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Contents

Suicide Studies, 2025, 6(5), 2-6

SUICIDE IN BUSHEHR PROVINCE, IRAN

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Abstract: Suicides in Bushehr Province in Iran were examined for a ten-year period 1393 to 1403 (2015 to 2025). The suicide rate was higher in men than in women and in rural areas than in urban areas. The number of suicides increased during the ten-year period. As in the United States, peaks were found in the Spring and Fall, The mean age of the suicides in Bushehr Province was some ten years lower than the mean age of suicides in the United States.

The present study sought to examine the suicide rate in Bushehr Province. When examining suicide statistics in Iran, it's important to note potential reporting delays and discrepancies due to the country's institutional framework. The final determination of suicide as a cause of death falls under the jurisdiction of forensic medicine, which operates under Iran's judiciary. However, the national death registration system is managed by the Ministry of Health, part of the executive branch. This structural separation, combined with limited data integration between the two systems, can lead to inconsistencies in official records.

Cultural and social factors further complicate reporting. In some cases, families may seek to reclassify suicides—particularly those involving young women—under alternative causes such as accidental drug poisoning, often to avoid stigma after obtaining forensic approval. Such practices highlight the need for caution when interpreting suicide data in Iran and other Islamic societies, where social and political sensitivities may influence reporting in ways that diverge from Western contexts. Unlike in the U.S., where cause-of-death reporting follows a more centralized and standardized process, these inter-institutional and societal nuances can significantly impact data accuracy. Researchers must therefore account for these systemic and cultural factors to avoid misrepresentation. These possible cases of suicide are usually recorded as suspicious or undetermined cases.

The data used for this research are for a period during which the COVID pandemic occurred. Pouradeli, et al. (2025) found that the number of suicides increased during the pandemic. In the first three months of the pandemic, the number of suicides rose by 19%. In Southeast Iran, Movahed, et al. (2025) also found that the number of suicides increased, especially in women and in those aged 19-34.

Hajivandi, et al. (, 2013, 2014) endeavored to collect information on attempted suicides in Bushehr Province in south Iran in 2009. Of the 613 attempted suicides, 38 died (6.6%). There was no difference in the fatality rate in men and women attempted suicides, but the fatality rate peaked in those aged 25-34. The modal attempted suicide was female and aged 15-24. The fatality rate was higher in married men than in married women (13.1% versus 7.4%).

The aim of the present study was to examine the suicide rate in Bushehr Province in Iran and to compare the characteristics of the suicides in this province with those found in a Western country.

Method

The data for suicides in Bushehr Province were collected from the Death Data Registration Department of Iran's Legal Medicine Organization for a ten-year period 1393 to 1403 (2015 to 2025). There are a large number of undetermined deaths during this period (835 cases out of a total of 49,486 recorded death incidents), some of which were probably suicides, but the rates reported here are based on only the deaths recorded as suicide.

Results

There a total of 656 recorded suicides during this 10-year period. The numbers and rates (per 100,000 per year) are shown in Table 1. Males had higher suicide rates than did the females, and rural suicide rates were higher than urban suicide rates. The mean age of the male suicides was significantly higher than the mean age of the female suicides, although the mean age was low (in the low 30s) for both sexes. The mean ages of the rural and urban suicides did not differ significantly.

Table 1: Suicides and suicide rate (per 100,000 per year) in Bushehr Province for

	Female	Male	Total	
Rural	69 (4.89)	105 (6.33)		174 (5.67)
Urban	160 (3.50)	322 (6.12)		482 (4.90)
Total	229 (3.83)	427 (6.17)		656 (5.08)
Mean age	30.11	33.64	t=2.96, two-tailed p=.003	
SD	14.04	14.83		

The month of birth peaked in both months *Farvardin* (March 12 to April 20) and *Shahrivar* (August 23 to September 22) with 14.6% of the suicides occurring in each of these two months compared to an expected percentage of 8.3%. This matches the Spring and Fall peaks found in the United States. There was no clear peak in the month of death of the suicides, and there was no significant association between the month of birth and the month of death

The suicides were not spread evenly over the ten years studied, ranging from 6.5% of the suicides in 1393 to 14,5% in1402, with the peak in 1401 of 16.6%

Comparison with the United States

In the United States in 2022, the male suicide rate was 22.0 per 100,000 per year and the female suicide rate was 5.9. The sex ratio (M/F suicide rate) was 3.73. For Bushehr province the sex ratio was 1.61, lower than for the United States and closer to the sex ration found in Far-Eastern Asian countries.

In the United States, suicides peak in the Spring with a lesser peak in the Fall, similar to the peaks in Bushehr province. In old research, Lester (1987) found no variation over the months for month of birth of suicides, but there was a greater likelihood of suicides occurring in the month of birth (i.e., a *birthday blues* phenomenon; Honick, et al., 2016).

The mean age of American suicides is in the mid-40s (Lester & McIntosh, 2003) and, compared to this, the suicides in Bushehr province are relatively younger.

Undetermined Deaths

Rockett, et al. (2021) in the United States has noted that some suicides are misclassified by medical examiners and coroners as accidental death or as undetermined causes of deaths, thereby distorting the actual suicide rates. In Bushehr during the period studied here, there were 818 deaths classified as undetermined. The ratio of undetermined deaths to suicides was 1.24.

This ratio was higher in urban areas (1.43) than in rural areas (0.70) and higher in males (1.32) than in females (1.02). It appears possible that some suicides might have been misclassified, and the extent of this might vary with socio-demographic variables.

Conclusion

Suicides in Bushehr Province in Iran increased steadily during the ten-year period studied, which included the COVID pandemic. Suicides in Bushehr Province showed some similarities to suicides in the United States (for example, Spring and Fall peaks) but also differed (the mean age of the suicides was roughly ten years lower than the mean age of American suicides). These similarities and differences suggest areas for future research on suicide Iran.

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Suicide Studies, 2025, 6(5), 7-13

Announcing Suicide on the Internet: A Case Report

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Abstract: In recent years, individuals have been posting messages of their impending suicide online. The aim of the present study was to examine the videoblog of a 19-year-old which she posted before her suicide to see how many of the IS PATH WARM suicide signs were present**.** Two judges found 6½ of the 10 warning signs present. It is possible to score online posts about suicide for how serious the person's suicidal intent is., Findings ways to intervene and prevent these suicides is difficult.

The use of the Internet for facilitating suicide has grown in recent years. Particularly in Asia, people have made suicide pacts with others online, often meeting in selected places to die together (e.g., Jiang, et al., 2017). It has also become increasingly common for suicides to announce their impending suicide on the Internet and even show their suicidal behavior live. On occasions, potential suicides have posted a series of tweets or held up signs with messages on videos. Westerlund, Hadlaczky and Wasserman (2015) examined how those who read these posts respond to the potential suicide and noted that nearly half of those posted in reply before the individual's suicide encouraged the person to proceed with the suicide. Gunn and Lester (2012) proposed that Internet portals and websites post suicide prevention links on pages, videos and other postings that mention suicide or self-harm, and this has become more common in recent years. An important concern is how can viewers who see these messages online decide how serious the person is about dying by suicide.

Lester, McSwain and Gunn (2013) presented the case of a 15-year-old who posted a video of herself holding up signs with messages on YouTube and who died by suicide 39 days later. Using a list of 10 signs for suicide, known by the mnemonic IS PATH WARM (see Table 1), her messages were rated as scoring at least 8 and possibly 9 out of 10, indicating a very high risk of suicide. These signs have been adopted by many suicide prevention agencies and organizations (Juhnke, Granello &Lebrón-Striker, 2007), including the American Association of Suicidology (suicidology.org/resources/warning-signs/)

The IS PATH WARM warning signs have proven to be effective is distinguishing genuine suicide notes from simulated suicide notes written by non-suicidal individuals who are asked to write such notes for purposes of research (Lester, McSwain & Gunn ,2011). The IS PATH WARM signs have also been successful in assessing suicide risk in responses to a national survey given to adolescents in the United States (Gunn, Lester & McSwain, 2011), and in postings on a suicide forum on the Internet (McSwain, Lester & Gunn, 2012).

The present study sought to examine the potential suicide risk in an adolescent who posted signs in video uploaded to the Internet.

Case Study[1]

Christine was a teenager who had attempted suicide on May 1st for three years in a row. In the fourth year, at the age of 19, she made another attempt. At the time of this attempt, she was a psychiatric inpatient but managed to hang herself, leaving herself clinically brain dead. She was put on life support, and her parents eventually decided to have her life support turned off.

Prior to her suicide, Christine left a video on her online blog in which she held up a series of messages written on sheets of paper. She says that on the surface, she appears happy and normal, but this covers up severe distress. She became depressed at the age of 10and began to self-harm (by cutting) at the age of 15, and she made her first suicide attempt in that year also. She stopped eating and became anorexic, dropping to 86 pounds. She says that she began seeing a ghost-like person who became her best friend. However, she noted that she knows that this friend was not real. At 16, she dropped out of school and stayed home depressed. After a year, she tried to go back to school, but was unable to stay. She described herself as suffering from paranoia, delusions and hallucinations (hearing voices that were trying to kill her). After talking with her psychiatrist, she ascribed her problems to years of bullying, being called ugly, stupid and useless and being told to go away and kill herself.

Christine held up 36 signs, and the messages were rated independently by two judges. Each of the ten IS PATH WARM signs was rated as definitely present,

[1]We have changed the name of the teenager for this article. https://www.dailymail.co.uk/news/article-3216601/No-one-knows-suffering-inside-heartwrenching-video-diary-beautiful-teen-driven-suicide-bullying-depression-family-s-determination-death-not-vain.html

possibly present or absent. The judges agreed on 8 out of the 10 signs (signs present: suicide ideation, trapped, hopelessness, withdrawal and mood change; signs absent: substance abuse, purposeless and recklessness). After discussion between the two judges, it was agreed that there definitely was anxiety and possibly anger. Thus, Christine's score for the 10 signs was 6½ if we give ½ score for anger. Since there has been no study of these 10 signs on a large sample of people, there is no recommended cut-off score for the indication of a high risk for suicide. In a previous study by Lester, et al. (2013) of a video posting by a 15-year-old on YouTube, her score was 8½.

Comment

Although, as noted above, there is no cut-off score that indicates a high risk of suicide. Christine's score of 6½ out of 10 seems sufficiently high to warrant intervention by anyone who viewed her online blog. In addition, sign number 6 indicating prior a prior suicide attempt is a well-recognized risk factor for subsequent suicide ("I have been severely depressed since 2003. I started to self-harm by 2008 and also made my first suicide attempt….and no one noticed").

Because it is becoming common for suicidal individuals to announce their intentions online, and on occasions to stream the suicidal behavior live, and because those who view the online material often do not feel disposed to prevent the suicide, it is difficult to see how those who run the websites can help prevent suicide, aside from posting messages for local suicide prevention services if the word "suicide" occurs in the online material. Good prevention requires the cooperation of those who witness the material online, and it is disheartening to see how many of those witnesses act callously or not at all.

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Table 1: The IS PATH WARM warnings signs for suicide

I	Ideation	Threatening to hurt or kill self; looking for ways to die
S	Substance Abuse	Increased or excessive substance use (alcohol or drugs)
P	Purposelessness	No reason for living; no sense of purpose in life
A	Anxiety	Anxiety, agitation; unable to sleep
T	Trapped	Feeling trapped - like there's no way out; resistance to help
H	Hopelessness	Hopelessness about the future
W	Withdrawal	Withdrawing from friends, family and society; sleeping all the time
A	Anger	Rage, uncontrolled anger; seeking revenge
R	Recklessness	Acting recklessly or engaging in risky activities, seemingly without thinking
M	Mood Changes	Dramatic mood changes

Christine's posts

I suck at introductions and don't even know where to start. I guess my name is Christine and I guess that I look like your normal happy teenager.

I wish I was, but I'm far from happy and normal.

I'm great at hiding all my problems and I wear the best fake smile 24/7 so no one knows how much I'm suffering inside.

None of my friends know anything about me. They fall for my fake smile and laughs. They believe I'm FINE.

I want people to know the truth because I can't hide it anymore. So here goes nothing…

I have been severely depressed since 2003. I started to self-harm by 2008 and also made my first suicide attempt. I was in year 10 and no one noticed.

I had stopped eating and was diagnosed with anorexia, weighing around 39 kgs. No one had noticed.

During the start of 2008 I began seeing a ghost like figure who eventually turned into a person – my best friend Bree, but she is not really real

In 2009 I had dropped out of school and spent every day crying, wishing and prying to die. I don't remember 2009. I don't remember why.

By 2010 I tried to go back to school, but my depression was too much for me to handle and, from then, that's when the serious suicide attempts began

I have attempted suicide more times than I can count.

Here's a handful of my hospital bracelets from last year.

Just because I've failed to kill myself doesn't make me weak. It doesn't make me pathetic or an attention seeker.

And if you've failed too, it doesn't make you any of these things either.

You are strong and you are brave and you will get through this I promise.

I had started to suffer from paranoia, delusions, and hallucinations. I was terrified for my life, I couldn't stop worrying. I couldn't make the voices stop.

They're the evil people and they have been trying to kill me since and they've only been getting worse. I DON'T KNOW WHAT TO DO ANY MORE.

No one understands psychosis…

What it's like to live in constant fear of things that aren't even real – to hear all these voices that I can't make shut up.

