Mitchell, B. (1979). Extrapolation from attempted suicides to completed suicides: a test. *Journal of Abnormal Psychology*, 88, 78-80.
- Uematsu, M. (1961). A statistical approach to the host factor of suicide in adolescence. *Acta Medica et Biologica*, 8, 279-286.

AN ECOLOGICAL STUDY OF HANDEDNESS AND SUICIDE RATES

David Lester & Behnam Tavakkol

Abstract: A study of the 48 continental, contiguous American states in 1980, 1990 and 2000 found that, the higher the percentage of left-handers in the states, the lower the suicide rate, and a tendency for homicide rates also to be lower. Suggestions were made for the reasons for these associations.

There is some evidence that handedness is associated with personality traits at the individual level. For example, in samples of American undergraduate students, Lester (1987a; Kalodner, et al., 1994) found that left-handed students were less extraverted (especially for women) and had lower scores for psychoticism (especially for men) on Eysenck's test of extraversion, neuroticism and psychoticism (Eysenck, et al., 1985).

It has also been suggested that handedness maybe associated with psychopathology. For example, Denny (2009) in a large population study of 12 European nations of people over the age of 50, found that left-handed people had higher scores on the Euro-D measure of depression (Copeland, 1999), and Elias, et al. (2001) found a similar difference in undergraduate students on the Beck Depression Inventory (Beck, et al., 1961). On the other hand, Taylor and Amir (1995) found no association between handedness and a diagnosis of affective disorder or schizophrenia, while French and Richards (1990) found no differences in state or trait anxiety between left and right-handed individuals in a study of adults that took into account the consistency of handedness.

There are some caveats warranted here. For example, in a study of undergraduate students, Christman (2014) found that consistent handers scored lower than inconsistent-handers on a test of sensation-seeking, were more right-wing authoritarian, and were more sensitive to disgust. It is typically found that left-handers are less consistent than right-handers, and so consistency in handedness may be an important confounding variable. In line with this, Grimshaw and Wilson (2013) found that mixed handed undergraduate students were more introverted than left or right-handed students.

There has been recent research on differences in personality at the ecological level. For example, Lynn (1991) gave a psychological inventory to college and university students in 43 countries to measure work ethic, achievement motivation, need for mastery, competitiveness, achievement versus conformity, money beliefs, attitude toward saving, and occupational preferences. He found that the scores on these scales accounted for half of the variance in economic growth for the period 1970-1985.

Rentfrow, Gosling and Potter (2008) placed a brief inventory to measure the Big-5 traits (Costa & McCrae, 1992) on a non-commercial, advertisement-free website which respondents could locate through a variety of channels. Between December 1999 and January 2005, responses from 619,397 individuals in the United States were obtained, permitting means scores for each of the big five dimensions to be obtained for each state. Rentfrow, et al. explored the utility of these scores for predicting state-level differences in crime, social capital, religiosity, political values, health and employment. For example, states with higher scores on agreeableness (A) had lower murder rates, residents who visited friends relatively more often and who were more likely to attend church, and residents with a longer life expectancy.

The present study was stimulated by a study that found that regional variations in handedness were associated with personality traits. McCann (2019) found that American states with a great percentage of left-handed residents were less in favour of conservation-Republican political views. States with a greater percentage of left-handed residents were more open and neurotic and less extraverted, agreeable and conscientious on the Big Five personality traits.

Voracek (2009) reported that one of the Big Five personality traits (neuroticism) was associated with the suicide rates of the USA. Suicide rates were negatively correlated with state scores for extraversion and neuroticism. Combining the studies of Voracek and McCann, states with higher extraversion score had lower suicide rates (Voracek) and fewer left-handed people (McCann). The correlations from Voracek and McCann are shown in Table 1.

The present study was designed to examine the prediction based on the research reviewed above that states with a higher state percentage of left-handed people would have higher suicide rates. Rentfrow, et al. (2008) also found that murder rates were associated with state scores on the Big-5 personality traits, and so homicide rates were also included in the study.

Method

Measures of handedness by state come from McManus (2009) for white residents born after 1950 and published by Gilbert and Wysocki (1992). These data were obtained from a survey about smell (based on scratch and sniff tests) conducted by the *National Geographic*, which included questions about the hand with which respondents wrote and threw. Respondents were aged 10-86, and McManus restricted the sample to white Americans.

Suicide rates were obtained for 1980, 1990 and 2000 from various sources: 1980 from Lester (1994), 1990 from <http://mypage.iu.edu/~jmcintos> produced for the American Association of Suicidology, and 2000 from Miniño, et al. (2002). The data were for the 48 continental and contiguous states.

In a study of suicide and homicide rates in 1980 in the states of the USA, Lester (1994) placed 37 socio-economic variables into a factor analysis and identified 7 factors. Of these, only one factor score was significantly correlated with suicide rates, a factor labelled social disintegration, and with the highest factor loadings for divorce rates and interstate migration. Accordingly, for the present study, divorce rates were included as a confounding variable. Homicide rates were most highly associated with a factor which the percentage of African Americans had the highest loading. Accordingly, this percentage was added as a confounding variable.

Divorce rates for 2000 were obtained from www.cdc.gov/nchs/data/dvs/state-divorce-rates-90-95-99-18.pdf, supplemented by www.infoplease.com/us/family-statistics/divorce-rates-state-1990-2009. Divorce rates are not available for Indiana. The percentage of African Americans was obtained from www.census.gov/prod/2001pubs/c2kbr01-5.pdf

Results

The descriptive statistics are shown in Table 2 and the correlations in Table 3. The Pearson correlations between the percentage of left-handers and the suicide rates were -0.14 (not statistically significant) for 1980, -0.31 (two-tailed $p < .05$) for 1990, and -0.37 ($p < .01$) for 2000.

To check on the effect of sex, the male and females suicide rates for 1990 by sex were correlated with the percentage of left-handers in the state. The correlation for males was significant ($r = -0.35, p < .05$) and but not the correlation for females ($r = -0.15$). Controlling for the confounding effect of the divorce rate in 2000, the partial correlation coefficient was -0.38 (two-tailed $p < .01$).

Incidentally, no significant associations were found for state homicide rates and the percentage of left-handers. For 2000, the Pearson correlation was -0.25 ($p < .10$). However, controlling for the percentage of African Americans, the partial correlation was statistically significant (partial $r = -0.36$, two-tailed $p < .05$).

Suicide rates increase to the west while homicide rates increase to the south. Using the latitude and longitude of the state capitals as the index, left-handedness increased to the east ($r = -0.55, p < .001$) while suicide rates (in 2000) increased to the west ($r = 0.59, p < .001$) and homicide rates (in 2000) increased to the south ($r = 0.79, p < .001$).

Discussion

Although research on individuals indicates that left-handers may be more depressed than right-handers, the ecological correlations indicate that states with a higher percentage of left-handers have lower suicide rates. This negative association was found for all three years studied (1980, 1990 and 2000) and statistically significant for two of the three years. The association seemed to be stronger for men than for women.

The association between the percentage of left-handers in the states and homicide rates was negative, similar to that for suicide rates. This is surprising. In the theory proposed by Henry and Short (1954), suicide and homicide are viewed as opposite behaviors. When people have external causes to blame for their misery, they will be angry and assaultive but, when they have no external cause to blame for their misery, they will blame themselves and become depressed and prone to suicide. Lester (1987b) found that most sociological studies of suicide and homicide confirm that variables that correlate positively with suicide also correlate negatively with homicide, and *vice versa*.

The ecological fallacy is when the results of studies of regions are applied to individuals. In the present case, there has been no reported research on whether handedness is associated with suicidal ideation and behavior. Future research should explore this association at the individual level.

Given the research findings reviewed above that left-handers have higher scores on measures of depression, it might have been expected that the ecological correlation between left-handers and suicide rates should have been positive. However, if left-handers are more depressed because of extra stress in life caused by being left-handed, then they have a clear reason for their depression, and so are less likely to be suicidal according to the theory of Henry and Short, discussed above. Again, research on individuals would be of interest.

Much of the research on handedness in individuals shows that those with mixed handedness may have more signs of psychopathology than consistent left-handers and right handers (Peters, et al., 2006), and future surveys of populations should assess mixed handedness.

One limitation in the study is that spatial autocorrelation (Valcu & Kempenaers, 2010) is often found for studies of neighboring regions, such as the states or provinces of a country or for neighboring countries as found in Europe, and this impairs interpretation of the results of ecological studies.

References

- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571.
- Christman, S. (2014). Individual differences in personality as a function of the degree of handedness: consistent-handers are less sensation seeking, more authoritarian, and more sensitive to disgust. *L laterality*, 19, 354-367.
- Copeland, J. R. M. (1999). Depression of older age. *British Journal of Psychiatry*, 174, 304-306.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEG Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Denny, K. (2009). Handedness and depression. *L laterality*, 14, 246-255.
- Elias, L. j., Saucier, D. M., & Guylee, M. J. (2001). Handedness and depression in university students. *Brain & Cognition*, 46, 125-129.

- Eysenck, S. B. G., Eysenck, H. J., & Barrett, P. (1985). A revised version of the psychoticism scale. *Personality & Individual Differences*, 6, 21-29.
- French, C. C., & Richards, A. (1990). The relationship between handedness, anxiety and questionnaire response patterns. *British Journal of Psychology*, 81, 57-61.
- Gilbert, A. N. & Wysocki, C. J. (1992). Hand preference and age in the United States. *Neuropsychologia*, 30, 601-8.
- Grimshaw, G. M., & Wilson, M. S. (2013). A sinister plot? Facts, beliefs, and stereotypes about the left-handed personality. *Laterality*, 18, 135-151.
- Henry, A. F., & Short, J. F. (1954). *Suicide and homicide*. Glencoe, IL: Free Press.
- Kalodner, M. F., Rodin, R. A., & Lester, D. (1994). Handedness and personality. *Perceptual & Motor Skills*, 78, 1066.
- Lester, D. (1987a). The relationship between handedness and personality traits. *Personality & Individual Differences*, 8, 437.
- Lester, D. (1987b). Murders and suicide: Are they polar opposites? *Behavioral Sciences & the Law*, 5, 49-60.
- Lester D. (1994). *Patterns of suicide and homicide in America*. Commack, NY: Nova Science.
- Lynn, R. (1991). *The secret of the miracle economy*. London, UK: The Social Affairs Unit.
- McCann, S. J. H. (2019). Handedness predicts Conservative-Republican preference and eliminates relations of Big Five personality to political orientation using the 48 contiguous American states as analytical units, *Laterality*, 24, 289-319.
- McManus, I. C. (2009). The history and geography of human handedness. In I. E. C. Sommer & R. S. Kahn (Eds.) *Language lateralization and psychosis*, pp. 37-57. New York: Cambridge University Press.
- Miníño, A. M., Arias, E., Kochanek, K. D., Murphy, S. L., & Smith, B. L. (2002). Deaths: final data for 2000. *National Vital Statistics Report*, 50(15). 1-120.
- Peters, M., Reimers, S., & Manning, J. T. (2006). Hand preference for writing and associations with selected demographic and behavioral variables in 255,100 subjects. *Brain & Cognition*, 62, 177-189.
- Rentfrow, P. J., Gosling, S.D., & Potter, J. (2008). A theory of the emergence, persistence, and expression of geographic variation in psychological characteristics. *Perspectives on Psychological Science*, 3, 339-369.
- Taylor, M. A., & Amir, N. (1995). Sinister psychotics. *Journal of Nervous & Mental Disease*, 183, 3-9.
- Valcu, M., & Kempenaers, B. (2010). Spatial autocorrelation: an overlooked concept in behavioural ecology. *Behavioral Ecology*, 21, 902-905.
- Voracek, M. (2009). Big five personality factors and suicide rates in the United States. *Perceptual & Motor Skills*, 109, 208-212.