What it's like for me to experience all these things that aren't real for anyone else.

To see all these evil things, that closing my eyes or even sleep won't make go away.

To feel their evil presence, feel them touch me, hold me, hurt me. I feel them try to kill me.

But no one can see this invisible killer, so it's like I'm living in a nightmare but I can't wake up.

I think that is the best way to describe psychosis, it's a LIVING, BREATHING, NIGHTMARE.

I just want everything to be over. I've been in therapy and been hospitalised many times since this started. I've been trying so hard to be happy but I can't anymore.

I can't hide behind a fake smile. I can't pretend that I'm ok. I'm going to go away and no one will notice.

Every year since 2008 I have attempted suicide on the 1st of May. But I think I'm not going to fail this year. I'm sorry.

Please talk to your friends when they show signs of a mental illness because YOU CAN SAVE THEIR LIFE! That's all I ask of everyone because no one saved me.

Where did all my problems come from? How did it come to this? What did I do to deserve this?

I asked myself question like this for years until my psychiatrist asked me about my childhood… and then it hit me.

BULLYING! All my pain is caused by heaps of tiny comments built up over the years.

"You're so ugly, stupid, lame, pathetic, useless, idiotic, just go away, no one even likes you, you're a waste of space, just go kill yourself already, you're better off dead."

Comments like those are why I'm depressed, why I cut myself, why I believe I'm not important, why I can't accept compliments or even believe I'm beautiful.

So if you're ever thinking about bullying someone, DON'T because you could ruin their life. Your words hurt and could make someone take their life.

Bullying needs to stop. No one deserves to be bullied ever. Please just put a stop to buying.

Thank you so much for taking your time to watch this and please remember that I love you and so do many others! Your life is worth living!

Suicide Studies, 2025, 6(5), 14-18

SUICIDE AFTER TREATMENT FOR EPILEPSY

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Abstract: Examination of a meta-analysis of suicide in epileptics who underwent treatment (surgery) indicated that ***in the long-term*** they most likely do not have a high rate of suicide.

In a meta-analysis of studies of mortality in schizophrenic patients, Lester (2006) found that estimates of the percentage of deaths from suicide are inflated because the follow-up period is so short. By extrapolating until all of the cohort is dead, the percentage of deaths from suicide was 0.5% for males and 0.2% for females compared to reports as high as 56% after a follow-up period of 17 years when only a few members of the sample had died.

Pompili, et al. (2006) reported a meta-analysis of deaths from suicide in epileptics. The present note examines the studies in that meta-analysis to ascertain what the final extrapolation of deaths from suicide night be when aall of the members of the cohorts were deceased.

The studies in that meta-analysis were poorly reported (see Table 1). Often the sex of the participants was not reported, nor the precise follow-up period or the age of the patients. Some studies were of children operated on for epilepsy while other studies were of adults. A few studies mentioned that their patients were living in sheltered settings which might impact mortality.

Descriptive statistics for the samples are show in Table 2. Using the data from those studies, the prediction for the percentage of suicidal deaths based on the time of follow-up is:

(1) % of suicidal deaths = 18.55 - 0.45xfollow-up in years

If we add the sample size tro the equation, the prediction equation becomes:

(2) % of suicidal deaths = 21.66 - 0.002xsample size - 0.46xfollow-up in years

If we add what the percentage of the cohort is dead, we get:

(3) % of suicidal deaths = 24.14 - 0.001xn - 28.69%xdead - 0.42xfollow-up

Table 2: Descriptive statistics and correlations with the percentage of suicides and the suicide rate

	n	mean	SD	%CS	suicide rate
sample	28	1702.4	2883.1	-0.31	-0.19
% male	17	55.2	8.7	-0.23	-0.23
suicides	29	7.7	14.9	-0.19	-0.11
other deaths	24	232.9	797.1	-0.29	-0.08
follow-up	28	13.1	10.2	-0.34	-0.34
% cohort dead	23	0.14	0.11	-0.38	-0.12
%suicides	24	11.4	13.4		+0.86***
suicide rate	29	210.7	537.6		

*** p<.001

It can be see that the larger the sample size, the greater the percentage of the cohort that has died, and the longer the follow-up, the lower the percentage of deaths that are from suicide. (All the regression coefficients are negative.)

The largest sample in the studies with complete data was Nilsson, et al. (1997) with 9,061 patients. After a follow-up of 7.5 years, the percentage of deaths from suicide was 1.3%. The highest percentages came from studies with 54 and 100 patients. The percentage of deaths from suicide in Nilsson, et al.'s study would shrink to near zero in a 40 year follow-up using equations (1), (2) and (3).

Pompili, et al. concluded that suicide deaths in persons with epilepsy are a frequent phenomenon . The results of the present analysis indicate that their conclusion is relevant for the first few years after treatment but probably not in the long-term.

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Table 1

Study	n	% male suicides		other	follow up years	CS as deaths	suicide % deaths	rate
Bladen 1992	110	41.7%		1	2	4	33.3%	227.3
Blumer et al, 2002	10739	?		5	?	6	?	7.8
Camfield et al 2002	686	50.1%		2	24	18	7.7%	16.2
Cockerall et al 1994	792	?		1	149	7	0.7%	18.0
Currie et al 1971	666	47.4%		3	51	10	5.6%	27.8
Dalby 1969	347	42.8%		2	9	5	18.2%	115.3
Guldvog et al 1994a	136	62.9%		2	28	20	6.7%	73.5
Guldvog et al 1994b	64	56.3%		2	5	20	28.6%	156.3
Hauser et al .1980	618	?		3	184	25	1.6%	19.4
Hennessy et al 1999	299	?		1	19	9.1	5.3%	36.8
Ivanainen et al 1979	1481	?		13	166	38	7.3%	23.1
Klenerman et al 1993	?	66.7%		0	113	11	0%	0.0
Lindsay et al 1971	100	?		1	13	13	7.1%	76.9
Lip et al 1992	1000	45.2%	336	3	?	2.3	?	130.4
Lahtoo et al 2001	792	?		1	213	11.8	0.5%	10.7
Loiseau et al 1999	804	60.0%		1	148	1	0.7%	124.4
Mendez et al 1992	1611	?		4	?	4	?	62.5
Nilsson et al 1997	9061	59.3		53	3948	7.5	1.3%	78.0
Nilsson et al 2002	6880	?		64 (+84[2])	?	12.5	?	74.4 (174.4)
Quigg et al, 2003	107	46.7%		1	?	1	?	2803.7
Rafnsson et al 2001	224	65.2%		4	30	34	11.8%	52.5
Salanova et al 2002	215	?		3	8	7	27.3%	199.3
Shackleton et al, 1999	1,355	55.1%		7	397	28	1.7%	18.5
Sillanpää 1983	227	52.0%		1	28	21	3.4%	21.0
Sperling et al 1999	393	54.0%		1	10	3.8	9.1%	67.0
Stępień et al 1969	54			2	3	5	40.0%	740.7
Taylor et al 1968	100	63.0		5	8	5.7	45.5%%	877.2
White et al 1979	2099	69.0%		21	615	26	3.3%	38.5
Zielinski 1974	6,710	?		16	202	18	7.3%	13.2

[2] Undetermined deaths

Suicide Studies, 2025, 6(5), 19-30

TYPOLOGIES OF SUICIDE

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Abstract: A sample of 72 suicides was examined to see whether they could be classified into Van Hoesel's typology of suicide. It was found that all could be classified into the five types, but some fitted into more than one type. In addition, the suicides in each type were quite varied, and it is unlikely that a single theory could explain all of the suicides classified into that type.

Lester (2024) has argued that progress in understanding why people die by suicide must be based on a sound typology of suicides. There cannot be a single theory of all suicides as Joiner (2005) has advocated. The question is, therefore, what is a sound typology.

In her dissertation, Van Hoesel (1983; Reynolds & Berman, 1995) studied typologies proposed by ten scholars.

1. Durkheim (1897): altruistic, fatalistic, anomic, egoistic
2. Menninger (1938): wish to kill, wish to be killed, wish to die[3]
3. Leonard (1967): dependent-dissatisfied, satisfied-symbiotic, unaccepting
4. Mintz (1968): hostility directed against the introject, aggression turned back upon the self, retaliation and the wish to punish; induce guilt, narcissistic or masochistic gratification, atonement or guilt reduction, destruction of intolerable feelings, rebirth, reunion, escape from pain, counterphobic, response to fear of death, and defensive regression
5. Shneidman (1968):egotic, dyadic, ageneratic
6. Henderson and Williams (1974): depression, extra-punitive, alienation, operant, modeling, avoidance

[3] Lester (1993) has objected to Menninger's label for to be killed." It suggests a need to be punished, whereas it is typically applied to depressed suicides. Menninger was a Freudian and so adopted Freud's view of depression as anger turn inward onto the self. Lester would replace the label with *depressed*.

7. Shneidman (1980): based on 21 different needs ranging from abasement to understanding
8. Wold (1971): discarded women, violent men, middle-age depression, Harlequin syndrome, I can't live without you, I can't live with you, adolescent family crisis, down and out, old and alone, chaotic
9. Shneidman (1966): psyde-seeker, psyde-initiator, psyde-ignorer, psyde-darer
10. Baechler (1979): escapist, aggressive, oblative, ludic

Van Hoesel then took 404 suicides from the files of the Medical Examiners in Baltimore and elsewhere in Maryland, and had judges classify these suicides into the categories listed above. The percentage of the 404 cases that were able to be classified into each of the ten typologies ranged from 60.9% to 86.1%. This latter percentage was for Baechler's typology which proved, therefore, to be the most comprehensive typology. The inter-judge agreement (for two raters) ranged from 76.3% to 97.5% (and again this latter percentage was for Baechler's typology).

There were 69 subtypes in these ten typologies. Of these, Baechler's escapist subtype was judged to apply to 64% of the suicides, Durkheim's anomic subtype 57%, and Shneidman's psyde-seeker 47%. Correlations between the 69 subtypes revealed five clusters of subtypes.

Escape (90 suicides)

This subtype included Menninger's wish to die, Henderson and Williams avoidance, Baechler's escapist, Shneidman's harm avoidance, and Mintz's desire to escape from real or anticipated pain. There were 90 suicides in this cluster, mostly white, older men, often suffering from deteriorating health. Most of the suicides in jail were of this subtype.

Escape suicides occur in order to avoid a situation; event; experience that is deemed intolerable to the subject. The common characteristics are:

- suicide is linked to an event that has not yet occurred (impending illness or something that they know; believe will happen that is not tolerable)
- suicide is often linked to a physical illness. However, the unacceptability of the physical illness and its progression must be what motivates the suicide, not a depressive state connected to the illness
- possible emotions expressed in connection to escape suicides are fear (of impending physical or mental ailments), anxiety, and pain (physical and psychological)

- suicide is seen as the best option given the circumstances

Confusion (52 suicides)

In confusion suicides suicide occurs because of psychotic; disorganized thinking. The common characteristics are:

- psychotic behavior is clearly evident (delusions, severe paranoia, hallucinations)
- subject may go in and out of states of panic associated with the presence of psychotic symptoms
- suicide most likely is an impulsive act linked to disorganized thinking; psychotic episodes
- possible emotions expressed in connection to confusion suicides are fear (due to paranoid thinking) and elation; mania accompanying psychotic symptoms

This subtype included Shneidman's egotic and Wold's chaotic. These suicides had intrapsychic conflict, chaotic organization and showed bizarre behavior, and 74% had a psychiatric disorder.

Aggression (77 suicides)

Aggression suicides occur as a result of anger or aggression directed at another. The common characteristics are:

- suicide is meant to shock or hurt another
- the subject blames another for their suicide in either a note or statements made prior to the suicide
- the subject is seeking to cause feelings of guilt in another as a result of their suicide
- the place of the suicide may relate to anger or intent to harm (suicide occurring in the presence of another, or in a place so as to be found by the individual toward whom the subject feels strong anger or aggressive impulses)
- common emotions; feelings expressed relating to the suicide are anger, thoughts of violence toward another, blame direct at others, and disgust with another

This subtype included Menninger's wish to kill, Shneidman's aggression, Leonard satisfied-symbiotic, Shneidman's dyadic, Henderson and Williams extra-

punitive, Wold's I can't live without you, Baechler's aggressive and Mintz's hostility directed toward an introjected lost love object. There were 76 suicides in this cluster. White men in the 20s were common in this subtype, as well as African Americans. These suicides were precipitated by interpersonal conflict, were under the influence of drugs and alcohol, had made fewer prior suicide attempted, but more often left a suicide note.

Alienation (23 suicides)

Alienation suicides are associated with interpersonal failure of some kind. The common characteristics are:

- subject often isolated; lonely
- subject has failed to form intimate; lasting relationships
- subject can find no sense of meaning, purpose, or connection
- suicide may be linked to loss of a significant others, either through death or separation
- common emotions; feelings associated with suicide are loneliness, a sense of loss and perhaps grief associated with this loss (but not depressive; complicated grief)

This subtype, with 23 suicides, included Durkheim's anomic, Wold's down-and-out, and Wold's old and alone. This group had more men, more drug abusers, and more mid-life individuals.

Depression; Low Self-Esteem (112 suicides)

Depression; Low Self-Esteem suicides are often caused by a major depressive episode associated with low feelings of worth and very low self-esteem. The common characteristics are:

- subject often expresses a feeling of being worthless
- a pervasive lack of hope may be present
- subject may also experience severe guilt and may express the wish to be punished (suicide itself may be an attempted to punish themselves for a conceived bad deed or for being "unworthy")
- common emotions; feelings associated with suicide are guilt, shame, intense depression, and low self-esteem; self-worth

This subtype, with 112 suicides, included Menninger's wish to be killed, and Henderson and Williams depression. These suicides resembled the total sample on the whole.

Escape Theories

Some escape theories, however, may provide the basis for a typology if the situation or psychological state from which the suicide is escaping is classified. Baechler (1975) proposed a classification of escape suicides.

Flight: "To commit a suicide of flight is to escape by taking one's own life from a situation sensed by the subject to be intolerable". (Baechler, 1975, p. 66). These suicides consider their decision to be logical.

> René G., 59, blinded in the left eye by a war wound, and partially deaf; five years earlier an attack of hemiplegia left his right side paralyzed. Slowly his condition worsened: he could no longer do any work and spent all his time lying down or seated in a chair. He needed assistance to attend to the smallest daily necessities. His character grew bitter; he became sad and irritable. He sensed himself to be - as in fact he was - a heavy and painful burden for his family. Under these conditions, and considering everything quite carefully, he decided to kill himself. He took advantage of the absence of his wife to take a razor in his left hand and try to slit his throat and right wrist. His wife found him on the floor, nearly unconscious. In hospital he declared his wish to die as an explanation for his actions. (Baechler, 1975, p. 66)

Grief: "Suicide whose meaning is grief occurs when a subject takes his own life following the loss of a central element of his personality or way of life" (Baechler, 1975, p. 84). In this type, the loss is specific: a love object, physical or intellectual integrity, social standing, faith in a cause, honor, independence, or death of a leader.

> Madame St. A., 43. Her husband and only daughter were killed in a terrible automobile accident. During the night after their burial, she took too much medicine. Four days of coma; medicinal and electric shock treatment; no psychiatric disorder previously perceptible. She then went to live with her in-laws. Five days later another attempt (swallowed eau de Cologne and slashed veins); hospitalized. It was recorded that she has decided to keep on attempting to kill herself until she succeeds. It seems that these attempted

> suicides are impulsive and are produced in a state of exaltation without any concern about the means and, in the patient's own words, with a complete absence of pain. Remained in hospital first in a closed and then an open psychiatric ward; she was returned to her family life upon discharge. A few weeks later the subject succeeded in committing suicide. (Baechler, 1975, p. 84)

Punishment: "To commit punishment suicide is to make an attempt on one's own life in order to atone for a real or imagined fault" (Baechler, 1975, p. 96). This type may be a result of guilt or shame.

> Mme. Ch., 51, hospitalized in the Emergency Psychiatric Center, St. Antoine Hospital, Paris. Epileptic. In 1949 she accused herself of an imaginary theft and called the police; intense feeling of shame and indignity. Following an attempted suicide by gassing she was admitted to St. Anne's Hospital for two weeks. In January 1957, a new accusation of theft; feeling of disgrace; asked to be killed; she mistook the hospital for a police station. In August 1957, readmitted to hospital; she again begged to die. In February 1959, she asked to be burned: 'that will at least make garbage out of me; if I putrefy, what do you think will be done with me; if it must come to that to purify society, so it goes.' (Baechler, 1975, p. 98)

The self: Baumeister's (1990) proposal of an escape from the self may lend itself to a further type of escapist suicides, although it may be difficult to distinguish this from escaping from guilt or shame.

Comment

The study by Van Hoesel provides us with a summary of the ten most common typologies proposed by suicidologists, and empirically suggests that five major subtypes can be identified from the 69 subtypes proposed by the ten suicidologists. In terms of being able to classify more of the sample, Baechler's proposed typology performed the best (with only 13.9% of the suicides unclassified) but, although Baechler proposed four subtypes, the oblative and ludic subtypes applied to only 3.7% of the suicides, which means that only two of the subtypes are common. For Menninger's three types, on the other hand, each applied roughly to one-quarter of the suicides: wish to kill 20.3%, wish to be killed 28.2%, wish to die 28.0%, and unclassified 23.5%. Van Hoesel's study was limited, of course, by the fact that the record of each suicide in the Medical

Examiners' files was not a comprehensive psychological autopsy and so details of the lives of the suicides were limited.

The Present Study

Preamble

Classification schemes present three possibilities.

(1) Each case can be assigned to one and only one category. For example, in cases of killing in the criminal justice system, a particular murder may be classified as first-degree murder, second-degree murder, voluntary manslaughter, etc. Any particular case cannot be assigned to two types of killing.

(2) Each case can be assigned to one or more categories. For example, in his classification of the motives for suicide (to kill, to be killed and to die), Menninger (1938) allowed that any particular suicide may have elements of more than one of these motives.

(3) The categories can be turned into dimensions and each case scored on each dimension. For example, in the classification of body type, originally Kretschmer (1925) assigned body types to one of three categories: pyknic (fat), athletic (muscular) and asthenic (thin). This meant that many cases did not fit into any one of these extreme types and so were unclassifiable. Sheldon (1940) changed this and made each of these three categories a dimension and scored each individual on a scale of 1-7 for each dimension, giving each person a score, such as (6,5,2) for an overweight individual.[4] For the present study, for this alternative, one could use a score of 0-3 for each of the five categories: 0 no element present, 1 a small amount of that element present, 2 a moderate amount of that element present and 3 a large amount of that element present. This would give 4^5 (= 1024) possible types, but it may be thought of as a *profile* of each suicide.

Choice of Suicides

Van Hoesel used suicides in one city and the medical examiner's files on these suicides. This information is, therefore, limited since the Medical Examiner is interested in the cause of death and not the motivations and life history behind the death.

[4] Sheldon called the three dimensions endomorphy, mesomorphy and ectomorphy.

Lester (www.drdavidlester.net) has read biographies of many suicides, famous enough to have a biography written about them, and he written up essays on their lives. Two studies have already appeared on a sample of 72 of these suicides (Zhang, et al., 2013; Lester & Gunn, 2022). It makes sense to use these same 72 suicides. This sample of 72 suicides was chosen by Zhang, et al. (2013) to test Zhang's strain theory of suicide. Therefore, the choice is not biased with respect to the aims of the present study.

Van Hoesel's Typology

An attempt was made to fit the 72 suicides into the five types that Van Hoesel identified from her analysis, also using the several types of escape were used. Only one judge was used, and so the reliability of the judgments could not be ascertained.

Results

Only 42 of the suicides could be classified into a single category (see Table 1). The remaining 30 required two or three categories (29 and one, respectively). All of the suicides fitted into at least one category. This was very different from Van Hoesel's study where 14% to 24% were unclassifiable in Baechler's and Menninger's typologies.

The category depression/low self-esteem proved to be a poor category because of the association of depression with low-self esteem and the emotions of guilt and shame. Many of the suicides were depressed but not showing low self-esteem or guilt and shame.

The most common category was escape-flight with 48 suicides. However, the category of escape could apply to any suicide since suicide always involves fleeing life. Alienation was common (20 suicides), followed by confusion (14 suicides).

It is interesting to note that anxiety plays no role in the typologies since De Leo (2010) noted the presence of anxiety in his sample of attempted suicides with high intent.

Comment

The typology proposed by Van Hoesel proved to be able to classify all of the 72 suicides in the sample. However, for the purposes of Lester's proposal that a good

typology should provide a limited number of types of suicides, each of which perhaps had a theory of suicide that was applicable, this study has failed. First, a good proportion of the suicides did not fit into only one category. Second, within each type, the suicides were quite varied, and it is unlikely that one theory would explain or be appropriate for all of the suicides classified into that type.

What next? It may be preferable to list the theories of suicide and explore whether suicides can be classified into one of the theories. For example, which suicides fit into a defeat-entrapped theory, which into a perceived burdensomeness theory, etc? For this, we need a good review of which theories of suicide have been proposed.

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Table 1: The classification of the suicides into the 5 types

			Birthplace	Suicide type
1 Reinaldo Arenas	writer	1943-1990	Cuba	escape; flight
2 Diane Arbus	photographer	1923-1971	USA	escape; flight; alienation
3 Edwin Armstrong	scientist	1890-1954	USA	escape; flight
4 Walter Benjamin	writer	1892-1940	Germany	escape flight
5 John Berryman	poet	1914-1972	USA	depression; escape flight
6 Bruno Bettelheim	psychologist	1903-1990	Austria	escape flight; alienation
7 Charles Boyer	actor	1899-1965	France	escape; grief
8 Henry Broughton	English nobility	1883-1942	UK	escape flight
9 Dora Carrington	painter	1893-1032	UK	escape; grief
10 Viscount Castlereagh	politician	1769-1822	UK	confusion
11 Paul Celan	poet	1920-1970	Romania	alienation; confusion
12 Thomas Chatterton	poet	1752-1770	UK	escape; flight
13 Robert Clive	soldier	1725-1774	UK	confusion
14 Kurt Cobain	musician	1967-1994	USA	escape flight
15 Hart Crane	poet	1899-1932	USA	alienation; escape flight
16 Sergei Esenin	poet	1895-1925	Russia	depression
17 James Forrestal	politician	1892-1949	USA	confusion
18 Sigmund Freud	psychoanalyst	1856-1939	Moravia	escape flight
19 Konoe Fumimaro	politician	1891-1945	Japan	escape flight
20 Judy Garland	actress	1922-1969	USA	escape flight
21 Mark Gertler	painter	1891-1939	UK	depression; alienation
22 Charlotte Perkins Gilman	feminist	1860-1935	USA	escape flight
23 Joseph Goebbels	minister	1897-1945	Germany	escape flight
24 Arshile Gork y	painter	1904-1948	Armenia]	escape; flight
25 Kenneth Halliwell	writer	1926-1967	UK	alienation; aggression; escape flight
26 Tom Heggen	writer	1919-1949	USA	depression
27 Ernest Hemingway	writer	1899-1961	USA	escape; flight
28 Ludvik Hoch	businessman	1923-1991	Czechslovakia	escape flight
29 Abbie Hoffman	yippie; writer	1936-1989	USA	confusion; escape flight
30 Robin Hyde	poet	1905-1939	New Zealand	escape; flight
31 Paul Kammerer	scientist	1880-1926	Austria	depression; escape flight
32 Weldon Kees	poet	1914-1933	USA	depression; escape flight
33 Jerzy Kosinsky	writer	1933-1991	Poland	escape flight
34 Vladimir Kovalovskii	scientist	1842-1883	Russia	confusion; escape flight
35 Alan Ladd	actor	1913-1964	USA	escape flight; depression
36 Robert La Follette	politician	1895-1953	USA	aggression; depression
37 Primo Levi	writer	1919-1987	Italy	escape flight
38 Vachel Lindsay	poet	1879-1931	USA	confusion
39 Georg List	economist	1789-1846	Germany	escape flight
40 Ross Lockridge	writer	1914-1948	USA	depression
41 Jack London	writer	1876-1916	USA	escape flight
42 Eleanor Marx	Marx's daughter	1855-1898	UK	escape flight
43 Vladimir Mayakovsky	poet	1893-1930	Russia	alienation; escape flight
44 Aimee McPherson	preacher	1890-1944	Canada	escape flight; alienation
45 Hugh Miller	scientist	1802-1856	UK	confusion; escape flight
46 Yukio Mishima	writer	1925-1970	Japan	alienation
47 Marilyn Monroe	movie star	1926-1962	USA	depression; escape flight
48 Gerard de Nerval	writer	1808-1855	France	confusion; alienation
49 Phil Ochs	folk singer	1940-1976	USA	confusion; alienation
50 Cesare Pavese	writer	1908-1950	Italy	alienation
51 Sylvia Plath	poet	1932-1963	USA	escape; grief
52 Freddie Prinze	comedian	1954-1977	USA	confusion; escape flight

53 Lewis Puller	soldier	1945-1994	USA	depression; escape flight
54 Mark Rothko	painter	1903-1970	Latvia	escape flight; alienation
55 Crown Prince Rudolph	royalty	1858-1889	Austria	aggression; alienation
56 Anne Sexton	poet	1928-1974	USA	alienation
57 Elizabeth Cody Stanton	feminist	1815-1902	USA	escape flight
58 Victor Tausk	psychoanalyst	1979-1919	Hungary	escape flight
59 Sara Teasdale	poet	1884-1933	USA	alienation
60 Ernst Toller	activist; writer	1893-1939	Germany	escape flight
61 Marina Tsvetaeva	writer	1892-1941	Russia	alienation; escape flight
62 Kurt Tucholsky	writer	1890-1935	Germany	escape flight; alienation
63 Alan Turing	computers	1912-1954	UK	alienation
64 Randy Turpin	boxer	1928-1966	UK	confusion; aggression
65 Vincent van Gogh	painter	1853-1890	Netherlands	alienation; confusion
66 Stephen Ward	osteopath	1912-1963	UK	escape flight
67 Simone Weil	teacher	1905-1943	France	escape flight
68 Otto Weininger	psychologist	1880-1903	Austria	confusion; depression
69 Dolly Wilde	socialite	1895-1941	UK	escape flight; alienation
70 Virginia Woolf	writer	1882-1941	UK	escape flight
71 Gig Young	actor	1913-1978	USA	escape flight; aggression
72 Stephen Zweig	writer	1881-1942	Austria	escape flight

Suicide Studies, 2025, 6(5), 31-51

SUICIDE AND CARS

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Abstract: The limited research on suicides using cars is reviewed and suggestions made for prevention of these suicide.