Table 1: Results from Voracek (2009) and McCann (2019): Correlations between state measures of the Big-5 personality traits and suicide rates and the percentage of left-handed people in the states

	Voracek Suicide rate	McCann % Left-handers
O	-0.14	+0.49***
C	+0.20	-0.45***
E	-0.25*	-0.32*
A	-0.11	-0.38**
N	-0.45***	+0.39**

Table 2: Descriptive statistics

Variable	Minimum	Maximum	Mean	SD
% left-handed	9.7	13.7	11.24	0.96
Suicide rate: 1980	7.4	22.9	12.31	2.67
Suicide rate: 1990	7.3	24.5	13.49	3.18
Males	12.4	32.8	22.29	5.07
Females	2.2	8.9	5.01	1.29
Suicide rate: 2000	6.2	21.3	11.93	3.08
Homicide rate 2000	1.2	13.7	5.33	2.93
Divorce rate 2000	2.5	9.9	4.23	1.24
% African American	0.5	36.6	10.73	9.71

Table 3: Correlations between the percentage of left-handers in the states and the suicide and homicide rates

	r	partial r
Suicide rates		
2000	-0.37**	-0.39** (controlling for divorce rate)
1990	-0.31*	
Males 1990	-0.35*	
Females 1990	-0.15	
1980	-0.14	
Homicide rates		
2000	-0.25	-0.36* (controlling for % African Americans)

* two-tailed p < .05

* two-tailed p < .01

NICK DRAKE: AN ANALYSIS OF THE SONG LYRICS OF A SUICIDE

David Lester

Abstract: An analysis of the lyrics of the songs written by Nick Drake (1948-1974) over his three albums showed, as predicted, that the percentage of positive emotions increase from the first album (in 1969) to the third (in 1972), two years prior to his death by suicide.

Nick Drake (1948-1974) was an English song-writer and singer. He recorded three albums, but none of them sold more than 5,000 copies at the time. However, after his death, his work became more widely acclaimed. He was reluctant to perform live which perhaps contributed to his lack-luster sales. He suffered from depression for much of his life, which is reflected in his lyrics. He died at home, living with his mother, after an overdose of the prescribed anti-depressant amitriptyline. The coroner ruled his death a suicide, but commentators have wondered whether his death was really a suicide.

There has been research on diaries and letters of suicides to explore whether their word usage changes as the time of the suicide draws closer. Lester (2014) analyzed several diaries, both qualitatively and quantitatively, to search for consistent trends. In the study of the last year of the diary of a young women (Katie) who died by suicide, Pennebaker and Stone (2004), using a computer program to analyze the word content objectively, found that there was an increase in positive emotions over time, especially in the last four months of the Katie's life. This objective analysis matched the subjective impression of Canetto (2004) who felt that there was hope for improvement at the end of the diary and entitled her essay "Why did you kill yourself, Katie?" because she kept expecting a happy resolution even though she knew she was reading the diary of a suicide!

Nick Drake died in 1974 and his three albums appeared in 1969, 1971, and 1972. The present research addresses the question of whether there were consistent trends over time in the lyrics in these three albums as Drake's suicide grew closer, in particular, an increase in positive emotions.

Method

To provide reasonably sized samples of words, the lyrics were analyzed by song, with 10 songs with lyrics in *Five Leaves Left*, 7 songs with lyrics in *Bryter Layter*, and 10 songs with lyrics in *Pink Moon*.

The Linguistic Inquiry and Word Count (LIWC) is a computer program developed by Pennebaker, et al. (2001) to count words in 82 content categories, such as words concerned with anger, causation, death, etc. The results are presented as percentages of the total word count.

Results

The prediction for this analysis was that the percentage of positive emotions would increase over the three albums. This was found: *Five Leaves Left* mean percentage 1.75 (sd = 0.68), *Bryter Layter* mean percentage 2.35 (sd = 1.71) and *Pink Moon* mean percentage 4.62 (sd = 3.89): F = 3.41, df = 2, 24, p = 0.05.

Looking at the individual emotions, only sad approached statistical significance (p = 0.06), declining from 0.61 to 0.19 and then 0.09 over the three albums. (The other emotions counted are anxiety and anger.)

Incidentally, eight other content categories changed significantly over the three albums, although no prediction was made as to the nature of these changes: word count, words per sentence, discrepancies (should, would), inhibition (block, constrain), senses (hear, smell), see (saw, view), family (brother, father), and up (above, over).

Discussion

The results of this study confirmed the prediction made on the basis of an analysis of the last year of a diary of a young woman who died by suicide, namely that there would be an increase in positive emotions closer to the time of death. In this study of Nick Drake's song lyrics, however, the final album was released two years prior to his death by suicide, whereas the last entry of Katie's diary was eight days prior to her death. It would be of interest to know if Drake wrote any songs in the period from *Pink Moon* to his death that were never recorded or kept by his heirs.

One problem with the study of one suicide is that the results may not generalize to other suicides who will differ in age, sex, psychiatric status and motives for suicide. In this case, apart from being in their 20s, Katie and Nick Drake differ in sex and in culture (American versus English). In one other study, that of the letters written by a young man to a friend in the years prior to his death by suicide, Barnes, et al. (2007) found a decrease in negative emotions over time, but not an increase in positive emotions.

The conclusion that can perhaps be drawn from this study, in combination with the two other studies cited above, is that just because a person sounds more positive (or less negative) as time passes does not always indicate that the risk of suicide is now lower.

References

- Barnes, D. H., Lawal-Solarin, F. W., & Lester, D. (2007). Letters from a suicide. *Death Studies*, 31, 671-678.
- Canetto, S. S. (2004). Why did you kill yourself, Katie? In D. Lester (Ed.) *Katie's diary: unlocking the mystery of a suicide*, pp 41-54. New York: Brunner-Routledge.
- Lester, D. (2014). *The "I" of the storm: understanding the suicidal mind*. Berlin, Germany: De Gruyter.

- Pennebaker, J.W., Francis, M.E., Booth, R.J. (2001). *Linguistic Inquiry and Word Count, LIWC2001: A computerized text analysis program*. Mahwah, NJ: Erlbaum.
- Pennebaker, J. W., & Stone, L. D. (2004). What was she trying to say? In D. Lester (Ed.) *Katie's diary: unlocking the mystery of a suicide*, pp. 55-80. New York: Brunner-Routledge.

AN EXAMINAITON OF THE LYRICS OF MUSICIANS WHO DIED BY SUICIDE

John F. Gunn III and David Lester

Abstract: Changes over in the lyrics of three musicians who died by suicide were examined: Adrian Borland, Kurt Cobain and Stuart Adamson. There were no changes that were found in all three sets of lyrics over time, indicating the uniqueness of the psychological states leading up to suicide.

Analyses of the diaries and suicide notes left behind by those who have died by suicide have increased in recent years. These notes and diaries are sometimes the only means of exploring directly the suicidal mind. Lester (2004) edited a book on the diary of a young woman who had died by suicide, and one chapter of the book reported a text analysis from Pennebaker and Stone (2004) using the Linguistic Inquiry and Word Count (LIWC), a computer program developed by Pennebaker, Francis, and Booth (2001). The program counts 74 content categories, such as pronouns (such as "I" and "You"), emotional words (negative and positive), and particular words (concerned with death or religion, for example). Pennebaker and Stone found that, over the last year of the woman's life, the proportion of positive words increased, and the proportion of negative words decreased. They also found that she spoke more of religion and less of death.

Barnes, Lawal-Solarin, and Lester (2007) examined the letters written by a suicide to a friend and found an increase of the overall positive tone of the letters. Using the LIWC, Lester (2009) analyzed the final year of Cesare Pavese's (1908-1950) diary. Similarly to the findings in Lester (2004) and Barnes, Lawal-Solarin, and Lester (2007), Lester (2009) found that there was an increase in positive emotions over the last year of Pavese's life.

Stirman and Pennebaker (2001) compared poems written by poets who had died by suicide and those who had not using the LIWC program and found that indices of social integration differentiated the two groups. For example, poets who died of suicide used more references to the self than did the non-suicide poets. Following in the footsteps of the Stirman and Pennebaker (2001) study, this chapter presents the results of a study using the LIWC program of lyrics written by musicians who died by suicide. Although many musicians have died by suicide, three were selected for this analysis: Kurt Cobain (1967-1994), Stuart Adamson (1958-2001), and Adrian Borland (1957-1999) since they had a large enough sample of lyrics for the analysis.

Kurt Cobain was the lead singer and songwriter of the grunge band Nirvana. Cobain, along with Krist Novoselic, started the band in 1985. Nirvana released three albums: Bleach (1989), Nevermind (1991), and In Utero (1993). In the later years of his life, Cobain suffered from addiction to heroin, illness, and depression. Cobain was found dead from a self-inflicted gunshot wound to the head on April 8, 1994 at his home in Seattle. The circumstances of his

death have been contested by some, but it was officially ruled a suicide.

Stuart Adamson was a Scottish guitarist, born in 1958. He was the founder of the art punk band The Skids, the rock group Big Country, and the alternative country rock group The Raphaels. The Skids released 4 albums (Scared to Dance, 1979; Days in Europa, 1979; The Absolute Game, 1980; Joy, 1981), Big Country released eight albums (The Crossing, 1983; Steeltown, 1984; The Seer, 1986; Peace In Our Time, 1988; No Place Like Home, 1991; The Buffalo Skinners, 1993; Why The Long Face, 1995; Driving to Damascus, 1999), while The Raphaels released only one album (Supernatural, 2001). Adamson was found dead in his hotel room at the Best Western Plaza Hotel in Honolulu, Hawaii on December 16, 2001. The cause of death was ruled to be suicide by hanging.

Adrian Borland was an English singer and songwriter best known for being the lead singer of the post-punk band The Sound. The Sound released six albums (Jeopardy, 1980; From the Lion's Mouth, 1981; All Fall Down, 1982; Heads and Hearts, 1985; In the Hothouse, 1985; Thunder Up, 1987) and Borland released eight solo albums (Alexandria, 1989; Brittle Heaven, 1992; Beautiful Ammunition, 1994; Cinematic, 1995; 5:00 AM, 1997; The Last Day of the Rain Machine, 2000; Harmony & Destruction, 2002; The Amsterdam Tapes, 2006). The last three were posthumous.

The discography for all three musicians was acquired through use of the website www.wikipedia.org. Once this was done, an Internet search engine (www.google.com) was used to acquire the lyrics of each song on the album. Several song lyrics were not available. Adrian Borland had 21 (26.2%) missing, Stuart Adamson had 23 (15.8%) missing, while Kurt Cobain had no missing lyrics. An analysis was conducted comparing the artists' albums over time and then comparing their songs over time. Adrian Borland had 7 albums with a total of 53 songs, Kurt Cobain had 4 albums with a total of 46 songs, and Stuart Adamson had 11 albums with a total of 121 songs. The albums were numbered sequentially, 1-7 for Adam Borland, 1 to 4 for Kurt Cobain and 1 to 11 for Stuart Adamson. For the song analysis, each song was given the number corresponding to the album number in which it is included.

The LIWC program calculates proportions of words in particular categories, and there are 74 content categories. Therefore, at the 5% level of statistical significance, four significant correlations would be expected by chance alone.