Introduction

There three major methods for dying by suicide that involve cars are:

- single car crashes where a drive deliberately collides with a tree, pole, or concrete barrier
- multiple vehicle collisions where a driver or rider intentionally steers into oncoming traffic, often targeting trucks.
- pedestrian suicides, where people step or lie in front of moving vehicles. [5]

In Australia, Haghani, et al. (2025) found that single car crashes were the most common, but this may vary from country to country. The modal car crash suicide in Australia was a male under the age of 25, non-indigenous and born overseas.

How common is suicide involving cars?[6] Typically, medical examiners and coroners are reluctant to classify the deaths of car drivers as suicides. Researchers however, have investigated samples of drivers and derived unofficial estimates. For example, in Baltimore (USA), Schmidt, et al. (1977) thought that 1.7% of car drivers who died were probable suicides and 1% of non-fatal crashes were attempted suicides. More recent studies report higher percentages. In Ireland, Connolly, et al. (1995) estimated 4.5%, while Andersson and Sokolowski (2022) estimated 11.2$% in Sweden.[7]

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[5] And, of course, using car exhaust. Occasional individuals have caused a car to explode, thereby killing themselves, usually as a terrorist act or as a protest.

[6] This type of suicide has been called *autocide*.

[7] Those in some occupations may more often have their suicides misclassified. For example, Violanti (2010) noted that more police officer deaths are classified as undetermined than, for example, deaths in firefighters and the military, and this was more common in female and black police officers.

Suicide by Means of Car Crashes

Driving off cliffs at the Grand Canyon National Park

Stack and Bowman (2015) reported on those who died by suicide by driving their car off cliffs in the Grand Canyon National Park (GCNP) in Arizona where there were eleven suicides reported for 2003-2009 and 47 for 1914-2004. The 47 suicides were 81% male, with a mean age of 31, much younger than the typical suicide in the United States (45.5). Ten of the suicides used their car, three of these using rental cars.

Stack and Bowman described a double suicide involving a couple fleeing from the police in California. Laura Allen, aged 30, had been cohabitating with Richard McMillan, aged 50, for about two years, and Richard had sexually molested Laura's two children. Both Richard and Laura had criminal records involving violent crimes. The fear of arrest prompted the couple to flee. They traveled in McMillan's car to the GCNP where McMillan drove the car at high speed off the rim.

Stack and Bowman noted t that driving a car off the rim was featured in a popular film, *Thelma and Louise* (1991). People can identify with suicides in films, and this can increase their suicide risk. In *Thelma and Louise*, two troubled midlife women go on a road trip as a relief from their angst. They shoot a man and also carry out a robbery. They are cornered by the police and, facing jail time, they choose to drive their 1966 Ford Thunderbird over the edge of a cliff.

In real life, a recently divorced thirty-six-year-old woman, Patricia Astolfo, watched the movie over and over again - about fifty times. Patricia drove her Chevy Suburban over the rim at the Abyss in the GCNP, but its suspension got stuck on a rock outcropping. Still alive, she got out and jumped off the ledge. However, she fell only twenty feet onto another ledge. Badly hurt, she crawled towards the edge, leaving a trail of blood. Determined to die, she finally slid off of this second ledge to her death (Ghigleri & Myers, 2005).

Why choose a national park for suicide? It is isolated, and so bystander intervention is unlikely. Bruce Bytnar, who spent thirty-two years working for the National Parks, suggested that "many suicide[s]…..look for places that are peaceful, private, perhaps where they had positive memories, and where they will not be disturbed but easily found after the act" (Bytnar, 2010). David Whittlesey, an expert on deaths in Yellowstone National Park, wrote, "Perhaps these persons

wanted their last moments to be spent in a beautiful or famous place, or perhaps they wanted their deaths somehow inextricably linked to nature" (Whittlesey, 1995).

Driving Head-on into a Heavy Vehicle or Train[8]

MacDonald (1964) noted that in Colorado in a three month period, no suicides by vehicle were recorded, but 62 drivers were blamed for the death of themselves or others. Three were former psychiatric patients, and their deaths were probably suicide. In one case, a middle-aged man drove slowly at 10 mph into the path of train while red lights were flashing and the train was whistling. He believed that he was accused of being a sex offender and drug seller and that planes flying overhead were searching for him. A post-mortem blood test showed no alcohol intoxication.

A middle-aged woman drove her car head-on into a tractor trailer. Four months earlier she had been treated for psychotic depression with paranoid delusions, believing that her husband planned to kill her by driving recklessly.

Thirty patients were interviewed who had attempted suicide by car, three who had attempted homicide and seven who had attempted suicide and homicide. The majority were former psychiatric patients, and all admitted suicidal intent. All were driving except for one man who was a passenger, grabbed the steering wheel and put his foot on the gas pedal. Their ages ranged from 18 to 55, and there were roughly equal numbers of men and women. Personality disorders were present in 25% of the sample, but only six (15%) were psychotic. Half of the patients made their attempt impulsively after an argument with a lover, spouse or supervisor at work. In three cases, the driver was arguing with the passenger and decided to kill them both. Some planned the attempt and drove to a planned place to crash the car. Many, especially those with personality disorders, had made previous attempts. When interviewed, the patients showed little feeling or introspection.

Suicide in Analogous Situations

Suicide by Airplane

[8] Interestingly, Stack (2025) has found that truckers in America have a higher rate of suicide, perhaps as much as 60% higher than other males..

Some methods for suicide are more dramatic than others. For example, occasionally the pilot of a commercial aircraft chooses to die by suicide and kills the others on the airplane with him. It has also been documented that pilots flying solo have crashed their planes in order to die by suicide (Maulen, 1993). Kennedi, et al., (2016) documented 65 cases of pilot suicide and 13 cases of pilot suicide-homicide.

Lester (2002) noted examples of possibly suicidally-motivated crashes of commercial airplanes. For example, the copilot of Egypt Air flight 990, Gameel al-Batouti, is suspected of crashing his plane (a Boeing 767) into the Atlantic Ocean on October 21, 1999, killing the 217 people on board. The plane crashed about sixty miles south of Nantucket Island. The American NTSB concluded that the copilot had caused the crash (for reasons unknown), while the Egyptian Civil Aviation Authority disputed this and concluded that the crash was caused by mechanical failure of the elevator control system of the plane. One set of crew made the take-off and was scheduled to fly the plane for the next four hours. However, al-Batotuti entered the cabin after twenty minutes and demanded to take over. After he took over, the captain went to the toilet. Thirty seconds later, al-Batouti said in Arabic "I rely on God." A minute later, the autopilot was disengaged, and al-Batouti again said "I rely on God." Three seconds later the throttles for both engines were reduced to idle, and both elevators were moved three degrees down. Al-Batouti then repeated "I rely on God" seven more times. The captain, who had returned, kept asking "What is happening?" The engines were then shut off, and the Captain asked al-Batouti whether he had shut off the engines. The plane crashed into the ocean soon afterwards.

Later, in February 2000, another Egypt Air pilot, Hamdi Hanafi Taha, sought asylum in England claiming that he knew why al-Batouti had killed himself. According to the informant, al-Batouti had recently been demoted (possibly for sexually harassment) by an Egypt Air executive who was on board the plane.

Suicide by Train

Another violent method of suicide involves the person jumping in front of a subway train or a regular train. For example, Gaylord and Lester (1994) noted that there were 56 suicides in the Hong Kong subway in the period 1979-1991 and 76 attempts at suicide. The majority were men, in their 30s, and occurring between 11 am and 3 pm. The subway staff monitor the stations and have identified four clues that warrant intervention: being clothed in traditional costumes, standing near

where the train enters the station, watching several trains enter, and putting down bags etcetera rather than picking them up as the train approaches.

For suicides occurring on railways, Mackensie, et al. (2018) also noted warning signs: station hopping and platform switching, limiting contact with others, positioning themselves at the end of the track where the train approaches, allowing trains to pass by and carrying out repetitive behaviors.

Jumping from Bridges

Jumping from bridges is a common method for suicide, and some bridges are over roads so that, if a person jumps, cars may be hit. There are two interesting issues about suicides by jumping from bridges.

(1) Do the suicides cluster over time, which would suggest contagion, that is, does a report on one suicide from a bridge in the news encourage others to commit suicide from the same bridge shortly after the reported suicide.
(2) What is the impact of the opening of a new bridge in a city on suicides from already existing bridges or installing fences on bridges? Do potential suicides switch bridges?

Clustering is difficult to study because most bridges have few suicides. The Golden Gate Bridge in San Francisco (USA) which is over water is a popular venue for suicide. Kirch and Lester (1990) found no evidence of clustering in these suicides. The suicides were randomly distributed over the four-year period studied.

Beautrais (2001) took advantage of a decision by a town council somewhere in Australia or New Zealand (Beautrais did not want to name the town) to remove safety barriers from a bridge on the grounds that: (i) they were unsightly, (ii) they impeded rescue efforts, and (iii) they did not prevent suicide. In the four-year periods before and after the removal of the barriers, the number of suicides increased from 3 to 15, with estimated rates of 0.29 per 100,000 per year before removal of the barrier, rising to 1.29 afterwards.

Beautrais also looked for switching. Did more suicides occur by jumping elsewhere in the city once the safety barriers were re-intalled? Focusing on the two-year periods before and after removal of the barriers, the number of suicides by jumping remained constant (14 in each two-year period), but the location did

switch to the newly unfenced bridge, a change that was statistically significant. These data suggest that switching did occur.

Studies of Individuals

Most road traffic suicide victims are males aged between 25 and 34 years, unmarried, in regular employment, with a history of attempted suicide (Okolie, et al., 2020). A history of mental illness, particularly depression, and alcohol misuse have also been identified as possible risk factors associated with road traffic suicides. In a review of world-wide research, In contrast, Routlery, et al. (2003) found that most *accidental* driver deaths were male, aged 50 to 70 years, caused by cardio-vascular disease, involving little or no property damage.

In an early study, Pokorny, et al. (1972) compared four suicides and ten possible suicides by car with non-suicidal fatalities. The suicides were more often alcoholics, depressed and impulsive, with acute emotional upheavals, but less often angry. They did not differ in prior traffic accidents or intoxication at the time of the crash.

Huffine (1971) compared possible suicides using cars with other fatal single car crashes. Possible suicides were defined as occurring in clear weather, in open areas, on level ground, on straight or gently curving roads, on a freeway, on dry roads, no vehicle defects, no visual impairments, and no alcohol use by the driver. The possible suicides occurred more often in the morning, in the middle of the week, in the summer and autumn, in newer cars and when speeding.

Hernetkoski and Keskinen (1998) found that suicides and possible suicides using cars in Finland differed from fatalities resulting from negligence. The suicides were more often in multiple car crashes, were older (25-34 versus under 25), more often depressed (49% versus 19%), less often convicted of drunken driving (11% versus 43%), and less often under the influence of alcohol (22% versus 79%). Keskinen and Pasanen (1990) found that a psychiatric disorder was more common in the suicides (59%) than in fatal negligent drivers (1%), while alcohol intoxication was less common (18% versus 77%).

In Queensland (Australia), Milner and De Leo (2012) found that, compared to other suicides, car crash suicides were more likely to be males, 25 to44 years old, employed, and consumed alcohol immediately prior to the crash. They did not differ in leaving suicide notes, communicating their intent, the presence of mental illness or physical illness and type of stressor.

Psychological Autopsies of Probable Suicides using Cars

The information in the files of coroners and medical examiners is limited. Furthermore, there have been no sound psychological autopsy studies comparing suicides using cars and those using other methods for suicide. Two studies claimed to have used psychological autopsies but did not.

Andersson and Sokolowski (2022) examined the impact of *extended psychosocial investigations* on the classification of ambiguous road traffic fatalities in Sweden. They used oral or written messages that indicated suicidal intent, recent suicidal ideation or behavior (self-harm or attempted suicide), depression or mental illness, recent stressful or emotional life events, and aspects of the crash. The number of suicides or probable suicides in the year 2012 rose from 22 to 36 (from 6.8% of fatalities to 11.2%). The percent of fatalities that were suicides peaked in 2019 (the end of the study period) at 14.0%. The number of traffic fatalities remained constant during the study period, but the number of undetermined deaths declined.

Ohberg, et al, (1997) used a psychological autopsy technique to study 1,419 driver fatalities in Finland. They found that 5.9% of the fatalities were probable suicides compared to the official number of 2.6%. The victims often had mental illness and alcohol abuse, and the crashes were more often head-on with a heavy vehicle compared to other traffic fatalities. Half of the driver suicides were aged 15-34. The suicides misclassified as undetermined by the coroners were more often over the age or 35, but did not differ in mental illness, alcohol abuse, or the type of crash.

Gauthier, et al. (2015) compared 53 car crash suicides with suicides by other means in Switzerland. The car crash suicides were mostly unmarried men, younger, and mostly by crashing into other vehicles. Killing others was four times more common than in other suicides. The car crash suicides less often left a suicide note (21% versus 42%).

Suicidality in Ordinary Car Crash Survivors

Studies of suicidality in ordinary car crash survivors have proven to be of little use for understanding those who choose cars as a means for suicide. For

example, Pompili, et al. (2006) compared a sample of drivers involved in single car crashes with drivers who had never had an accident. The two groups did not differ consistently on the subscales of a Reasons for Living inventory, nor on a suicidal ideation scale. However, the drivers involved in crashes did report more recent stressful life events.