Analysis by Album

For the comparison of the artists' albums, there were 13 significant relationships, of which only one was shared among two of the artists, and none were shared between all three (see Table 1). In addition to this, there were 12 items trending towards significance ($p < .10$), of which two were shared by two of the artists while none were shared among all three.

Adrian Borland. From Adrian Borland's albums, several significant relationships are noteworthy. There was an increase in feeling terms (e.g., "touch," "hold," and "felt") over time and a decrease in references to time (e.g., "hour," "day," and "o'clock") over time. There were also several relationships of interest that trended toward significance: a decrease in

words per sentence over time and a decrease in inhibition terms (e.g., “block” and “constrain”).

Kurt Cobain. From Kurt Cobain's albums, one significant relationship is worthy of note. There was a decrease in sensing terms (e.g. “see”, “touch”, “listen”) over time. One trending relationships is also worthy of note. There was an increase in the use of the pronoun I over time.

Stuart Adamson. From Stuart Adamson's albums, there were several significant relationships worthy of note. Over time there was an increase in pronoun use (e.g. “I”, “We”, “You're”). The use of the pronoun you increased, there was an increase in tentative terms (e.g. “maybe” “perhaps”), there was an increase in references to other people, a decrease in the references to friends, and there was a decrease in references to death. Several trending relationships are worthy of note as well. There was an increase in word count, a decrease in six letter words, an increase in references to the self, and an increase in sexual references.

The only variable found to be significant in more than one artist were unique words. Both Kurt Cobain's and Stuart Adamson's albums had a significant relationship with unique words. However, Kurt Cobain's albums were positively correlated with unique words, indicating that as time went by he used more unique words, while Stuart Adamson's albums had a negative relationship with unique words indicating that as time passed he used fewer unique words. Two variables were also trending towards significance in more than one artist's albums. Both Adrian Borland and Stuart Adamson had a decrease in the use of articles (“a”, “an”) going from earlier albums to later albums. Finally, Adrian Borland showed an increase in leisure terms (“house” “tv” “movie”), while Stuart Adamson showed a decrease in leisure terms.

Analysis by Song

For the comparison of songs over time, there were 22 significant relationships, of which 1 was found significant in two of the artists lyrics and 1 was found significant in all three of their lyrics. In addition to this, there were 12 trending towards significance, of which 2 were found in two artists' lyrics. Examine Table 2 for a more in-depth view of these significant relationships.

Adrian Borland. Several of findings co-occurred with significant relationships in other artists and therefore will be discussed later. Of the variables that were trending towards significance ($p < .10$), several are notable. There was a decrease in references to time and an increase in leisure terms.

Kurt Cobain. One variable found to be trending toward significance was the use of the pronoun “you.” Use of the word you decreased from Cobain's earlier songs to his later songs, and there was a decrease in anxiety terms.

Stuart Adamson. Several significant relationships were found in Stuart Adamson's songs that were not found in Cobain's or Borland's. There was an increase in sentence length

from his earlier songs to his later songs. However there was a decrease in the length of words, there was an increase in pronoun use, an increase in the use of “I”, an increase in the reference to the self, a decrease in negative emotions, an increase in references to others, a decrease in references to friends, an increase in references to the present, a decrease in leisure terms, a decrease in references to death, and an increase in references to sexual words. In addition to these significant relationships, several variables were trending towards significance. There was a decrease in references to family and an increase in references to the future.

There were four variables found in more than one set of lyrics, some significant and some trending towards significance. Word count was found to increase in both Adrian Borland and Stuart Adamson's lyrics closer to their deaths. The use of unique words decreased in both Adrian Borland and Stuart Adamson's lyrics closer to their deaths but increased in Kurt Cobain's lyrics. Uses of the pronoun “you” decreased in Kurt Cobain's lyrics, but increased in Stuart Adamson's. There was also an increase in leisure terms in the lyrics of Adrian Borland, but a decrease in the lyrics of Stuart Adamson.

Discussion

There are several trends that are worthy of further discussion. Kurt Cobain's lyrics showed a decrease in words associated with anxiety when analyzing the lyrics of each song, and a decrease in the use of the pronoun “you.” When analyzing his albums there was a trend toward an increase in the use of the pronoun “I.” This increased focus on the self was noted by Stirman and Pennebaker (2001) when analyzing the poems of poets who had died of suicide. This indicates that there was an increased focus on the self by Kurt Cobain and this, coupled with the decrease in the use of “you,” would seem to indicate that this increase in self-references came at the exclusion of references to others.

Stuart Adamson's lyrics, by far the richest due to the greater number of songs, showed an increase in pronoun use overall, and specifically an increase in the use of “you.” This finding contradicts the decrease in “you” found in Kurt Cobain's lyrics. There was an increase in references to other people, but a decrease in the references to friends. Of particular interest there was a decrease in references to death. Speigel and Neuringer (1963) surmised that, prior to the suicidal act, a person's thinking may be diverted from thoughts of death. This finding lends tentative support to this notion, as in both the album analysis and the song analysis, references to death decreased closer to the time of Adamson's death by suicide. Also of interest was the increase in use of the pronoun “I” when analyzing the songs individually. This, along with an increase in self-references, lends further support for Stirman and Pennebaker (2001). Interestingly enough, there was also a decrease in negative emotions. This finding is not as uncommon as one would think. As noted above, Pennebaker and Stone (2004) found an increase in positive emotion terms and a decrease in negative emotion terms when analyzing the diary of a young woman who had died from suicide. This trend was also found in Lester (2009) when the diary of Cesare Pavese was analyzed using the LIWC along with the increase in self-orientation. There was also an increase in the sentence length the closer to death, but a decrease in the complexity of the words. This might indicate that, although the artist had more to say, the cognitive constriction is often associated with suicidal

crises was beginning to take its toll. A similar trend was found in all but Kurt Cobain's lyrics, as Adrian Borland and Stuart Adamson's lyrics showed an increase in word count over time, but a decrease in the use of unique words, while Kurt Cobain showed an increase in unique words.

There are several limitations to the present study. First, we did not compare the lyrics of musician suicides with the lyrics of those who did not die by suicide. This was considered, but due to the fact that the three artists were members of several music genres, we felt that selecting a control group would be difficult and would not accurately represent a control group for these artists. If the lyrics of a larger sample of musicians who died by suicide could be obtained, then a comparison with the lyrics of nonsuicidal musicians would be feasible.

References

- Adrian Borland*. (2011, November 13). Retrieved from
http://en.wikipedia.org/wiki/Adrian_Borland.
- Barnes, D. H., Lawal-Solarin, F. W., & Lester, D. (2007). Letters from a suicide. *Death Studies*, 31, 671-678.
- Kurt Cobain*. (2011, November 24). Retrieved from
http://en.wikipedia.org/wiki/Kurt_Cobain.
- Lester, D. (Ed.). (2004). *Katie's Diary*. New York: Brunner-Routledge.
- Pennebaker, J. W., Francis, M. E., & Booth, R. J. (2001). *Linguistic inquiry and word count*. Mahwah, NJ: Erlbaum.
- Pennebaker, J. W., & Stone, L. D. (2004). What was she trying to say? In D. Lester (Ed.), *Katie's diary* (pp. 55-79). New York: Brunner-Routledge.
- Stirman, S. W., & Pennebaker, J. W. (2001). Word use in the poetry of suicidal and non-suicidal poets. *Psychosomatic Medicine*, 63, 517-522.
- Stuart Adamson*. (2011, November 1). Retrieved from
http://en.wikipedia.org/wiki/Stuart_Adamson.

Table 1: Correlations over albums

	Adrian Borland 7 albums	Kurt Cobain 4 albums	Stuart Adamson 11 albums
WC	0.07	-0.69	0.60 .050
WPS	-0.69 (.084)	0.17	0.51
Qmarks	0.82 .024	-0.47	-0.18
Unique	0.04	0.96 .040	-0.68 .021
Dic	-0.41	-0.42	0.48
Sixltr	0.09	0.52	-0.54 (.090)
Abbrev	-0.61	-	-
Pronoun	-0.32	-0.17	0.79 (.004)
I	0.04	0.92 (.076)	0.50
We	-0.04	-0.21	0.25
Self	0.01	0.82	0.54 (.084)
You	0.44	-0.85	0.73 .011
Other	-0.48	-0.55	0.45
Negate	0.15	-0.71	-0.15
Assent	-0.48	-0.15	0.33
Article	-0.67 (.099)	0.68	-0.58 (.061)
Preps	0.15	0.48	0.42
Number	-0.01	0.39	0.36
Affect	-0.39	-0.01	-0.21
Posemo	-0.40	-0.59	0.21
Posfeel	-0.11	-0.38	0.43
Optim	-0.53	-0.52	-0.17
Negemo	0.14	0.85	-0.50
Anx	0.47	-0.75	-0.25
Anger	0.23	0.73	-0.38
Sad	0.17	0.40	-0.26
Cogmech	-0.06	-0.25	-0.01
Cause	0.51	-0.56	-0.66 (.028)
Insight	0.30	-0.34	-0.12
Discrep	-0.13	-0.92 (.079)	0.23
Inhib	-0.68 (.091)	0.67	-0.45
Tentat	-0.41	0.46	0.65 (.029)
Certain	-0.08	0.81	-0.24
Senses	0.54	-1.00 (.003)	-0.49
See	0.56	-0.63	-0.28
Hear	-0.73 (.062)	-0.61	0.02
Feel	0.76 (.049)	-0.43	-0.44
Social	-0.37	-0.87	0.26
Comm.	0.05	-0.09	0.03
Othref	-0.43	-0.74	0.83 (.001)
Friends	0.20	0.06	-0.75 (.007)

Family	-	-0.06	-0.30
Humans	0.39	-0.77	-0.29
Time	-0.86 (.013)	0.86	-0.12
Past	-0.23	0.86	-0.39
Present	-0.06	-0.45	0.56 (.073)
Future	-0.41	-0.83	0.27
Space	-0.07	0.66	0.10
Up	0.34	0.93 (.073)	-0.09
Down	-0.20	-0.22	0.37
Incl	0.52	0.03	0.38
Excl	0.01	-0.13	0.27
Motion	0.18	0.29	0.03
Occup	-0.06	-0.34	-0.06
School	0.37	-0.59	-0.38
Job	-0.28	0.02	-0.35
Achieve	0.03	0.09	0.16
Leisure	0.75 (.053)	-0.08	-0.58 (.060)
Home	0.42	0.04	-0.23
Sports	0.35	0.26	-0.35
TV	0.11	-0.51	-0.10
Music	0.61	-0.14	-0.52
Money	-0.58	0.77	0.25
Metaph	0.08	0.10	-0.48
Relig	0.13	0.49	-0.21
Death	-0.09	-0.22	-0.61 .046
Physcal	0.14	0.14	0.36
Body	0.29	-0.25	-0.09
Sexual	-0.29	0.85	0.55 (.083)
Eating	0.12	-0.29	-0.17
Sleep	0.16	0.87	0.41
Groom	-0.25	-0.01	0.16
Swear	0.30	0.70	0.41

Table 2: Correlations over songs/tracks

	Adrian Borland 53 songs	Kurt Cobain 46 songs	Stuart Adamson 121 songs
WC	0.27 .048	-0.23	0.54 < .001
WPS	0.04	-0.16	0.53 < .001
Qmarks	0.16	-0.06	-0.06
Unique	-0.37 .007	0.34 .023	-0.43 < .001
Dic	0.02	-0.13	0.33 < .001
Sixltr	0.11	0.18	-0.34 < .001
Abbrev	-0.20	-	-
Pronoun	0.07	-0.13	0.50 < .001
I	0.08	0.10	0.29 .001
We	-0.03	-0.01	0.09
Self	0.06	0.10	0.31 .001
You	0.06	-0.25 (.096)	0.29 .001
Other	-0.20	-0.02	0.10
Negate	0.10	-0.18	-0.04
Assent	-0.24 (.081)	-0.03	0.12
Article	-0.04	0.12	-0.25 .006
Preps	0.04	0.12	0.15
Number	0.01	0.14	0.01
Affect	-0.05	-0.07	-0.08
Posemo	-0.10	-0.22	0.08
Posfeel	0.07	-0.21	0.13
Optim	-0.15	-0.16	-0.02
Negemo	0.04	0.14	-0.21 .019
Anx	0.01	-0.27 .074	-0.08
Anger	0.14	0.15	-0.14
Sad	0.07	0.12	-0.10
Cogmech	-0.15	-0.14	-0.02
Cause	0.21	-0.15	-0.19 .034
Insight	0.06	-0.20	-0.04
Discrep	-0.29 .033	-0.05	0.10
Inhib	-0.19	0.22	-0.16 (.088)
Tentat	-0.18	0.01	0.27 .003
Certain	-0.03	0.16	-0.07
Senses	0.05	-0.22	-0.17 (.067)
See	0.13	-0.27 (.068)	-0.09
Hear	-0.24 (.089)	-0.18	0.01
Feel	0.14	-0.10	-0.14
Social	-0.10	-0.24	0.13
Comm.	-0.08	-0.06	-0.01
Othref	-0.08	-0.19	0.34 < .001

Friends	0.13	-0.03	-0.20 .026
Family	-0.03	-0.15	.092
Humans	0.09	-0.21	-0.14
Time	-0.26 (.061)	0.11	-0.03
Past	0.05	0.14	-0.11
Present	0.07	-0.10	0.25 .005
Future	-0.16	-0.19	0.16 (.090)
Space	0.05	0.10	0.08
Up	0.13	0.04	0.04
Down	0.01	-0.04	0.10
Incl	0.05	0.05	0.10
Excl	-0.14	0.01	0.07
Motion	0.11	0.13	-0.02
Occup	0.04	-0.13	-0.04
School	0.14	-0.21	-0.09
Job	-0.07	-0.05	-0.06
Achieve	0.04	0.01	0.03
Leisure	0.25 (.066)	-0.02	-0.22 .014
Home	0.13	0.01	-0.08
Sports	0.16	0.07	-0.17
TV	-0.10	-0.12	-0.01
Music	0.19	-0.01	-0.11
Money	-0.15	0.26 (.080)	0.08
Metaph	0.01	0.01	-0.15
Relig	-0.01	0.04	-0.06
Death	0.03	-0.01	-0.26 .004
Physical	0.05	0.05	0.11
Body	0.01	-0.11	-0.03
Sexual	0.01	0.14	0.23 .012
Eating	0.17	-0.06	-0.10
Sleep	0.07	0.19	0.08
Groom	0.04	-0.11	0.10
Swear	0.12	0.13	0.14

BODY MASS INDEX, ECTOMORPHY, AND SUICIDALITY: RESULTS FROM THE 2009 YOUTH RISK BEHAVIOR SURVEY

David Lester & John F. Gunn III

Abstract: For female teenagers, suicidal ideation and attempts were more common in those who were heavier (that is, had lower BMI scores). Male teenagers did not show these associations.

While various risk factors for suicide have been examined, the relationship between weight and suicidality is less often explored. Lester (1981), examining Sheldon's concepts of endomorphy, ectomorphy and mesomorphy, found that nations with thinner children were likely to have higher suicide rates. This indicated that ectomorphy (the thinnest body-type) was associated with suicidal behavior, a claim made by Sheldon (1942). Lester (1987) went on to compare ectomorphy ratios to various characteristics of completed suicides, finding that ectomorphy scores were related to method of suicide (thinner men were more likely to use suffocation).

Eaton, Lowry, Brener, Galuska, and Crosby (2005) examined a large sample of 9-12th graders comparing their BMI and perceived weight with their past year suicide ideation and suicide attempt. They found that BMI was not significantly associated with either suicidal ideation or behavior when perceived weight was added to the model. They concluded that how adolescents perceive their body weight may be more predictive of suicidality than BMI alone. Stack and Lester (2007) examined the relationship between BMI and completed suicide. They found that women with higher BMI scores (i.e. thinner women), were at greater suicide risk. However, this finding did not hold up when controlling for sociodemographic variables.

Mukamal, Kawachi, Miller, and Rimm (2007) examined the relationship between BMI and suicide among a large sample of men followed over time. They found that men with higher BMI scores (i.e., heavier men) were at less risk of suicide than were men with lower BMI scores (i.e., thinner men). Bjerkeset, Romundstad, Evans, and Gunnell (2007) compared the relationship between BMI and height with anxiety, depression, and suicide. They found that higher BMI scores and greater height was associated with lower risk of suicide. Interestingly, they also found that depression increased as BMI increased. This indicates that the lowered risk of suicide among those with higher BMI is not due to a relationship between BMI and psychopathology. Magnusson, Rasmussen, Lawlor, Tynelius, and Gunnell (2006) further examined the relationship between BMI and suicide in a large sample of males. They found that risk of suicide decreased as BMI increased, indicating that heavier males were less likely to die by suicide than thinner males.

Research into BMI, ectomorphy, and their connection to suicidal behavior has had mixed results. Some findings have indicated that there is a decrease in risk for suicide stemming from elevated BMI, while others have found this relationship to disappear when considering sociodemographic factors or perceived weight. This paper examines the relationship between BMI and ectomorphy among a large national sample of adolescents.

Method

The data came from the 2009 Youth Risk Behavior Survey (REF) with data from a survey of 16,410 high school adolescents in the United States. They were asked for their weight and their height. From these, two measures were calculated: height/square root weight, an inverse proxy measure of BMI, and height/cube root weight, a proxy measure for ectomorphy scores. We used this inverse measure of BMI so as to make the results for BMI comparable to those for ectomorphy.

The students were also asked “During the past 12 months, did you ever consider attempting suicide?” (coded as yes/no) and “During the past 12 months, how many times did you actually attempt suicide?” (coded as zero versus once or more often).

Results and Discussion

The results are shown in Tables 1 and 2 where it can be seen, for females aged 15, 16, 17 and 18+, the BMI and ectomorphy scores were lower for girls who have considered suicide in the prior year and for girls aged 16, 17, and 18+ who have attempted suicide in the prior year. The results for younger girls and for boys of all ages were non-significant. For the older girls, therefore, the suicidal girls were heavier (had lower BMI scores) than the non-suicidal girls.

Previous research has not typically examined sex differences in the association between BMI and suicidality, and the results of the present study showed that there may be sex differences in the associations. In the study of female adults who died by Stack and Lester (2007) the association of the traditional measure of BMI and suicidal behavior was in the opposite direction to that for the girls in the present study using the inverse measure of BMI, suggesting that the associations between BMI and suicidal behavior may apply, at least for women, for lethal and non-lethal suicidal behavior..

References

- Bjerkneset, O., Romundstad, P., Evans, J., & Gunnell, D. (2008). Association of adult body mass index and height with anxiety, depression, and suicide in the general population. *American Journal of Epidemiology*, 167(2), 193-202.
- Eaton, D. K., Lowry, R., Brener, N. D., Galuska, D. A., & Crosby, A. E. (2005). Associations of body mass index and perceived weight with suicide ideation and suicide attempts among US high school students. *Archives of Pediatric & Adolescent Medicine*, 159, 513-519.
- Lester, D. (1981). Ectomorphy and suicide. *Journal of Social Psychology*, 113, 135-136.

- Lester, D. (1987). Ectomorphy ratios of completed suicides. *Perceptual & Motor Skills*, 64, 86.
- Magnusson, P. K. E., Rasmussen, F., Lawlor, D. A., Tynelius, P., & Gunnell, D. (2006). Association of body mass index with suicide mortality: A prospective cohort study of more than one million men. *American Journal of Epidemiology*, 163, 1-8.
- Mukamal, K. J., Kawachi, I., Miller, M., & Rimm, E. B. (2007). Body mass index and risk of suicide among men. *Archives of Internal Medicine*, 167, 468-475.
- Sheldon, W. *The varieties of temperament*. New York: Harper, 1942.
- Stack, S., & Lester, D. (2007). Body mass and suicide risk. *Crisis*, 28, 46-47.

Table 1: BMI and ectomorphy scores and suicidality by sex

Females

Suicidal Ideation		t-value	p
Yes	No		
N=1387	N=6135		
BMI	Mean (SD)	Mean (SD)	
0.208 (.020)	0.211 (.018)	5.94	< .001
Ectomorphy	0.412 (.027)	0.417 (.026)	< .001

Males

Suicidal Ideation		t-value	p
Yes	No		
N=731	N=6759		
BMI	Mean (SD)	Mean (SD)	
0.208 (.019)	0.208 (.019)	0.70	n.s.
Ectomorphy	0.424 (.028)	0.423 (.027)	n.s.

Number of Suicide Attempts

Females		Males	
		BMI	Ectomorphy
BMI	Ectomorphy	Mean (SD)	Mean (SD)
Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
0	0.211 (.018)	0.417 (.025)	0.208 (.019)
1	0.208 (.020)	0.412 (.029)	0.210 (.019)
2-3	0.208 (.020)	0.411 (.027)	0.210 (.017)
4-5	0.207 (.017)	0.409 (.023)	0.202 (.025)
6+	0.199 (.025)	0.400 (.032)	0.205 (.020)
F	8.82	9.83	1.19
p	< .001	< .001	n.s.

Table 2: BMI and ectomprphy scores and suicidality by age and sex

Attempted suicide			Suicidal ideation		
No	Yes	t	No	Yes	t
Females					
Age:					
14	.2160 (.0171)	.2123 (.0187)	1.80	.2158 (.0172)	.2135 (.0178)
15	.2129 (.0174)	.2118 (.0179)	0.56	.2132 (.0172)	.2106 (.0185)
16	.2114 (.0175)	.2061 (.0214)	3.60***	.2111 (.0176)	.2083 (.0196)
17	.2098 (.0176)	.2042 (.0206)	3.60***	.2100 (.0176)	.2046 (.0203)
18+	.2073 (.0189)	.1998 (.0216)	3.10**	.2071 (.0190)	.2024 (.0212)
Males					
Age:					
14	.2140 (.0188)	.2144 (.0204)	0.10	.2141 (.0192)	.2150 (.0210)
15	.2115 (.0186)	.2108 (.0186)	0.28	.2113 (.0184)	.2102 (.0193)
16	.2082 (.0187)	.2100 (.0178)	0.84	.2081 (.0186)	.2086 (.0181)
17	.2053 (.0183)	.2079 (.0169)	1.24	.2053 (.0181)	.2062 (.0190)
18+	.2029 (.0189)	.1996 (.0217)	1.16	.2023 (.0192)	.2046 (.0192)

* two-tailed p < .05

** two-tailed p < .01

*** two-tailed p < .001

BODY ATTITUDES AND SUICIDAL IDEATION

**B. C. BEN PARK,
Penn State University, Brandywine, PA**

**JUNG JIN KIM
Korea Nazarene University, Cheonan, South Korea**

**& DAVID LESTER
Stockton University**

Abstract. In samples of university students from South Korea and the United States, attitudes toward life and death were more strongly associated with suicidal ideation than attitudes toward the body.