Selzer and Payne (1962) studied 30 alcoholic psychiatric inpatients and 30 non-alcoholic psychiatric inpatients. Those who reported attempting suicide or serious suicidal ideation had been involved in an average if 2.7 car accidents versus 1.3 for the non-suicidal patients. This difference was found for the alcoholic subsample (3.7 versus 1.8) and for attempters versus ideators (3.6 versus 2.2).

The Choice of Method for Suicide

The critical question about traffic suicides is why the individuals chose this method for suicide. Mishara and Bardon (2016) noted, surprisingly, that people said that they chose suicide by train because it was painless, reliable and quick, while others said that other methods had failed to result in death. In a recent case that I am examining, a 15-year-old girl threw herself in front of a train (and died) after previously trying acetaminophen overdose and cutting her wrists.

It is surprising that suicide by train was viewed as painless. It would be more reasonable to view it as painful but very brief, perhaps no more than a few seconds of pain. Joiner (2005) introduced a relevant construct, namely that individuals planning suicide would benefit from having an acquired capability of facing pain. If this construct has relevance here, then experience of pain in the past might be found in the backgrounds of those engaging in traffic suicide, experiences such as abuse as a child or teenager, experience of combat in war zones, and prior suicide attempts.

Studies of the Method Chosen for Suicide

We know very little about the factors determining the choice of method for suicide. For example, Lester (1970a) found no differences in the MMPI scores of suicides using passive versus active (more violent) methods, while Lester (1971) found no differences in their suicide notes.

Lester (1970b) found that those using active methods for their highly lethal suicide attempt tended to have higher aggression scores on the TAT. Lester, et al.

(1976) found that suicides using active methods were less likely to have been psychiatrically hospitalized.

There have no sound studies on suicides using a car crash, but some research has studied those who jump to their death from a height, a method which involves similar disfiguration. Heim and Lester (1991) found that psychiatric patients, especially those with psychosis, more often used jumping for their suicide while away from the hospital. Men, et al. (2024) found that individuals who died by jumping from height had a higher likelihood of having a psychiatric and/or emergency department visit in the past week and having schizophrenia or related disorders or symptoms. The excess of schizophrenic individuals jumping from heights was replicated by Trott, et al. (2024), but the excess was found also in those with bipolar disorder and major depression.

We need more research on the choice of method for suicide in general in order to better understand the choice of vehicular suicide.

Car Crash Attempted Suicides

Murray and De Leo (2007) surveyed Australians who had planned suicide and those who had attempted suicide. Of those who reported planning a suicide, 14.8% (19.1% of male planners and 11.8% of female planners) had thought of having a motor vehicle accident. Of the attempters, 8.3% (13.3% of male attempters) had previously attempted via motor vehicle collision. All of the attempters reported having emotional or mental problems at the time of the event. The suicide planners were significantly more likely to be in full-time employment and have a partner and children compared with planners using other methods for suicide.

Reasons for the Choice of Car Crashes

The major hypothesis about the choice of methods for suicide is that people choose a method readily available. Clarke and Lester (2013) and Lester (2009) have conducted studies and reviewed the research of others to show that, the more available and accessible a method for suicide is, the more often people choose that method for suicide. For example, fencing in a bridge from which people jump to their deaths cuts the number of suicides from that bridge (e.g., Bennewith, et al., 2007), while removing the fences from a bridge increases the number of jumpers from that bridge (e.g., Beautrais, 2001).

Idiosyncrasies in Choice of Method

Many papers document odd methods for suicide. A thorough search of the medico-legal literature finds such methods as using chopsticks (Leung, et al., 1995), driving nails into one's head (Johansson & Eriksson, 1988) and decapitation while driving a car (Turk & Tsokos, 2005). Why did the people choose such eccentric methods for their suicide? Rarely do the investigators examine the motives for this choice of method for suicide.

Explaining Choice of Method

It has been recognized since Durkheim (1897) that psychological and cultural factors influence choice of method. This topic received little careful attention, however, until the early 1960s (Dublin, 1963). Dublin distinguished three determining factors in choice of method: (1) availability or accessibility, (2) suggestion or infectiousness, and (3) personal and symbolic factors. With slight modifications, this classification provides a convenient starting point for the following discussion.

Availability and Accessibility

The most "available" methods for suicide are, in fact, not the ones most frequently used. Combining the notion of *accessibility* with *availability* makes for a better hypothesis because it permits the influence of geography to be used as an explanation of the choice of method as well as differences in the suicidal person's physical and mental capacities. For example, a city worker in an office in a tall building may have much greater access to jumping as a method of suicide than his suburban neighbor who works locally. These and other practical aspects of availability and accessibility may be important in causation since, quite early in the process of contemplating suicide, people have to think about what method to use. Failure to identify a suitable method or to resolve the practical difficulties involved could result in the idea of suicide being abandoned.

Suggestion and Symbolism

Phillips (1974) was one of the first researchers to document the possibility that publicity following suicides may increase the rate of suicide and that there are fashions in the methods used. He found that front-page news stories on suicide were followed by an increase in the number of suicides in the following month.

A well-documented example of the power of suggestion and symbolism is to be found in the story of Mount Mihara in Japan, which became a suicide shrine in the early 1930s (Ellis & Allen, 1961). Until that time, Mount Mihara, which is on an island some sixty miles from Tokyo, attracted only a few tourists who went to see the sulfur clouds from its volcano. However, in January 1933, a pupil from an exclusive girls' school in Tokyo jumped into the crater, only to be followed a month later by another girl from the same school. The deaths attracted enormous publicity, and the legend took hold that those who jumped were instantly cremated and their souls sent heavenward in a plume of smoke. Crowds of sightseers flocked to the island and on one Sunday in April, six of these sightseers plunged into the crater while another twenty-five had to be forcibly restrained. By the end of 1933, 133 known suicides had occurred and many more were suspected.

Personal Requirements and Cultural Norms

All of us fear death, but some forms of death are more terrifying than others. Thus, most of us dread a long terminal illness with severe pain and progressive loss of functions. Indeed, quality of death may be as meaningful a concept to many people as quality of life. However, the factors affecting decisions about death, in particular a suicidal death, depend on personal circumstances. Most suicidal individuals are concerned about the physical pain involved and many, particularly women (Marks, 1977), about the damage to their faces and bodies. Some individuals, for religious reasons or to safeguard insurance payments for their relatives, may want to conceal the suicidal nature of their deaths, while others, particularly those who die by suicide in a public way such as by jumping under a subway train, may wish the opposite. Punishing those they consider responsible for their plight may be important for some suicides, whereas others may wish to cause the minimum of distress to their significant others.

All of these considerations are likely to influence the choice of method, although they have not been studied much. Dublin's (1963) own work concentrated mainly on the concept of lethality of intent. For example, he sought to explain the greater use of firearms by males primarily on the grounds that men who engage in suicidal behavior have more lethal intent than women whose suicide attempts are more often manipulative. For manipulative or ambivalent individuals, slower methods are usually preferred since these might allow either a last minute change of mind or for fate to have a hand, for example, through the chance intervention of a lover or friend.

Choice Structuring Properties of Methods of Suicide

Marks and Abernathy (1974) identified five variables that would help to explain an individual's preference for a particular method of self-destruction: its physical availability, the suicide's knowledge of the method, his familiarity with the method, his personal or social accessibility to the method, and his evaluation of the method. Their list can be considerably extended, and Clarke and Lester (2013) suggested twenty "choice structuring properties" that impact in various degrees the method of suicide chosen (poisoning, cutting, suffocation and hanging, drowning, electrocution, shooting, jumping, etc.):

1. Availability (e.g., owning a car)
2. Familiarity with the method (e.g., car exhaust gases)
3. Technical skills needed (e.g., hanging, gassing)
4. Planning necessary (e.g., buying a gun, saving up drugs)
5. Likely pain (e.g., cutting wrists)
6. Courage needed (e.g., high building, train)
7. Consequences of failure (e.g., disability, publicity)
8. Disfigurement after death (e.g., hanging versus overdose)
9. Danger and inconvenience to others (e.g., car crash, subway leap)
10. Messiness and bloodiness (e.g., wrist cutting)
11. Discovery of body (e.g., by loved ones or strangers)
12. Contamination of nest (i.e., avoiding home)
13. Scope for concealing or publicizing death-shame, insurance (e.g., car-crash, drowning, subway leap)
14. Certainty of death (perceived or actual)
15. Time taken to die while conscious (e.g., poisons, wrist cutting)
16. Scope for second thoughts (e.g., swim back to shore, switch off gas)
17. Chances of intervention (e.g., "fate," estranged lover)
18. Symbolism (e.g., cleansing by fire, seppuku)
19. Masculine/feminine (e.g., guns)
20. Dramatic impact (e.g., lover's leap versus overdose)

The Perception and Reasons for Choice of Method

Although the previous studies showed that different methods of suicide are perceived very differently, further research is needed to explore why one method of suicide is preferred over another, and under what conditions people would switch methods if their preferred method were not available. Lester (1988a), in a study of college students, found that the quickness, painfulness, degree of

disfigurement, and availability of methods for suicide do play a role in the hypothetical choice of method for suicide. In particular, females were more concerned about the appearance of their body after death, as were those who choose overdose and carbon monoxide.

Why Choose Car Crashes?

It should be noted that people involved in car crashes in general may differ in socio-psychological characteristics and personality traits from the general population. Schmidt, et al. (1972) suggested that they tended to be more belligerent, negative and hyperactive and with more psychopathology, used alcohol excessively, and were often separated or divorced. The personality of completed and attempted suicides using cars has not yet been studied.

Selzer and Payne (1962) speculated that suicide by car crash may gratify destructive and aggressive desires. The driver may feel a burst of glory. Suicides using car crashes may also anticipate and want their deaths to be viewed as accidental deaths, thereby disguising their suicidal motivation. They fear the stigma of suicide or be concerned about life insurance policy restrictions.[9] Cars can be used for suicide by using suffocation from the car exhaust (especially in the past before catalytic converters made car exhaust less lethal), and so the use of a car crash for suicide suggests a desire for a more active than passive suicidal death.

Peck and Warner (1995) presented six brief case studies of suicides using cars. For example, a 38-year-old, married male was the only occupant of a car that struck the rear end of a truck. No skid marks were found, indicating that he did not apply the brake. The man had legal charges pending against him brought by the wife for sexual molestation (incest) of her 13-year-old daughter. No suicide note was found, but the man had discussed suicide with the estranged wife soon after the preliminary court hearing. Toxicology results indicated a blood ethanol level of 0.268 g/100 ml. Three of the suicides had alcohol detected in their blood, and two had announced their plan to others (a neighbor and a wife). Two had current stress (legal charge and pending divorce) and two had psychiatric problems (schizophrenia and depression). These factors are not unusual in suicides.

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[9] Lester (1988b) surveyed 20 insurance companies of which 19 used a 2-year period when suicide rendered the policy void and one company a one-year period. All companies returned the premiums paid in the case of suicide, some with interest.

Although some suicides using car crashes seem to be impulsive, MacDonald (1964) presented cases in which one man planned for two years for the location from which to drive his car off a cliff, while another made an impulsive decision while arguing with his wife in the car, and drove into a 75-foot high rock.

Prevention

It should be noted first of all that changes in the society that impact suicide are typically not made in order to prevent suicide. For example, European countries switched from using coal gas for domestic gas to natural gas which is less toxic for financial and pollution reasons. The reduction in suicides was a by-product for this change.

Okolie, et al. (2020) noted the following possible prevention tactics:

- barriers in cars for high-risk individuals and situations, such as the use of alcohol ignition interlock devices and driver monitoring systems
- restricting pedestrian access to road networks
- increasing the opportunity and capacity for human intervention such as closed circuit television (CCTV) camera surveillance
- responsible media reporting including not reporting on method and context of a suicide

Routley, et al. (2003) suggested that pedestrian suicides could be prevented by the attributes of cars, such as automatic detection and braking if the car can detect objects in front of the car. They also suggested that ultraviolent headlights could aide drivers in seeing objects in front of them, and modifications to car design. For example, newer cars have a lower bumper height, hood height, bumper lead, hood length and lead angle compared to older models, all of which cause worse injuries. Routley, et al. also noted the dangers associated with 'A' pillars (the forward-most pillar on a vehicle, supporting its roof at each corner of the windshield), lower glass at the bottom of the windscreen, hood (bonnet) hinges, fender flanges, wiper pivots, front suspensions, engine and other components in the engine compartment, the hood leading edge, front bumper and headlights, protective guards on the front or trucks and under-run guards There may be possibilities in using materials for cars that are more energy absorbing.

For drivers, Routley, et al. discussed techniques such as:

- Alcohol interlocks: devices that prevent cars from being driven by intoxicated drivers
- Intelligent speed adaptation systems such as technology uses transmitters to communicate with the vehicle to indicate the speed required for a location, and actively limits the vehicle's speed accordingly.
- Smart licenses: electronic driving licenses primarily designed to prevent unlicensed or drunk driving, may also have application to people known to be at risk of suicide.
- Driver monitoring: for example, detection of risky patterns could be used to trigger for reduction of speed and/or an appropriate intervention signal.

Fencing in Bridges

It was noted above that switching may occur when a bridge is fenced in. In Ontario (Canada), the Bloor Street Viaduct was the site for 74 suicides and 16 attempts from 1990 to 1997.[10] There is also danger from the suicides to cars passing under the bridge. In June 1997, the Schizophrenia Society of Ontario endeavored to get the Bloor Street Viaduct in Toronto fenced in, to prevent people jumping to their death from it, after they had learned that four of their members had died by suicide from the bridge.

Other strategies proposed for suicide prevention at the Bloor Street Viaduct included emergency telephones distributed across the bridge, police and community patrols, and changing the public perception of the bridge. Different groups lined up on the two sides regarding the construction of a fence for the Bloor Street Viaduct. In opposition were the Toronto Historical Board and pro-life groups. Opponents argued that people would simply switch methods if the bridge was fenced in, fencing would deface this landmark bridge, the money involved could be put to better use, and the measure would lead to all bridges being fenced in. In favor were the Toronto Police Department and mental health groups. The Schizophrenia Society persisted, soliciting letters of support from experts, including Dr. Isaac Sakinofsky at the local Clarke Institute of Psychiatry and myself. A petition obtained 1,200 signatures, and supporters visited over 46 city councilors in the winter of 1998 to solicit their support. On July 8, 1998, the 57-member city council voted unanimously to hold a design competition for the fence, and $1.5 million was budgeted for the fences and telephones on October 1, 1998.

[10] The figures 37 and 93 have also appeared in newspaper reports. About 300 people have jumped since its construction in 1919. It accounts for half of all bridge suicides in Toronto.

A subway track runs under the road level of the bridge, and the Toronto Transit Commission which manages the subway, objected to the barrier since it would interfere with their inspection of the track which was done by means of a truck with an articulated arm parked on the road level which the fence would have impeded. The architects increased their estimates of the cost of the fencing to $2.2 million, and on May 12th, 1999, the Council approved this. Construction of the fence was to have been completed by 2000. But, then, in the Fall of 1999, the bids for the bridge came in at $5.5 million, and the project was once more put on-hold.

The safety fence (called *The Luminous Veil*) was finally funded in 2001 and completed in 2003, after six years of effort by proponents of the fence. As of 2005, there had been no suicides since its construction. Two facts are important here. First, the Luminous Veil received a Canadian national engineering award for design excellence and it is thought to have improved the aesthetics of the Bloor street viaduct.

Second, with regard to cost, John Bateson of the Contra Costa Crisis Center in California has pointed out that cost was not an issue when $5 million was spent to build a barrier to separate cyclists from cars on the Golden Gate Bridge (no cyclists have ever been killed on the bridge), nor when a meridian was installed to prevent head-on collisions from which there had been only 40 fatalities as compared to 1,300 suicides.

Median (Central) Barriers

Median barriers would prevent head-on collisions, and they are on many high-speed roads in the United States. It is not possible to install them on all roads on which people drive fast in a country.[11] As noted above, median barriers were installed on the Golden Gate Bridge in California before a fence and net were installed to prevent suicide by jumping.

A Side Note: The Impact on Others

Suicide obviously has an impact on others. If you die by suicide alone, your friends and loved ones have to deal with grief and possibly guilt after the death. If you die by suicide in the presence of others, the impact may result in symptoms such as PTSD in the witnesses, especially if the method for suicide is a violent

[11] After a non-suicidal head on collision in Delaware (USA) , median barriers were installed on Route 1 within a year.

method. If you involve others, such as jumping in front of a subway train or crashing into a heavy vehicle, the driver may never fully recover from the trauma, even quitting their job.

Radun, et al. (2020) found that ten of out 15 drives of heavy trucks involved in suicide crashes reported minor physical injuries, sickness absences from work, and posttraumatic stress symptoms requiring psychological help. Three of the drives still had PTSD symptoms one year later.

Conclusions

I am a skeptic. The limited methods available for preventing traffic suicides are really methods for preventing accidents, fatal and non-fatal, involving cars. Furthermore, they are more likely to be implemented for preventing ordinary fatal car crashes than for preventing suicidal car crashes, as in the examples presented above from the Golden Gate Bridge. In reality, the few background characteristics identified for traffic suicides, such as schizophrenia and perhaps previous experience of painful trauma, cannot be implemented. All those diagnosed as having schizophrenia cannot be deprived of driving licenses and of car ownership. The same is true for previous painful trauma. These clues can help coroners and medical examiners determine whether a fatal car crash was suicide or not, but they are unlikely to be useful for preventing suicide, a relative rare event.

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Suicide Studies, 2025, 6(5), 52-54

CONFOUNDING VARIABLES IN ECOLOGICAL STUDIES OF SUICIDE: AN ILLUSTRATION

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Abstract: A study of suicide rates in the American states identified two sets of confounding variables that sociologists should take into account when conducting ecological studies of suicide rates.

Tondo, et al. (2006) studied the states of America and found that suicide rates were positively associated with the proportion of males, Native Americans and medically uninsured residents and negatively with population density, per capita income, density of psychiatrists, density of physicians, federal aid for mental health and the percentage of African Americans.

I have argued that the study of variables that are important in studies of ecological studies of the suicide rate are typically ignored by sociologists, variables such as the use of anti-depressants and ownership of firearms, variables that may impact suicide rates, especially in the USA (Lester, 2025). Tondo's study included some of the variables that might impact suicide rates. However, I have also argued for the use of factor analysis of the predictor variables rather than the use of regression and path analysis. Tondo reported simple correlations and a multiple regression.

The present analysis of the data used by Tondo, et al. used factor analysis to identify clusters of related variables and examined which factor scores predicted suicide.

The data come from Tondo, et al. (2006). Tondo, et al studied 50 states plus Washington, DC. I prefer to study the 48 continental contiguous states. The results of the factor analysis (a principal rotation and varimax rotation) and the correlation between factor scores and suicide rates are shown in Table 1.

Three factors were extracted which may be labeled wealthy states, high percentage of uninsured and federal aid and, with previous research in mind, not

southern (since the major variable loading on this factor was the percentage of African Americans).

Suicide rates were associated with the wealth and non-southern factor scores but not with the score that tapped medically uninsured plus federal aid.

The study by Tondo, et al. and the present re-analysis is important because variables such as these need to be taken into account when carrying out ecological studies of suicides, along with variables that I mentioned above, such as firearm ownership (especially in America) and the prescription rate for anti-depressants.

Table 1: Results of the factor analysis

	Factor		
	I	II	III
Percent males	-0.29	+0.12	+0.84#
Percent white	+0.03	-0.85#	+0.41
Percent African American	-0.18	+0.44	-0.84#
Percent Native American	-0.30	+0.06	+0.55#
Per capita income	+0.89#	+0.12	+0.01
Federal aid for mental health/cap	+0.29	+0.77#	+0.05
Population density	+0.76#	+0.07	-0.38
Percent uninsured	-0.36	+0.80#	+-.19
Physicians per capita	+0.92#	-0.14	-0.17
Psychiatrists per capita	+0.90#	-0.10	-0.23
Eigenvalues	3.84	2.48	1.42
% variance	38.4%	24.7%	14.2%
Correlation with suicide rate	-0.64*	-0.08	+0.51*

loading > 0.50
* p<.001

Discussion

In their report, Tondo, et al. reported several correlations between suicide rates the variables they studied. This factor analysis clarified that association. One factor score (Factor II) was not associated with suicide rates, and this eliminated

three variables. The remaining seven variables formed two clear independent clusters, scores for which their factor scores both correlated with suicide rates. In future research, it would be of interest to include more variables that might confound sociological studies such as access to methods for suicide and medications prescribed for psychiatric disorders.

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Suicide Studies, 2025, 6(5), 55-58

SOPER'S PAIN AND BRAIN THEORY OF SUICIDE: A CRITICAL COMMENT

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Abstract: Soper's evolutionary theory of suicide is shown to have several problems. In particular, while it provides a possible explanation of suicide in *humans as a group*, it fails to provide an explanation of suicide in *this particular individual*.

In recent years, Soper has written several articles on his perspective on suicide (most recently, Swanepoel & Soper, in press). This comment is a critique of his perspective.

Soper (2019) argued that the world in which humans live is a hostile environment (and, we might add, a dangerous environment). Soper called this a *suicidal niche.* Soper argued that humans are aversive to pain and desire an escape from this pain. Cognitively, humans have come to view suicide as a way of escaping the pain. This would interfere with the evolution of humans. Psychiatric disorders and symptoms are ways of protecting humans from carrying out this escape plan, disorders such as schizophrenia and addictions.

Soper argued for an evolutionary perspective. Soper assumed that for humans to survive and evolve, one would expect suicide to be de-selected. This assumption by Soper is not valid if suicide was most common after the reproductive age (at least for women). Cultures differ in the age distribution of suicides, but commonly suicide rates rise with age in men and peak in middle age (45-64) for women, as in the United States[12]. Soper also asserted that suicide is unique to humans and is not found in animals. This is an interesting assertion that Lester (in press) has objected to, arguing that the question of whether animals can die by suicide is unanswerable. Soper noted that suicide is found in every culture, although the frequency varies considerably.

[12] www.nimh.nih.gov/health/statistics/suicid

The next issue discussed by Soper is why human evolutionary development has preserved suicide as an option. Soper noted that there are three possible reasons. First, its preservation is simply random. Second suicide is adaptive and, third, it is a by-product of an adaptation. Soper settled for the third option, that suicide is an unfortunate, harmful, by-product of some other trait that is adaptive. What might this trait be?

Soper focuses on mental pain, what Shneidman (1998) called psychache, not the source of the pain but the degree of pain. Soper argued that pain is adaptive by motivating people to find ways to lessen the pain, and suicide is one way to escape from pain. However, when experiencing severe pain, suicide becomes possible only with cognitive maturity which accounts for why suicide is rare in children and young adolescents. The individual must have a mature concept of death, apply it to oneself and then acquire the knowledge about and means for ending one's life. In Soper's words, *pain* and *brai*n are necessary and sufficient conditions for suicide.

It remains puzzling, given Soper's theory, why more people do not die by suicide. In the world at this moment, millions of people are starving, dying of diseases, and being killed and wounded in wars. Yet, few of these seek an escape using suicide.

Among the mechanisms that deflect people from suicide, according to Soper, are mechanisms such as the psychoanalytic defense mechanisms, an acceptance of the stigma that is attached to suicide thereby making suicide an unattractive choice, and the common psychiatric disorders, such as schizophrenia, alcoholism and drug addictions. It is noteworthy that starving and wounded people do not show these psychiatric disorders to any great degree, although no one goes into these regions of the world to conduct research on this issue.

Lester (2005) studied 18 industrialized countries and sought to predict the suicide rate in each using characteristics that had been shown in research to be associated with national suicide rates: blood type, birth rates, divorce rates, alcohol consumption, and the percentage of elderly. A multiple regression found that these variables predicted the suicide rates of the countries with a multiple R of 0.85. The regression equation was then used to predict the suicide rate of seven other European countries and was successful (rho = 0.89). Data are available on the rate of schizophrenia in the 18 industrialized nations. If schizophrenia protects

individuals from suicide, then the association should be negative. The correlation was -0.12 (not significant), thereby not supporting Soper's hypothesis.[13]

Soper concluded his argument by noting that, at the moment, suicide seems to be unpredictable which he thinks is consistent with his model. This is puzzling because the measurement of pain, or psychache, should be possible. In addition, the cognitive mechanisms that make escape possible from the pain by means of suicide should also be measurable. In fact, Soper is incorrect in asserting that suicide cannot be predicted. In a large group of individuals, many psychological and psychiatric signs predict suicide, such as depression, hopelessness, feeling that one is a burden, etc. What is difficult is predicting whether this particular person will choose suicide in the next few days.

A good analogy here is earthquakes. Geologists know that they are coming and in which regions they will appear. They know the cause (those shifting tectonic plates). What they cannot predict is which day will the earthquake will shake Los Angeles.

The question is, therefore, whether pain and brain, to use Soper's preferred terms, are sufficient to explain the occurrence of suicide. Soper leaves many issues unanswered.

First, why did this person develop a psychiatric disorder which prevented him from dying by suicide while that person did not develop a psychiatric disorder and did die by suicide?

Second, why did this person develop a psychiatric disorder which prevented him from dying by suicide while that patient with that same psychiatric disorder did die by suicide.?

Third, these questions which Soper's theory does not answer, leads to the question, is the pain and brain theory applicable only to humans as a group or can it be applied to individuals? If Soper's theory cannot answer the first two questions, then his theory fails to explain suicide in individuals. In contrast, the standard theories of suicide do predict the suicide rate of regions of the world and suicide in individuals.

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[13] suicide%20rates/WHO%20suicide%20report%20and%20rates.pdf
worldpopulationreview.com/country-rankings/schizophrenia-rates-by-country

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Suicide Studies, 2025, 6(5), 59-61

EXAMINING THE IMPACT OF CONFOUNDING VARIABLES ON SOCIOLOGICAL-ECOLOGICAL STUDIES OF SUICIDE

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Abstract: A study of correlates of suicide rates in the 50 American states showed that firearm ownership, prescriptions for anti-depressants and the availability of mental health practitioners do impact state suicide rates. Controlling for these variables does not necessarily eliminate sociological correlates of suicide rates.