Orbach (2006) noted that it is more feasible to ask what makes suicide possible rather than what causes suicide. Orbach's answer to this question was that bodily dissociation (detachment from body sense) was a factor that made suicide possible. Dissociation would raise the threshold for physical sensations, and this would make the pain that might be involved in suicide less intense, therefore facilitating the self-harm. Orbach, Mikulincer, King, Cohen and Stein (1997) confirmed this hypothesis by finding that suicidal individuals had higher pain thresholds and pain tolerance using thermal stimulation.

Feelings about one's body have previously been shown to be associated with suicidality. Pompili, et al. 2007) found that scores on a measure of body uneasiness (weight phobia, body image concerns, avoidance, compulsive self-monitoring and depersonalization) and risk factors for suicide (depression and reasons for living) predicted suicidal ideation in Italian university students.

Pursuing this idea, Orbach and Mikulincer (1998) devised the Body Investment Scale to measure attitudes that people have toward their bodies with four subscales assessing body image, body touch, body care and body protection. In a study of suicidal and nonsuicidal adolescents, the adolescents who had attempted suicide scored lower on three of the subscales – body image, body care and body protection. Brausch and Muehlenkamp (2007) gave this scale to American adolescents and found that the subscale of body image contributed to the prediction of suicidal ideation. Lamis, et al. (2010) found that body image, body care and body protection were significantly associated with suicide proneness.

In a study of South Korean university students, Park, Kim sand Lester (2011) found that estimates of the likelihood that they might commit suicide in response to stressful life events was predicted by age, sex and attitudes toward life and death. Attitudes toward the body (as measured using the Body Investment Scale), attachment to their traditional culture and attachment style played a limited or nonsignificant role. The present study extended this earlier study by

exploring the role of attitudes toward life and death and attitudes toward the body for predicting suicidal ideation in university students from South Korea and from the United States.

Method

Participants

The participants were university students from South Korea and the United States of America. For South Korea, there were 127 men and 198 women, mean age 2.15 (SD=2.3). For the USA, there were 144 men and 206 women, mean age 21.6 (SD 5.7).

Questionnaires

The students completed a questionnaire containing the following scales.

(1) The Body Investment Scale (Orbach & Mikulincer, 1998) has 24 items scored on 5-point Likert-scale from 1 strongly disagree to 5 strongly agree. The scale measures bodily love versus bodily rejection, and research (reviewed above) has found that bodily rejection was positively associated with suicidal tendencies. The scale has four subscales: body image (e.g., “I am satisfied with my appearance”), body touch (e.g., “I don’t like it when people touch me” - reversed), body care (e.g., “I like to pamper my body”) and body protection (e.g., “I am not afraid to engage in dangerous activities” - reversed).

(2) The Multi-Attitude Suicide Tendency Scale (Orbach, et al., 1991) is a 30-item scale answered on a 5-point Likert-scale from 1 strongly disagree to 5 strongly agree, which measures attraction and repulsion by life and death. Scores on the scale differentiate suicidal from nonsuicidal groups and suicidal ideators from attempted suicides. It has four subscales: attraction to life (e.g., “I enjoy many things in life”), attraction to death (e.g., Death can be a state of rest and calm”), repulsion by life (e.g., “No one really loves me”) and repulsion by death (e.g., “Death frightens me more than anything else”).

(3) Reynolds’ (1987) eight critical items from his Suicide Ideation Questionnaire (such as “I thought about killing myself.”) were used to measure suicide ideation. Respondents rate each item using 6-point scale from 7 (almost every day) to 1 (I never had this thought). Cronbach alpha coefficients measuring the inter-item reliability of the scales were 0.97 for the South Korean participants and 0.92 for the American participants.

The questionnaires were administered anonymously to undergraduate students in social science and liberal arts course. The research was approved by the Institutional Review Boards of both universities. The data were analyzed using SPSS26

Results and Discussion

Descriptive statistics for the measures for the South Korean and American students are shown in Table 1. American students were more positive about life and about death than were the South Korean students but had less suicidal ideation than the South Korean students. The

American students also had significantly higher scores for body care, body touch and body feeling.

The correlations between attitudes to life and death and to the body and suicidal ideation are shown in Table 2 and linear regressions to predict suicidal ideation in Table 3. The associations for attitudes toward the body were less strongly associated with suicidal ideation than attitudes toward life and death, and this was supported by the linear regressions for students in both countries. However, both body feeling and body protection were protective factors for suicidal ideation for students in both countries, although the associations were weak.

The results of the present study show that, in both countries (South Korea and the United States), attitudes toward life and death play a stronger role in predicting suicidal ideation than do attitudes toward the body.

References

- Brausch, A. M., & Muehlenkamp, J. J. (2007). Body image and suicidal ideation in adolescents. *Body Image, 4*, 207-212.
- Lamis, D. A., Malone, P. S., Langhinrichsen-Rohling, J., & Ellis, T. E. (2010). Body investment, depression, and alcohol use as risk factors for suicide proneness in college students. *Crisis, 31*, 118-127.
- Orbach, I. (2006). The body-mind of the suicidal person. In T. E. Ellis (Ed.) *Cognition and suicide*, pp. 193-214. Washington, DC: American Psychological Association.
- Orbach, I., & Mikulincer, M. (1998). The Body Investment Scale: construction and validation of a body experience scale. *Psychological Assessment, 10*, 415-425.
- Orbach, I., Milstein, I., Har-Even, D., Apter, A., Tiano, S., & Elizur, A. (1991). A Multi-Attitude Suicide Tendency Scale for adolescents. *Psychological Assessment, 3*, 398-404.
- Orbach, I., Mikulincer, M., King, R., Cohen, D., & Stein, D. (1997). Threshold for tolerance of physical pain in suicidal and nonsuicidal adolescent. *Journal of Consulting & Clinical Psychology, 65*, 646-652.
- Park, B. C. B., Kim, J. J., & Lester, D. (2011). Reasons for committing suicide in South Korean university students. *Suicidology Online, 2*, 11-16.
- Pompili, M., Girardo, P., Innamorati, M., Tatarelli, C., Ruberto, A., Ferrari, V., & Tatarelli, R. (2007). Body uneasiness and suicide risk in a non-clinical sample of university students. *Archive of Suicide Research, 11*, 193-202.
- Reynolds, W. M. (1987). *The Suicidal Ideation Questionnaire: SIQ Form HS*. Odessa, FL: Psychological Assessment Resources.

Table 1: Descriptive statistics

	South Korea N=325	United States n = 356	t	two-tailed p
Suicidal ideation	13.0 (8.8)	11.1 (5.6)	3.50	.001
Body care	23.6 (3.5)	24.3 (3.4)	2.70	.007
Body touch	18.3 (3.7)	21.5 (3.5)	11.65	< .001
Body protection	22.6 (3.5)	22.7 (3.5)	0.17	ns
Body feeling	18.9 (3.1)	22.3 (4.8)	10.64	< .001
Attraction to life	26.9 (5.0)	30.6 (3.4)	11.37	< .001
Repulsion by life	15.6 (5.0)	13.6 (4.7)	5.41	< .001
Attraction to death	17.1 (4.8)	19.0 (5.2)	4.86	< .001
Repulsion by death	21.6 (8.9)	20.7 (9.2)	1.28	ns

Table 2: Correlations with suicidal ideation

Total sample n = 356	Men n = 144	Women n = 206	Cronbach alpha
----------------------------	----------------	------------------	-------------------

United States

body care	-0.04	-0.14	-0.03	.67
body touch	-0.07	-0.01	-0.11	.70
body protection	-0.22***	-0.16*	-0.29***	.64
body feeling	-0.15**	-0.05	-0.18**	.89
attraction to life	-0.28***	-0.30***	-0.29***	.80
repulsion by life	+0.36***	+0.36***	+0.38***	.76
attraction to death	+0.21***	+0.31***	+0.18*	.71
repulsion by death	-0.02	-0.14	+0.01	.93

South Korea

	n = 325	n = 127	n = 198	
body care	-0.20***	-0.30***	-0.09	.70
body touch	+0.04	+0.02	+0.07	.64
body protection	-0.19***	-0.22**	-0.18**	.57
body feeling	-0.16**	-0.12	-0.21**	.36
attraction to life	-0.39***	-0.32***	-0.45***	.85
repulsion by life	+0.34***	+0.28**	+0.40***	.77
attraction to death	+0.30***	+0.23*	+0.36***	.68
repulsion by death	+0.08	+0.13	+0.04	.93

* one-tailed p < .05

** one-tailed p < .01

*** one-tailed p < .001

Table 3: Linear multiple regressions to predict suicidal ideation (betas shown)

	South Korea	United States
Body care	+0.01	-0.11
Body touch	-0.06	+0.06
Body feel	-0.09#	-0.12*#
Body protect	-0.24*#	-0.11#
Age	-0.01	+0.16*#
Sex	+0.09	+0.08
R ²	0.079	0.086
Body care	-0.04	+0.04
Body touch	+0.10#	+0.03
Body feel	-0.01	-0.04
Body protect	-0.01	-0.10#
Attraction to life	-0.25*#	-0.12
Repulsion by life	+0.16	+0.23*#
Attraction to death	+0.15*#	+0.11*#
Repulsion by death	-0.08	-0.06
Age	+0.07	-0.06
Sex	+0.03	+0.10#
R ²	0.21	0.17

* p < .05

significant in backward multiple regression

Suicide Studies, 2021, 2(3)

Police Officer Suicides after the Capitol Riot

David Lester

On January 6, 2021, hundreds of people, urged on by Donald Trump, stormed the United States Capitol in Washington DC to prevent congress from certifying the election results. The Capitol and Metropolitan police departments were unprepared for this attack. The Capitol was breached, and massive damage occurred. The police officers there managed to protect the senators and members of congress from harm. However, the police officers were assaulted. During the riot, about 140 police officers were injured and, afterwards, 15 officers were hospitalized. So far, four police officers involved in protecting the Capitol have died by suicide. Only limited information is available on these four individuals.

Capitol Police Officer Howard Liebengood on January 9. He was 51 and a 16-year veteran of the department. He was married and had been a racing car driver before joining the Capitol Police. Liebengood looked up to his father, Howard S. Liebengood Sr., who served from 1981 to 1983 as Senate sergeant at arms, charged with ensuring security in the Capitol and Senate buildings, as well as protecting members of the Senate. After the riot, Liebengood was assigned to lengthy shifts for the next three days and became sleep deprived. He killed himself after the third shift.

Washington DC police officer Jeffrey Smith died by suicide by suicide on January 15. He was 35 and a 12-year veteran of the department. He shot himself with his service revolver in his car on the George Washington Parkway after being ordered back to work. At the riot, he was punched and hit in the head with a flying metal object (a metal pole). In subsequent days, he was assigned to guard a hotel, but he refused to remove his helmet for fear of being hit in the head. His sergeant sent him to the Police and Fire Clinic where he was prescribed ibuprofen and sent home. At the follow-up a week later (on January 14), there was no assessment made of his mental state. Smith had no history of depression or mental illness prior to the riot.

Washington DC police officer Kyle DeFreytag died by suicide on July 10. He was 26 years old and had been on the force for four years (since 2016) and was assigned to the department's Emergency Response Team within the Special Operations Division. An online obituary for DeFreytag said he "liked hiking, camping, riding his motorcycle, he liked traveling and playing the drums, he enjoyed trying different ethnic foods and always knew the best places to eat.....Kyle was kind, he had a quick wit and a great sense of humor & kept us laughing for 26 years."

Washington DC police officer Gunther Hashida, an 18-year veteran of the Washington DC department (since 2003), died by suicide at his home on July 29. Hashida was a Japanese American, with Japanese and German heritage. He had served in the military before becoming a police officer. He was 43 years old (almost 44), married (for 17 years) with three children. His wife was a licensed practical nurse who worked in oncology. He was assigned to the department's Emergency Response Team within the Special Operations Division.

Speculations on These Suicides

There is very little information available on these four men and, therefore, we can only speculate about the causes of their suicides. Those responding to the attack reported physical abuse and racial slurs. The officers responding to the attack have reported severe psychiatric symptoms since the riot.

Four law enforcement officers testified last week about their harrowing, and in some cases, near deadly experiences responding to the riot. “That day continues to be a constant trauma for us literally every day, whether because [of] our physical or emotional injuries or both,” Capitol Police sergeant Aquilino Gonell told a select committee investigating the attack. (Solender, 2021)⁴

It is clear that most of the police officers involved in the riot control have experienced full PTSD or symptoms of PTSD, a risk factor for suicide.

The police departments appeared to have had no provision for providing counselling and other treatments for their officers under stress. Ibuprofen is not a treatment for suicide risk! Hopefully, the departments have learned from this experience.

Only one report of the method used for suicide was found. Jeffrey Smith used a gun and was away from home. That is a typical scenario for police officers who die by suicide. (Car crashes are another common method.)

Hashida died by suicide at home, and the location of the other two suicides has not been reported. The location of the suicide is important. If Hashida, and perhaps the other two officers, died by suicide at home, then they would be discovered by their wife or children. If they shot themselves, then the scene would be extremely traumatic. (Hanging would also create a traumatic scene.) It is, therefore, interesting to ask (but not easy to answer for these particular suicides) why they chose to subject their family members to this trauma.

A final thought. Veterans who have served in wars and other military operations are known to have a high suicide rate after they return home. However, their suicide risk extends for years after their return. These four suicides occurred soon after the riot, two in fact within nine days of the riot. This high risk so soon after the traumatic experience is noteworthy and important to know for those involved in suicide prevention.

⁴ www.forbes.com/sites/andrewsolender/2021/08/03/fourth-police-officer-who-responded-to-capitol-riot-dies-by-suicide/?sh=659ed9217d5b

Suicide Studies, 2021, 2(3)

THE LANGUAGE OF SUICIDE

DAVID LESTER

How shall we talk about suicide? The answer to this question is different for experts in the field (including researchers, clinicians and medical examiners) and lay people, but even lay people are influenced by the suggestions and decisions made by the experts.

Suicidologists⁵ have given much thought to the definition of suicidal behavior. The Centers for Disease Control convened a workgroup which published Operational Criteria for the Determination of Suicide (Rosenberg, Davidson, Smith, Berman, Buzbee, Gantner, et al., 1988). Completed suicide was defined as “death from injury, poisoning, or suffocation where there is evidence (either explicit or implicit) that the injury was self-inflicted and the decedent intended to kill himself/herself” (O’Carroll, Berman, Maris, Mosicki, Tanney, & Silverman, 1996, p. 244). The critical component of this definition is the requirement of an intent to die, for this requires judgment on the part of those classifying the cause of death. O’Carroll, et al. (1996) thought that the question was one of any level of intent versus no intent at all, rather than the level of intent,⁶ but others have argued that the actual level of intent is critical for a good nomenclature. More recently, several suicidologists have proposed new systems of nomenclature for suicidal behavior, hoping to bring consistency in the terminology (e.g., Marušić, 2004; Silverman, Berman, Sanddal, O’Carroll, & Joiner, 2007).

In addition to the debate over how “suicide” should be defined and suicidal behaviors classified, there is also conflict over what behaviors should be included under this term. For example, some view suicide bombers as suicides while others do not. Let us first look at whether experts can agree of which behaviors constitute suicide.

Can Suicidologists Agree on What Is Suicide?

One way of defining a category is the featured comparison model. In this model, *defining features* are necessary features - they are essential to the meaning - for example, a cat meows (and no other animal does). *Characteristic features* are informative but not essential - for example, a dog walks on four legs (but so do lots of other animals). In this model, categories have clear-cut boundaries.

What are the necessary and sufficient features for a suicide? For Goldstein (1940), suicide was defined as a conscious and rational act. Suicides must willingly choose death as a solution to their problems, and they must have a mature concept of death. Thus, for Goldstein, animals cannot commit suicide, nor can brain-injured patients or psychotic patients, except during lucid moments, nor can young children. In addition, Goldstein’s definition does not permit unconscious desires or impulses.

⁵ Suicidology is a strange term itself. After all, those who study murder do not call themselves homocidologists.

⁶ A recent article by this group is Silverman, Berman, Sanddal, O’Carroll, and Joiner (2007), and criteria for medical examiners have been proposed by Jobes, Casey, Berman, and Wright (1991).

In contrast, Menninger (1938) argued that the suicidal impulse can operate at an unconscious and partial level. Menninger viewed many self-destructive behaviors as motivated by and evidence of suicidal desires. He labeled long-term self-destructive behavior such as alcoholism as *chronic suicide* since they kill a person slowly, taking several years. Menninger labeled acts such as blinding oneself, even accidentally, *focal suicide* since the act focuses the self-destructive desire on one part of the body, thereby permitting the person to continue to live.⁷

In recent years, some writers have excluded some self-destructive actions that lead to death from the notion of suicide. In Islam, suicide bombers are not viewed as suicides but as *martyrs* and, therefore, different from suicides (e.g., Abdel-Khalek, 2004). Behavior in which individuals act in such a way that others kill them is typically called *victim-precipitated homicide* (Wolfgang, 1959) and not labelled as suicide. An exception to this is one particular victim-precipitated homicide known as *suicide-by-cop*, in which an individual acts in such a way as to provoke police officers into shooting him and for which the word *suicide* is included in the label.

An alternative model for coding semantic knowledge is the prototype model. A prototype is an idealized item that is most typical of the category. Prototypes involve abstracting the central features of a category and then forming an idealized abstraction of it that is not needed in reality. When one meets a possible example of such a concept, the extent to which this new object fits the prototype is assessed. One's conclusion is not, then, all or nothing (yes versus no) but more or less. This results in fuzzy sets which are loosely structured and in which objects can have a level of membership ranging from low to high.⁸ Imagine if we were able to decide that a person's death was *more or less suicide*!

In the prototypic approach, therefore, the issue is not whether a particular kind of action is a suicide or not, but rather the extent of resemblance to the prototypical suicide. Categories in this model have a graded structure, ranging from the most representative (prototypical) to the least representative member. How might this extent of resemblance for suicide be measured?

Lester and Fleck (2010) presented a list of 14 self-destructive actions to 51 students in a psychology course. Each respondent checked whether they considered the action to be a suicide or not. The percentage of respondents checking each action as suicide is shown in Table 1.

The criterion (a person who intentionally shoots himself in the head) was labeled a suicide by 98% of the respondents. The other actions were judged to be suicide by 6% to 94% of the respondents. For example, although many Muslims do not view suicide bombers as suicides, 80% of the respondents did consider such an action to be suicide. A dog refusing to eat after its owner dies was considered to be suicide by 43% of the respondents, and an alcoholic dying of cirrhosis of the liver by 14%. These data suggest that, at least for nonexperts, the prototype model for suicide seems to fit the results.

⁷ In a humorous letter to the *Journal of the American Medical Association*, Lester (1969) discussed whether the supposed case of a fetus dying by suicide that was reported in the *National Enquirer* could really be considered a suicide. (The fetus was thought to have bitten through its umbilical cord.) Goldstein would have said no, but Menninger might have said yes.

⁸ The exemplar approach is similar to the prototype but, whereas the prototype is a representation of a typical category stored in the memory, an exemplar is the stored representation of "a collection of numerous specific members of the category" (Matlin, 2008, p. 254).

Lynch, Coley, and Medin (2000) reported that, in general, lay people and experts differed in the prototypes they proposed. To explore the difference between the judgments by lay people and experts, the questionnaire was sent also to 20 experts in the field of suicidology who were contributors to a current handbook on suicidology (Wasserman & Wasserman, 2009). Their responses are also shown in Table 1. There were only slight differences between the judgments of these lay people and experts. The only statistically significant difference was that more students viewed a dog dying after its owner has died as suicide.

Insert Table 1 about here

Although there were differences between the responses by the students and the experts, large percentages of both students and experts were prepared to see acts in which suicidal intent was not apparent as “suicide.” For example, suicidal intent is often not thought by coroners and medical examiners to be present in children (who are presumed to not have a mature concept of death), and there are no criteria for judging whether animals have suicidal intent, yet some students and some experts believe that children and animals can die by suicide. Lester and Fleck’s results appear to indicate that, although necessary and sufficient criteria may be proposed for what constitutes a suicide, lay people and experts alike ignore these criteria and apply a prototypical approach to determining what is a suicide and what is not.

Victim-Precipitated Homicide

As noted above, *suicide-by-cop* refers to a situation in which, once police officers arrive on a scene, the individual purposely disobeys orders from the police to lay down his weapon and to surrender (Lindsay & Lester, 2004). The person then intentionally escalates the potential for the use of force by such acts as threatening the police officers or civilians in the area with a weapon, most commonly a gun. The police officers then are forced to escalate their response, often firing at the individual and killing the person in self-defense or to protect the civilians.

Suicide-by-cop is a particular type of a behavior first described by Wolfgang (1958) which he called *victim-precipitated homicide*. In this, the individual provokes someone else to kill him. The suicidal intent may sometimes be stated by the deceased but, in other cases, is inferred. The proportion of victim-precipitated homicides is startling. In his study of 588 homicides which occurred in Philadelphia between 1948 and 1952, Wolfgang found that 26% of them had occurred after direct provocation by the victim. In many cases, the victim started the quarrel or was the first to show or use a weapon.

For example, a husband had threatened to kill his wife during several violent family quarrels. He would usually later admit his regret for having beaten her and for having suggested the idea of her death. In the last instance, he first attacked her with a pair of scissors, dropped them, and then grabbed a butcher knife from the kitchen. In the ensuing struggle, which ended on their bed, she had possession of the knife, and there was considerable doubt in the minds of the jury whether the husband invited his wife to stab him or deliberately fell on the knife. In another case, a drunken husband, beating his wife in their kitchen, gave her a butcher knife and dared her to use it on him. She claimed that

if he should strike her once more she would use the knife, whereupon he slapped her in the face and she fulfilled the promise he apparently expected by fatally stabbing him. (Wolfgang, 1958, p. 92)

Andriolo (1998) described this behavior in some Native American tribes of warriors seeking to die in battle. This method of committing suicide has been called *indirect suicide*, *vicarious suicide* or *masked suicide*. Andriolo also noted that, in *juramentado* in Muslim societies, a man who wished to die would go to place where there were many Christians and kill as many as possible before being killed.

Amok is a similar behavior characterized by previous brooding, homicidal outbursts, persistence in reckless homicide without apparent motive, and a claim of amnesia. It is most commonly known as a behavior of the Malays in Malaysia. It was common in the past for the residents in the village to kill the person running amok behavior he killed anyone, and so amok can be considered to be a form of victim-precipitated homicide.

Psychic Homicide

Psychic homicide refers to murdering another by getting them to die by suicide and was a term coined by Meerloo (1962). In psychic homicide, those who kill themselves are wished dead by others, and the suicidal individual is clearly encouraged in his suicide by another, albeit unconsciously. In one case described by Meerloo, a man who had an alcoholic father took his father a lethal amount of sleeping pills for his father to take "if he had trouble sleeping." His father then died by suicide using the pills. The son then squandered away the money he inherited from his father since, according to Meerloo, it was "dirty money."