Sociologists studying suicide continue to be stimulated by Durkheim's (1897) classic book published in 1897. Their focus on Durkheim's two explanatory constructs, social integration and social regulation, has led them to study the impact of variables such as divorce rates, migration patterns and religion on suicide rates. For example, Lee and Pescosolido (2024) studied employment and suicide rates across 37 American states. Psychological studies have explored the association of state measures of personality and intelligence with suicide rates (e.g., McCann, 2010, Voracek, 2006).

Stimulated by a study conducted by Tondo, et al. (2006), Lester (2025) argued that these ecological studies fail to take into account factors such as the ease of access to lethal methods for suicide, the use of psychiatric medications and the availability of mental health practitioners, factors which have little or no relevance to sociological and psychological constructs. These variables may impact state suicide rates and should be taken into account in future ecological studies of suicide. The present study examined the strength of the associations of these variables with state suicide rates.

Method

Data were obtained for three variables for the 50 American states for a recent year (ranging from 2019 to 2025).

Firearm ownership per capita (2025): ammo.com/articles/gun-ownership-by-state

Anti-depressant prescriptions per capita (2019):
www.statista.com/statistics/1133632/antidepressant-use-by-state-us/
Mental health practitioners per capita (2024):
www.americashealthrankings.org/explore/measures/MHP
Suicide rates (2022): www.cdc.gov/nchs/pressroom/sosmap/suicide-mortality/suicide.htm

Results and Discussion

The correlations of the three predictive variables with suicide rates are shown in Table 1, along with a multiple regression to predict suicide rates and a factor analysis of the three variables (using a principal components extraction).

Table 1: Correlations and multiple regressions

	Correlations	beta coefficients	factor loading
Firearm ownership	0.77***	+0.92***	+0.83
Anti-depressants prescriptions	0.12	-0.23*	+074
Mental health practitioners	0.04	+0.25**	-0.52
R^2		0.695	

*** two-tailed p<.001
** two-tail p<.01
* two-tailed <.05

Table 1 shows that all three variables loaded on a single factor, but the density of mental health practitioners loaded in the opposite direct to firearm ownership and anti-depressant prescriptions. Only firearm ownership was associated with suicide rates but, in the multiple regression, all three contributed to the prediction of suicide rates, albeit mental health practitioners in a direction opposite to that expected.

Unfortunately, the preferred sociological variable, divorce rate, could not be used since several states do not report divorce rates to the federal government. Marriage rates (in 2022) were positively associated with suicide rates (r=0.27, p=.06) and, using partial correlation to control for the three target variables, the correlation reached statistical significance (r=0.32, p=.03).

The results of the present study indicate that it is important that ecological studies of sociological correlates of regional suicide rates control for access to

methods used for suicide and prevention tactics operating in those regions. These controls will not necessarily eliminate the sociological correlates of suicide rates but would make the results more convincing

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Suicide Studies, 2025, 6(5), 62-63

PATRIOTISM AND RATES OF PERSONAL VIOLENCE (SUICIDE AND HOMICIDE)

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Abstract: The present note used a recent Gallup poll of 45 countries concerning their residents' willingness to fight for their country. Tentative associations were found for an association of the willingness of residents of the countries to fight for their country and rates of personal violence (suicide and homicide).

In my research on suicide, whenever I came across cross-national data, I ran correlations of the variables in the data set with **both** suicide and homicide rates. I thought that discussion of the results would benefit from a comparison of anger-in and anger-out dependent measures.[14]

I recently came across data from Gallup from a survey of 45 countries for the question: If there were a war that involved [your country], would you be willing to fight for your country? The percentages answering yes, no and don't know/no response were presented.[15] The following note examined the associations of these data with suicide and homicide rates.

I obtained the suicide and homicide rates of the countries from Wikipedia. It was common in the past for editors and reviewers of scholarly journals to reject articles using data from Wikipedia (as well as citations from Wikipedia). In recent years, the availability of suicide and homicide rates has become limited and rates reported in Wikipedia usually match the rates in more limited samples.[16]

The correlations were calculated for the total sample and for a subsample of the 20 European countries. The results differed for the two samples. In European countries, declining to fight for one's country was associated with a lower

[14] My CV has 52 publications with *personal violence* in the title.
[15] https://www.gallup-international.com/survey-results-and-news/survey-result/fewer-people-are-willing-to-fight-for-their-country-compared-to-ten-years-ago
[16] Data were missing for suicide rates in Kosovo.

homicide rate. For the total sample of 44 countries, a willingness to fight for one's country was associated with a lower suicide rate. These results, although different, are not incompatible.

Table 1: Correlations between Gallup Poll responses and suicide and homicide rates

	45 countries		20 European countries	
	Homicide	Suicide	Homicide	Suicide
Yes	+0.09	-0.48**	+0.24	-0.09
No	-0.01	+0.26	-0.48*	-0.17
Don't know	-0.17	+0.56**	+0.33	+0.38#

** $p<.001$
* $p<.05$
# $p=.11$

Obviously, a better study would incorporate control variables such as the Human Development Index, gross national product per capita, and other socio-economic variables. However, the sample chosen by Gallup was an odd mix of countries. Many European countries were not polled, and the sample of non-European countries was odd. A more rigorous study using this odd sample of countries is unnecessary.

Suicide Studies, 2025, 6(5), 64-74

A YOUNG GIRL'S SUICIDE[17]

David Lester & Khan Sheenan

Indiana died by suicide at 11:46 pm on September 23, 2023, when she was 15.[18] Indiana chose to die by suicide using a train. The police said that she either laid down on the tracks or dove headfirst into the train. Suicide using this method is unusual for a female and for someone so young.

Indiana's step-father (Khan) believed that there were two reasons for this, either to ensure a high chance of success or because of a conversation he had with her after her first attempt. He had told her that he never wanted to see her dead, especially not from a slow death caused by acetaminophen poisoning. She tried to scrub most of her internet history, but Khan found numerous searches about suicide, and he believes that she had been watching train deaths online.

Indiana left letters and a journal indicating at least two months of planning for her suicide, but Khan believed that Indiana may have spent three to six months planning it. She died two weeks before her birthday, and she may have chosen the timing because she was aware that Khan was getting suspicious about her mood and behavior. Indiana was struggling with long-term trauma, mental illness, and a mental healthcare system that repeatedly failed to intervene.

Indiana's main suicide note said, "I thought of everything," and she likely considered who would have to identify her. She also wrote a note titled "The Before" in which she says "slitting her wrists didn't work." However, from the coroner's report, it seems she had never made a serious attempt to cut her wrists.

Indiana's first suicide attempt with Panadol (acetaminophen) happened just before her first period (in February 2022) and, after that, her entire personality seemed to change. [19] It was almost as if she was experiencing psychosis.

Indiana's Biological Family[20]

[17] This essay is based on, and often uses, the words of, Indiana's parents. Indiana lived in Australia.

[18] Officially, the day of her death was recorded as September 24.

[19] Indiana may have made another suicide attempt a month earlier using an overdose of iron tablets.

Indiana's biological parents had seven children. Indiana was the oldest, born on October 11, 2007. She had five sisters and one brother. Indiana was almost one year old when her parents married.

Indiana's mother (Laura) admits that both she and her husband physically and verbally abused their children. Indiana's mother would become enraged and abuse the children and, afterwards, apologize to them. She thinks, however, that Indiana's father enjoyed hurting the children.

> One example is, when Indiana was having a tantrum in her bedroom, [he] closed the door which had a heavy Victorian doorknob. He listened at the door, hand on the knob, waited until he heard her at the exact right spot to open the door. The door knob smashed into her little mouth, blood everywhere

Although her mother did not know or believe that Indiana was raped by her father, Indiana later told her step-father that he had done so and sexually molested her on several occasions. The children were also neglected. The parents were: hedonistic, lazy and immature and also depressed. There was often verbal and physical violence, including sexual assault, between the parents which the children witnessed.

Laura had suffered significant emotional abuse herself as a child and, later, was diagnosed with borderline personality disorder, obsessive-compulsive disorder, body dysmorphic disorder, PTSD and ADHD.[21] She did not receive any treatment until her marriage to Khan. Laura describes her obsessive-compulsive disorder as Pure-O, ruminating and arguing with herself about issues.

Indiana went to school one day and asked for help at home. Her words were, "I just need some help because my mum is sick, and I'm worried I'm going to drown my new born sibling in the bath because I keep burning the dinner." This statement was the catalyst for the removal of the children, a decision that irreparably affected Indiana. She could never forgive herself for what happened, and Child Safety failed to provide the support she needed to process it.

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[20] Much of this section is based on a written account provided by Indiana's mother. She now states that both she and her ex-husband are presently diagnosed and medicated.

[21] Laura also mentions binge eating disorder, chronic fatigue syndrome, anxiety and depression.

Child Safety removed the children from their home in October 2017. Laura and the children had been homeless at times, but Laura was hoping for government-subsidized housing. Laura admits that Child Safety was correct in their decision, but she was on the waiting list to see a psychiatrist for help with her psychiatric problems. Laura says that the, "laundry list of diagnoses which, contrary to being unhelpful or limiting, was the first step in me giving myself a scrap of compassion, and learning that I wasn't just inherently bad."

A few days after her children were removed, Laura had a date with Khan. "The first time I had contact with my children was a few weeks after the removal, under supervision at a park. The park was huge and unfenced, and my seven kids shot off in all directions while Child Safety Officers took notes. Khan……..made notes of his own. That was the first time he saw Indi, not quite ten years old, sunshine blonde hair and big smiles."

Laura's relationship with Khan became close and soon they were living together and married. Indiana moved back in with Laura in June 2018, along with Lilly, the third-born child. The children started calling Khan Dad straight away.

At the time of Indiana' suicide, three of Laura's daughters lived with them full-time and one other daughter was to move back in soon. The remaining daughter displayed extreme behaviors and was not safe to be around the other children, and so she was unable to return home. Khan's two daughters from an earlier marriage visited and stayed with them.

Indiana's Step-Father

Khan had three biological children with his first wife - one son and two daughters - who are now 28, 18, and 9. Khan's has doubts that his oldest son is his, and they have not spoken to each other since just before Indiana died because he stopped responding to any family members. Khan and Laura have one daughter.

Khan's childhood was filled with trauma. When he was 15, he turned to drugs, which led to living on the streets for about two years. His substance abuse started with alcohol but moved to inhalants (chroming)[22] as well as cannabis and meth, sometimes resulting in uncontrollable psychotic episodes. He was drug free

[22] Khan used so much inhalant that he w as called *King Chrome*.

when he met Laura but did suffer relapses. Khan believes that Indiana had waited to die until he had quit. Indiana and Khan had an agreement that someone had to stay for the children. Khan has been completely free from all drugs and medication since December 2023, a couple of months after Indiana's suicide.

Khan was a professional musician and music teacher for ten years, and he had worked in electrical wholesale and had various retail positions, including roles in residential and commercial lighting and hospitality, including serving as the corporate hospitality supervisor at the Gold Coast Commonwealth Games. He has a Diploma in IT Networking and worked in the IT industry for about four years.

Indiana

It is clear that Indiana had a traumatic childhood with her biological parents, ending with her removal from her mother because of her own reporting of the home situation, which most likely resulted in guilt for Indiana. In 2018, after Laura had moved in with Khan, Indiana moved in with them. Khan believes that Indiana was using inhalants (chroming), and she clearly had psychiatric problems that were never diagnosed professionally.[23]

> Indiana and I had a special bond, I think, because I was so open about my own struggles and past. We connected over Dragonlance books, movies and those small, everyday moments. She saw me as a protector, someone who kept her and her siblings safe from the chaos of their earlier life with their biological father. I tried to live up to that role, even though I didn't always feel I was doing enough. She was the kind of person who cared deeply about others but often struggled to extend that same care to herself……. Indiana was the type of person who would step out of her comfort zone to make a difference and defend others. One example is when she walked into a ring of bullies to return a Muslim girl's hijab after they had taken it from her.

Khan describes Indiana as sharp, empathic and with a wisdom beyond her years, but carrying a great deal of pain. She had been parentified while living with her mother. As mentioned above, she could never forgive herself for what happened, and Child Safety failed to provide the support she needed to process it.

[23] Chroming may have exacerbated Indiana's psychosis and emotional instability, particularly in the final months

> One of the most profound things Indiana did in her final letter was claim my name as her own. She wrote that she wanted to be known by my last name, not the name she was given at birth, not the name tied to her past, but the name that symbolized the family she chose. For me it was her final act of defiance against the man who had hurt her.

Indiana began to spend every other weekend at her Grandmother's house. Laura asked her mother to take Indiana and not bring her back until she would abide by my rules. Laura objected to Indiana cursing and her aggression toward one sister. One day, Khan found Indiana standing over the sister with a knife.

Indiana moved from a flexible school to a mainstream school just three months before her suicide. because she had completed the curriculum two grades above her level, and only a mainstream school could extend her learning further. Khan had suspicion that Indiana was assaulted, perhaps sexually, by fellow students. An additional stress was that one of Indiana's goals was to join the army, and she may have realized that her psychiatric history might have disqualified her.

> A month before her suicide, Indiana completed a school assignment on Romeo and Juliet. This assignment centered on themes of suicide, blame, conflict and tragic outcomes. [24] In Indiana's essay, she contemplates the causes of the tragedy, ultimately shifting the blame onto the characters themselves, with Romeo and Juliet almost mimicking Indiana's own internal dialogue. I believe this essay reflects her mindset in a way that the school could not have foreseen, so I do not lay blame on them for this aspect of her suicide, but I am confident it was a contributing factor.