Richman (1986) noted many instances in which parents made clearly murderous statements to their children who had attempted suicide, in the presence of the psychologist! For example, a father of a 16-year-old girl said to her "Why don't you kill yourself. At least we'd know where you are." Richman presented the case of a 78-year-old man who told his wife he was going to kill himself and tried to kiss her goodbye. Her reaction was to turn away and leave the house to go shopping. When she got home, he had cut his throat. In another case, a daughter took an overdose of pills, went and laid beside her father in bed and told him. The father went back to sleep and when he awoke next morning left his daughter lying there to go to work.

Non-Fatal Suicidal Behavior

The problem that researchers and clinicians have faced is that some attempted suicides had the intent to die (but did not), while other attempted suicides had no intent to die.⁹ Those suicidal acts with no suicidal intent and little risk of death are often called *suicidal gestures*. In scholarly journals these acts are referred to as *self-directed violence* (Barczyk, et al. (2018) or

⁹ Of course, some individuals have mixed or ambiguous intent. A case was once presented by Edwin Shneidman of a wife who took an overdose and left a note for her husband which told him of her action and asked that, if he loved her, to come upstairs and save her. At the time of her action, she did not know whether she would die or not. If he loved her, he would save her, and she wanted to live. If he did not save her, then he did not love her, and she wanted to die. In this case, the husband left the house and went to work.

non-suicidal self-injury (NSSI). For a while, the term *parasuicide* was used. The term parasuicide first appears in German article by Feuerlein (1971) and popularized by Kreitman's group in Scotland (Kennedy, et al., 1973). Searching for the term parasuicid* in the title of articles indexed in PsycInfo identified that the term peaked in the early 1990s:

1960-1969	0
1970-1979	27
1980-1989	74
1990-1999	134
2000-2009	90
2010-2019	11

Thereafter, the term was abandoned, probably because the inclusion of the fragment *suicide* made its meaning unclear and some writers used the term to refer to all attempted suicides.

Borges (2019) used the term *passive suicide* to refer to having suicidal ideation, but never in the past engaged in suicidal behavior. I think that this is a poor term and better reserved for those who choose to hasten their death by not seeking medical help for a potentially terminal disease. For example, during the pandemic in 2020 in which Covid-19 killed millions of people around the world, there may have been individuals who did not seek medical help but willingly waited at home to die from the virus.

In their attempt to provide a comprehensive nomenclature for suicidal behaviors, O'Carroll, et al (1996) proposed calling suicidal acts with no suicidal intent *instrumental suicide-related behavior*. In a later paper, the team (Silverman, et al., 2007) proposed a nomenclature based on the presence or absence of intent and the life-threatening nature of the damage done to the individual's body (that is, the likelihood of death).

A Feminist Critique¹⁰

For many years, suicidologists have classified suicidal acts in which the person dies as *completed suicide* and those in which the person survives as *attempted suicide*.¹¹ The basic sex difference in suicidal behavior in almost all countries is that men complete suicide more than women, whereas women attempt suicide more than men. This was first noted by Farberow and Shneidman (1961) in their comprehensive study of Los Angeles County in the United States of America, in 1957. They identified 540 men and 228 women who completed suicide and 828 men and 1824 women who attempted suicide.

The extent to which this difference has permeated society was shown by a study conducted by Linehan (1973). She presented students with case vignettes and asked them to predict the likelihood of suicide. If the person in the vignette was man, suicide was more often predicted than if the person presented in the vignette was a woman. The same difference was

¹⁰ This section is based on Lester (1989).

¹¹ Some researchers use the term *successful suicides* for those who die as a result of their suicidal act (e.g., Robins, et al., 1959).

found if the person was described as *masculine* than if the person was described as *feminine*, regardless of the sex of the person.

Let us look at this phenomenon from the female point of view. The statistically normal (most common) result is to live after engaging in suicidal behavior but, by naming the acts in which the person dies as *completed*, it is implied that dying constitutes a successful act, while attempting suicide and surviving constitutes a failure. If we just let the numbers guide us, then surviving is the norm and dying is deviant.

Lester (1989) suggested that we could introduce a reverse bias by calling attempted suicides *successful suicides* and completed suicides *failed suicides*. Those who are dead failed because they died. We could, of course, eliminate bias altogether by calling all of the acts suicide and merely appending dead (or deceased) and living as adjectival modifiers.

With this transformation, some research findings make more sense. For example, Shneidman and Farberow (1957) described what they thought was the faulty logic of dead suicides. They felt that he or she confused the self as experienced by the self with the self as experienced by others. The deceased suicide acts as if he or she will be around after the suicidal act to witness (and enjoy) the reactions of others to the suicide. Shneidman and Farberow called this faulty logic *catalogic*. With the reverse bias, in which attempted suicide is the norm and a less deviant act, the living suicides will be around to enjoy the reactions of others to their suicidal act, and thus they are not guilty of catalogic. Catalogic is characteristic only of failed (deceased) suicides.

Adding Premeditation to the Definition of Suicide

To deal with problem of suicidal intent, Lester (2009) used the terminology from criminology to propose a new classification, and he also introduced the construct of premeditation. As noted above, typically, the definition for suicide includes the component of having an intent to die (Goldstein, 1940; Marušić, 2004). To have this intent, the individual must have a mature concept of death and intend that his actions will cause death. However, others, such as Menninger (1938), have proposed a definition that does not include intent. Menninger suggested that the suicidal impulse could act unconsciously and even partially, leading to nonlethal self-destructive behavior.

A typical definition for murder is the unlawful killing of another human being with intent (*malice aforethought*). Malice can be expressed or implied by acts that accompany the murder, such as commission of an armed robbery. American states differ in their definition of degrees of murder, but there is some agreement that *first degree murder* involves premeditation (or accompanying dangerous felonies), *second degree murder* is non-premeditated, while *third degree murder* requires the intent was to harm but not kill the victim.

Manslaughter is less culpable. In *voluntary manslaughter*, the circumstances mitigate the act, circumstances such as the state of mind (in passion or in the heat of the moment) or a provocation (such as witnessing a spouse in the arms of a lover). *Involuntary manslaughter* (also called criminally negligent homicide) occurs when there is no intention to kill or cause serious

injury, but the death is due to recklessness or criminal negligence (as the driver of a car accidentally killing a pedestrian).

These legal terms involve the dimensions of intent, premeditation, and provocation. If one applies these ideas to suicide, then one needs a second term to parallel the term manslaughter. In the German language, there are two words commonly used for suicide: Suizid and Selbstmord (suicide and self-murder). Perhaps Selbsttötung (self-death) would be better than Selbstmord for present purposes and, therefore, the terms suicide and self-death are proposed here to parallel the terms murder and manslaughter. (We might note, in passing, that suicide was considered to be a crime in most countries, known by the Latin term *felo de se* [felon of himself/herself], and the crime (and label) was not officially abolished in England and Wales until the Suicide Act passed in 1961. Felo de se has similar connotations to the German term of self-murder and can still be found in scholarly writing [e.g., Lande, 2011].)

First-degree suicide requires that a person kills himself with clear intent to die and with premeditation. *Second-degree suicide* involves an intent to die, but the act is not premeditated, which means that the act is impulsive and not planned in advance.¹² *Third-degree suicide* involves an intent to harm oneself but no intent to die. For example, a person may make a serious attempt at suicide but hope to be saved. Alvarez (1972), commenting on the suicide of Sylvia Plath, the American-born poet who died by suicide in England in by inhaling domestic gas from her kitchen oven, argued that she meant to be saved by a nurse who was due to arrive at the apartment at 9 a.m. (The nurse knocked and, after getting no answer, left. She returned at 10 a.m., by which time Plath was dead.)

Voluntary self-death refers to an individual who kills himself when the state of mind is greatly disturbed, perhaps as a result of severe psychiatric disorder or there is clear provocation (such as suicide to prevent rape). The presence of a severe psychiatric disorder is commonly used by churches to permit the burial of a suicide in a church graveyard because the psychiatric disorder diminishes the sinfulness of the act of suicide.¹³ *Involuntary self-death* refers to a self-induced death due to recklessness or negligence. Such a circumstance might be death brought on by excessive alcohol intake or a drug overdose.

The advantage of this classification scheme is that, rather than some forms of self-destructive behavior being viewed as “suicide” by some suicidologists but not by others, the majority of the forms of self-destructive deaths can be included in the scheme.

The Problem of the Suicide Bomber¹⁴

Some commentators have argued that the terms *suicide bomber* and *suicide terrorist* are misleading because the behaviors are not suicide. For example, Abdel-Khalek (2004) argued that suicide terrorism by Palestinians was not altruistic suicide but rather *martyrdom*, and martyrdom is not the same suicide. Goldney (2014; Khan, et al., 2010) argued that *homicide bomber* might

¹² Simon, et al. (2001) found that 24% of attempted suicides made their suicide attempt within five minutes of having suicidal ideation, that is, with minimal premeditation.

¹³ Suicide bombers might fit into this category.

¹⁴ This section is based on Lester (2020).

be a more appropriate term, especially since the term suicide bomber may normalize the behavior and, thereby, encourage such acts. This suggestion leads us to consider homicide bombers as a type of *mass murderer* (many of whom die by suicide after their mass killing [Lester, 2010]).

A similar issue has been raised about *physician-assisted suicide* (PAS). Is PAS really suicide, and this is a good analogy for deciding whether suicide terrorism is really suicide. In 2017, the American Association of Suicidology (AAS) published a statement arguing that PAS is not suicide, and they decided to call PAS *physician aid in dying*. They pointed to differences, such as legal approval for PAS requires that the person was not psychiatrically disturbed and the person must have a terminal illness. Since AAS has preventing suicide as one of its aims, but since AAS does not want to prevent PAS (which has been legally approved in several American states and countries), this semantic distinction is necessary for AAS.

Lester (2020) argued that this distinction is not valid because it is probable that suicides by any method for suicide (such as by solids and liquids versus by firearms) are not the same. It can be argued on the basis of research that the causes, predictors and correlates of suicide by each method chosen for suicide are quite different. For example, suicide by firearms may require different sociological and psychological explanations than suicide by an overdose of medication. Indeed, research shows that suicides using firearms are more impulsive, angrier and less psychiatrically disturbed than those using overdoses for suicide. If this is valid, then PAS is merely suicide by a different and unique method. Thus, for Lester, suicide terrorists are suicides but using a different method to die. After all, they could have become guerilla terrorists, killing as many of their enemies as possible and then escaping.

The Role of Those with Lived Experience

The American Association of Suicidology (AAS) was formed in the 1970s primarily with researchers and those working at suicide prevention agencies. As the organization developed, it was decided to encourage those who had lost a loved one or friend to suicide to join, and they hold a joint conference at the annual AAS conference. More recently, those who have attempted suicide have been encouraged to join AAS. The presence of these individuals with lived experience has changed the terminology used in the field.¹⁵

Those who have lost someone to suicide prefer to be called *survivors*, despite the fact that those outside of the field of suicidology sometimes think that the term refers to attempted suicides (who have, therefore, survived the attempt). The term *committed suicide*, which was commonly used in the past, was quickly eliminated because it made suicide seem to be a crime. After all, criminals *commit* crimes, such as burglary and murder. The term, however, still appears in scholarly articles by authors who are not aware of the stigma involved (e.g., Pritchard, 2013). The preferred term for suicides now is those who have *died by suicide*.

¹⁵ It should be noted, however, that some suicidologists have talked about their family members dying by suicide (e.g., Thomas Joiner [2005]) and their own suicide attempts (e.g., Marsha Linehan: <https://www.nytimes.com/2011/06/23/health/23lives.html>). However, it is the non-scholars who argued for the change in terminology.

A similar objection applies to the term *suicide victims* because, typically, people are victims of a crime. Again, the term is still used occasionally (e.g., Balkcom, et al., 2019), as is the word suicide used a verb (*to suicide*: e.g., Stack & Wasserman, 2008).

Suicidism

Baril (2020) drew attention to the oppression and stigmatism of those who are suicidal and named this phenomenon *suicidism*. If a person has suicidal ideation or has engaged in suicidal actions in the past, how would this person be treated if he or she were open about this? Baril noted that dictionaries occasionally define suicidism as the state of being suicidal, although it must be noted that the term was rarely used, if ever, by suicidologists in their writing, and so Baril is departing from this earlier meaning of the term.

Perhaps the most stigmatizing model of suicide is that which views all (or almost all) suicidal people as psychiatrically disturbed for whom medications (and, for some individuals, hospitalization, occasionally involuntary, in a psychiatric unit) is the preferred approach. This model was clear in a study by Robins, et al. (1959), a group of psychiatrists who studied 134 suicides and found that only 8 (6%) were without a psychiatric disorder. This view is still found today (e.g., Isacsson & Rich, 2003). The model is also found online: “In fact, 95% of people who commit suicide have a mental illness” (Medscape, 2019).

The Impact of Social Media

Parrott, et al. (2020) used social media and academics to compile a list of words that people use to refer to suicide. In their study, they gave the list of these 98 words to mental health professionals and suicidologists to indicate their thoughts on the validity of these terms. The validity of these words/phrases is not particularly relevant to the present essay, but the top five words were: *better off dead*, *suicide*, *slit my wrists*, *suicidal ideation*, and *blow my brains out*, a mix of formal and informal terms.

However, what is interesting is the variety of words used. Here are some:

become a statistic, fade to black, kobain'd, kick the chair, shotgun facial, do the dutch, slowcide, and Roman bath. Many of the terms refer to the method used, and it is interesting to note that, in England, so many suicides used domestic gas for suicide, that the term “take the pipe” became widely used.¹⁶

Many of the terms refer to news events, such as the suicide of Kurt Cobain and physician-assisted suicide in the Netherlands.

Many of the words listed by Parrott, et al. are more likely to have come from academics, while others are more likely to have come from social media postings. It would be interesting in future research to look for correlates of and outcomes for the use of particular words used in

¹⁶ Eventually, domestic gas was changed from toxic coal gas to less lethal natural gas, and gas became less common as a method for suicide.

social media postings to explore whether some words or phrases imply more suicidal intent than others.

Comment

Clearly, the language of suicide has changed over time, and it is interesting to note that many of the changes have been urged by lay people rather than by experts. Suicidologists have focused primarily on the role of intent when labelling suicidal individuals, both deceased and alive, while lay people have been concerned more with the implications of particular labels. Suicides are not criminals, so let us eliminate the stigma of *committed suicide*.¹⁷ It is interesting to wonder how our terminology for suicide might change in the next twenty years.

References

- Abdel-Khalek, A. M. (2004). Neither altruistic suicide, nor terrorism but martyrdom. *Archives of Suicide Research*, 8, 99-113.
- Alvarez, A. (1972). *The savage God*. New York: Random House.
- Andriolo, K. R. (1998). Gender and the cultural construction of good and bad suicides. *Suicide & Life-Threatening Behavior*, 28, 37-49.
- Balkcom, E. R., Alogna, V. K., Curtin, E. R., Halberstadt, J. B., & Dering, J. M. (2019). Aversion to organs donated by suicide victims. *Cognition*, 192, #104037.
- Baril, A. (2020). Suicidism: A new theoretical framework to conceptualize suicide from an anti-oppressive perspective. *Disability Studies Quarterly*, 40(3), unpaged.
- Barczyk, A. N., Piper, K., Duzinski, S. V., Klingensmith, M., & Lawson, K. A. (2018). Youth suicide attempt nomenclature used in two central Texas hospitals. *Crisis*, 39, 461-468.
- Borges, A. (2019). *I am not Always Very Attached to Being Alive*. Retrieved from https://theoutline.com/post/7267/living-with-passive-suicidal-ideation?zd=4&zi=xym6k4r6&fbclid=IwAR3_AyaIVjqFlQouFQ9yn4IURX0VBJIr89Mcg16eQPL1qEk_IuiBovSo-5M
- Farberow, N. L., & Shneidman, E. S. (1961). *The cry for help*. New York: McGraw-Hill.
- Feuerlein, W. (1971). [Attempted suicide or parasuicidal treatment.] *Nervenarzt*, 42(3), 127-130.
- Goldney, R. D. (2014). Time for change. *Australian & New Zealand Journal of Psychiatry*, 48, 579-580.
- Goldstein, K. (1940). *Human nature in the light of psychopathology*. Cambridge, MA: Harvard University Press.
- Isacsson, G., & Rich, C. L. (2003). Getting closer to suicide prevention. *British Journal of Psychiatry*, 182, 455-459.
- Jobes, D. A., Casey, J. O., Berman, A. L., & Wright, D. G. (1991). Empirical criteria for the determination of suicide manner of death. *Journal of Forensic Sciences*, 36, 244-256.
- Joiner, T. E. (2005). *Why people die by suicide*. Cambridge, MA: Harvard University Press.
- Kennedy, P., & Kreitman, N. (1973). An epidemiological survey of parasuicide ('attempted suicide') in general practice. *British Journal of Psychiatry*, 123, 23-34.
- Khan, M. M., Goldney, R. D., & Hassan, R. (2010). Homicide bombers. *Asian Journal of Social Science*, 38, 479-482.

¹⁷ Old habits disappear with difficulty, and I have to spell-check every essay and article I write to be sure that I have not used the term *committed suicide*.

- Lande, R. G. (2011). Felo de se: Soldier suicides in America's civil war. *Military Medicine*, 176, 531-536.
- Lester, D. (1969). Fetal suicide. *Journal of the American Medical Association*, 209, 1367.
- Lester, D. (1989). The study of suicide from a feminist perspective. *Crisis*, 11, 38-43.
- Lester, D. (2009). A proposal for a nomenclature for suicide. *Psychological Reports*, 105, 685-686.
- Lester, D. (2010). Suicide in mass murderers and serial killers. *Suicidology Online*, 1, 19-27.
- Lester, D. (2020). *Suicidal terrorists and terrorism*. Hauppauge, NY: Nova.
- Lester, D., & Fleck, J. (2010). What is suicide? *Psychological Reports*, 106, 189-192.
- Lindsay, M., & Lester, D. (2004). *Suicide by cop*. Amityville, NY: Baywood.
- Linehan, M. (1973). Suicide and attempted suicide. *Perceptual & Motor Skills*, 37, 31-34.
- Lynch, S. J., Coley, J. D., & Medin, D. L. (2000). Tall is typical. *Memory & Cognition*, 28, 41-50.
- Marušić, A. (2004). Toward a new definition of suicidality? *Crisis*, 25, 145-146.
- Matlin, M. W. (2008). *Cognition*. Hoboken, NJ: Wiley.
- Medscape. (2019). What is the role of mental illness in the development of suicidal behaviors? <https://www.medscape.com/answers/2013085-157663/what-is-the-role-of-mental-illness-in-the-development-of-suicidal-behaviors>
- Meerloo, J. (1962). *Suicide and mass suicide*. New York: Grune & Stratton.
- Menninger, K. (1938). *Man against himself*. New York: Harcourt, Brace & World.
- O'Carroll, P. W., Berman, A. L., Maris, R. W., Mosicki, E. K., Tanney, B. L., & Silverman, M. M. (1996). Beyond the Tower of Babel: a nomenclature for suicidology. *Suicide and Life-Threatening Behavior*, 26, 237-252.
- Parrott, S., Britt, B. C., Hayes, J. L., & Albright, D. L. (2020). Social media and suicide. *Journal of Evidence-Informed Social Work*, 17, 624-634.
- Pritchard, E. D. (2013). For colored kids who committed suicide, our outrage isn't enough. *Harvard Educational Review*, 33, 320-345.
- Richman, J. (1986). *Family therapy for suicidal people*. New York: Springer.
- Robins, E., Murphy, G. E., Wilkinson, R. H., Gassner, S., & Kayes, J. (1959). Some clinical considerations in the prevention of suicide based on a study of 134 successful suicides. *American Journal of Public Health*, 49, 888-899.
- Rosenberg, M. L., Davidson, L. E., Smith, J. C., Berman, A. L., Buzbee, H., Gantner, G., Gay, G. A., Moore-Lewis, B., Mills, D. H., Murray, D., O'Carroll, P. W., & Jobes, D. (1988). Operational criteria for the determination of suicide. *Journal of Forensic Sciences*, 32, 1445-1455.
- Shneidman, E. S., & Farberow, N. L. (1957). The logic of suicide. In E. S. Shneidman & N. L. Farberow (Eds.) *Clues to suicide*, pp. 31-40. New York: McGraw-Hill.
- Silverman, M. M., Berman, A. L., Sanddal, N. D., O'Carroll, P. W., & Joiner, T. E. (2007). Rebuilding the Tower of Babel: a revised nomenclature for the study of suicide and suicidal behaviors. *Suicide & Life-Threatening Behavior*, 37, 264-277.
- Simon, O. R., Swann, A. C., Powell, K. E., Potter, L. B., Kresnow, M. J., & O'Carroll, P. W. (2001). Characteristics of impulsive suicide attempts and attempters. *Suicide & Life-Threatening Behavior*, 31(Supplement 1), 49-59.
- Stack, S., & Wasserman, I. (2008). Social and racial correlates of Russian roulette. *Suicide & Life-Threatening Behavior*, 38, 436-441.

- Wasserman, D., & Wasserman, C. (Eds.) (2009). *Oxford textbook of suicidology and suicide prevention*. Oxford, UK: Oxford University Press.
- Wolfgang, M. E. (1959). Suicide by means of victim-precipitated homicide. *Journal of Clinical & Experimental Psychopathology*, 20, 335-349.

Table 1: Percentage of students (n=51) and experts (n=20) who considered each action to be a suicide

Students	Experts	Action
98	100	A person who intentionally shoots him/herself in the head
94	95	An Inuit in the Arctic, 80 years old, who feels as if he/she is a burden to his/her family, who goes out onto the ice and freezes to death
80	75	A suicide bomber in Iraq who dies for a cause
75	85	A person who set him/herself on fire in public and dies in order to protest injustices
53	70	A person dying from an incurable illness who stops eating and drinking and dies
51	75	A child, 8 years old, who doesn't have an adult concept of death, who hangs himself/herself
49	25	A person who, for a dare, plays Russian Roulette (spinning the cylinder of a gun with one bullet in it and pulling the trigger) and dies
45	55	A schizophrenic who hears voices tell him/her to jump off a building and fly, obeys, and falls to his/her death
43	10*	A dog whose owner dies and then refuses to eat and consequently dies
24	20	A person who neglects their health and dies of an untreated illness (such as pneumonia) without seeking medical help
22	30	A soldier who falls on a hand grenade and dies in order to save others in his/her platoon
20	20	A person who is sentenced to death and ordered by a superior (Emperor or judicial court) to take a lethal overdose (as Socrates was so ordered by the authorities in Athens)
14	5	A person who drinks heavily and dies of cirrhosis of the liver
6	10	A Christian Scientist who has cancer and refuses to get treatment, but simply prays

* $\chi^2 = 7.05$, df = 1, p = .008.