Indiana's Planning for her Suicide

The events leading up to Indiana's suicide are best described in her step-father's own words.

> Indiana had been planning her suicide for months, leaving behind nearly 30 letters, diary entries, and symbols that spoke to her pain and her love for those she cared about. She had attempted suicide by Panadol about 20 months earlier. When she told me, my immediate response was, "Dude, you don't do that; you jump in front of a train." I said this to try to make sure she

[24] Indiana frequently listened to Lil Peep, a musician whose work grapples with themes of depression, suicide and self-destruction, filled with raw expressions of pain and despair

knew I wasn’t shocked and to stay connected with her, but I was a little shocked, scared and sad all at once. This was the method she ended up using. At the time I didn't realize how bad a Panadol overdose was, at least not until Indiana said something strange like, "I wanted everyone to see the pain I am in”. I later inspected her internet history and she had been googling suicide and "the most painful way to die".

Among her diary entries, Indiana described a duality in her personality. She referred to herself as Ind’i’’ and Ind’y’’, with the ‘y’’ version being an "evil" part of herself. I suspect this aspect of her personality evolved as a defence mechanism to help her endure trauma and shield her conscious self from pain.

Her notes and unfinished letters revealed that she intended to end her life on her birthday. In messages to her friends, she referred to her birthday celebration as happening “the night before the thing.”

The absence of a letter to her biological father speaks volumes. While Indiana left behind nearly thirty letters, a type of personal manifesto for family, friends and loved ones, detailing her thoughts, apologies and encouragements and insight, he was not among them. The only mention of him was in the context of the abuse he inflicted on her.

Among the many things she left behind was a handwritten letter dated two months before she left us. In it, she thanked me for everything I had taught her and for the role I played in her life. But there was one part that stood out more than anything else. She told me to “stay off the shit” and “be good to the kids,” and then she wrote something that tied the letter to me “Think of it as a knight honor; Sturm would be proud.” That line wasn’t just a throwaway reference. Sturm Brightblade was a character from Dragonlance, a series we both loved but, more than that, he was the embodiment of honor and sacrifice, someone who held himself to a code even when the world around him was broken and unjust…..She was telling me to keep going, to hold myself to the standard she believed in. And at the bottom of that letter, she left a bloody fingerprint - a part of herself, pressed onto the page, as if sealing a pact.

Khan was worried about Indiana’s suicide risk. He used AI to try to see if his anxiety was justified, and he informed Child Safety about his concern. He also called her grandmother the day before she died, voicing his concerns. Perhaps his

concerns became known to Indiana, and this contributed to her decision to leave two weeks before her birthday, as originally planned.

The Choice of Method for Suicide

Indiana's mother noted that she and Indiana shared an interest in gore. For Laura, this may been because her father was a detective and she saw graphic videos as a child. She would ask her parents to stop the car so that she could examine animals that had been run over. When Indiana showed a similar interest, Laura did not feel concerned. When Indiana chose to die, she knew how to do it and do it properly. In Laura's words, Indiana, "didn't make a rush job of it and end up bisected and screaming at the edge of the tracks in the dark". The detectives who arrived at the scene of the suicide told Laura that Indiana's death was instant unconsciousness and, most likely, instant death. Indiana was good at mathematics and had calculated that jumping from a bridge in front of a train would not always result in death.

> She didn't want it to hurt, and she didn't want it to fail. My girl thought of everything.

Thoughts

Indiana had many of the childhood traumas that increase the risk of suicide, and there were many stressors in the months before her suicide, all of which make her suicide "understandable."[25] I have always acknowledged the validity of these warnings signs for suicide, but I have rarely understood why people choose to die by suicide. As a result, I turned to the study of the diaries, suicide notes and poems of those who died by suicide to see if they give me insight.[26] Some critics of suicide as a rational choice argue that mental pain is not as intolerable as physical pain. Indiana's notes show that such an argument is nonsense.

Indiana's Letters on the Day She Died

There are two notes written by Indiana on the day she died. They make it clear that she was in great mental pain, psychache as Edwin Shneidman labeled it.

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[25] Incidentally, Indiana's paternal grandfather died by suicide which may have been known to his grandchildren. Indiana's best friend also had recently made a serious suicide attempt by taking over 60 Panadol tablets.

[26] I have described my work in my book *The "I" of the Storm*.

She had never been helped by counselors or psychiatrists to alleviate her psychache, let alone cure it. Furthermore, Indiana was hopeless. She believed that her psychache would continue unabated. Her suicide, therefore, allowed her to escape this pain.

Earlier That Day

> This is me, well before what I've done. I'm basically just explaining my day today, what's gone through my head blah blah all the lame shit. Well I mean, I would but I really can't be fucked.
>
> So instead I'll tell you what I'm doing now. So currently it's 8:24pm 23/09/2023, I'm sat in my room listening to music and waiting for later, I've gotten ready, I'm all dressed up with my mascara done and all. I wanna look good when I fucking die the fuck, obviously.
>
> I feel bad, doing this, that is. But no amount of guilt can stop me anymore. I've held back too long, suffered too much and it's gotta stop. It's gotta stop.
>
> Anyways the plan is to sneak out around 10pm or something, not 100% on how that'll turn out but I'm not really worried. After that I'll catch a train to Birkdale station and walk around a while, probably up to the maccas and grab my last meal.
>
> Man I'm gonna feast fr, I haven't been able to eat maccas in the longest time due to my eating disorder, but for some reason knowing it's the last thing I'll ever eat gives me a sense of comfort.
>
> Anyways, ill order 24 nuggets with sweet and sour sauce, a large fries and a large caramel frappe. Maybe a cheeseburger. Okay so anyways after I've got my food I'll walk back to the station and hop on the train to Wello. Once I'm back at the station I'll walk down the park i walk through to get to school, I'll sit on the bridge, eating whatever's left of my food. I'll sit there. I'll sit there and sniff my can of room freshener, i did say if i died I'd die high.
>
> Anyways, then I'll slit my wrists. And there I'll die. It's so peaceful there. I'll be peaceful there. It'll hurt, yeah. I know that of course. But its a couple seconds, minutes of pain at best, to cancel out another 15 years of pure agony. Sounds like a fucking bargain.

Anyways, then I'll be dead. And I've always been curious about death anyways, never been scared of it.

But anyways, I'll update this as my night goes on. See ya in a minute! Okay, the sneak out was successful. I am now on the Shorncliffe train heading to Birkdale. Holy fuck I hope the maccas is still open.

Okay, at the maccas. It is in fact still open. I just placed my order, super hyped. And the funny thing is I have so much adrenaline, you'd think it would've calmed down by now, but no. Anyways I'm here waiting for my order, then I'll walk back up to the traino and go to the park as said previously, I'll keep ya updated.

Okay, got the food. I sat down at a bus stop and ate a couple chippies. Now I'm waiting for the train, from there I'll walk to the bridge, I'll sit and eat the rest of my food. I'll get sniffed and kill myself. This is exactly how I wanted to go out.

Slitting my wrists didn't fucking work i can't. I'm gonna jump in front of the train instead. I'm here. I'm at my spot. It's so quiet. I'm happy. I'm at peace. For the first, and for the last time in my life. I can't wait.

At the Railway

This is my suicide note, Indiana Laura Grace Sheenan, that's my name. I wish i could've held out until my birthday, that way i wouldn't haunt another day, but I guess I won't make it to 16. I've done it. If you're reading this then I've done it. At first i was scared it would hurt, i was terrified, but as it went on i really couldn't care less. I always hurt, I was sad, so sad that I eventually I couldn't feel anything.

For almost a year I couldn't cry, I was so numb I would hurt myself, but after that, these past few months? Man have they been so fucking awful. I am sick. And not just depressed, no, i am genuinely insane. I know for a fact I'm bipolar, and probably bpd, i can't feel things normal people can, and i can't cope with the things i do feel, but I'm absolutely batshit, I have been for years, i haven't been me in so, so long. I haven't ever been at peace with myself, even as a little girl, and I did get better, well I thought I did. But I didn't, and I never will.

That’s why I’ve done it. And now that I've done it, I'm sitting by the tracks writing this and can't help but feel so... okay. I've left it all behind.

But before, I couldn’t eat. I haven't kept down a meal in months. And I can't sleep. No matter what I do. Though when I do I get awful nightmares. The nightmares used to be bad memories, but lately have turned into suicide dreams and horrors of eating food. I'm suffering. I am in so much pain. I'll take anything and everything I can, I steal and lie. I'm not a good person. Don't make me out to be.

I want my life to be used to show people that mental illness isn't fun. You shouldn't glamorise it.

I didn't eat for days, sometimes weeks on end. I would pass out when I stood up, I had to sit in the shower. I would get physically repulsed when I saw myself in the mirror to the point where I genuinely threw up a couple times. I would sit on my bedroom floor and talk to people who weren’t there, i would be horrified and scared because I thought I saw demons in my closet, coming out of my walls and under my bed. I hurt myself to the point where I couldn’t wear normal clothes anymore. 233 days I was clean for. But all for me to go back to the way I was.

Because of my mental illness I'll never be able to experience graduating, or getting married. I'll never get to be an auntie, or a mum. I'll never get to see my siblings grow up into the amazing people I know they are. And that's the worst part, people might think I did this on a whim, but I've been thinking of this for nearly 4 years now, I've thought of everything, I know the impact it'll cause, I know the pain it'll cause, I know.

And still, I've done it.

That's how fucking bad it hurts me. And I thought I got better for a while, and I thought it would last. But it was an episode. It always was. But because no matter how many cuts, no matter how deep, no matter how much weight I lost, or how much I threw up, it was never enough. I am severely mentally ill. And it's not fucking fun.

You don't want this. Nobody wants this. I wanted help, I wanted to get better. But my brain wouldn’t let me, i always came up with a great excuse. And i always knew this is how i would go out. But all I ever wanted was to

join the army. That was my only goal, my only dream. So when I realised I couldn't, due to an illness I could not control, because of what i had done to myself, my life lost meaning.

Even though I was surrounded by people who loved me, and i had enough money and enough food, I still slipped back into bad habits. Because no matter how lucky or how privileged I am, I will never feel okay. And that's why I did what I did. Because no matter how hard I, nor anyone else tries, I will always suffer. I will always be in pain. Because there's always those voices. And they will never go away.

And I'd love to sit here and blame my trauma, "Oh I was abused and neglected as a child, oh I was ripped away from my family, oh I tried to kill myself and lived in agony for 2 weeks after." But I won't, because no matter what, this is my fault. At the end of the day, I could've been better.

I remember, September 2021, looking in the mirror of my bathroom and saying, "I'll regret this one day." And continuing to throw up my dinner. And I do regret it. I'll never forgive myself for everything I did to myself, everything I did to everyone else. So there. This is my suicide note. The last thing I will write. And for the record, I am sorry for this. But I can't go on knowing I'll always feel like this.

Anyways, if you haven't already, you'll find individual messages to people on this app, please only read it if it's yours or if the other person has said you may. If it's not yours don't fucking read it you wankers.

Indiana Sheenan 23 September 23

Suicide Studies. 2025, 6(5), 75-77

THE FINAL HOURS BEFORE A YOUNG GIRL'S SUICIDE

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Abstract: A linguistic analysis of two suicide notes written four hours and one hour before a young girl's suicide reveal very few differences, indicating that her psychological state remained reasonably constant in the hours leading up to her act.

In *The Final Hours*: *A Linguistic Analysis of the Final Words of a Suicide,* Lester (2010) compared two tape recordings made by an 18-year-old teenager (Stephen) in the hours before he died by suicide. After making the first tape, his mother came home with no forewarning of what was about to happen, and they had lunch. After she left, the teenager made a second recording and then died by suicide. Using a linguistic analysis, the following describes the differences between the two tape recordings (Lester, 2010, p. 795).

> The analysis compared the two recorded messages made on the day of Stephen's death just after the noon hour and around 3 pm. The first segment had 1,821 words and the second 1,468. Since statistical tests are not relevant to two texts, content variables for which the percentage difference in words 1% or more were identified. The second segment contained relatively more references to others (2.7 vs 0.6%), fewer negations (3.3 vs 4.9%), more positive emotions (3.1 vs 2.0%), fewer words concerned with cognitive mechanisms (11.4 vs 13.2%) and causation (0.9 vs 2.2%), and more social references (8.4 vs 6.3%).4 The second segment did not differ in the percentage of words related to death or religion or words related to anger, anxiety, or sadness. The two segments did not differ greatly in negative emotions.
>
> Overall, in the second segment, Stephen expressed more positive emotions. In addition, he was more concerned with others and less concerned with the reasons for his action. Spiegel and Neuringer (1963) argued that a person about to commit suicide would avoid mentioning death and suicide in a suicide note, suppressing thoughts of the planned suicide. The proportion of

death words was low in both segments (0.05% in the first and 0.27% in the second). The content of the second spoken communication was less concerned with explaining his action, and more concerned with others and with positive emotions. From the text analysis, this second communication would appear to be an attempt to reassure Stephen's significant others.

Lester and Sheenan (2025) has presented the case of a 15-year-old teenager (Indiana) who died by suicide, leaving many notes and journal entries, including two notes written on the evening of her suicide. The first was written around 8 pm, and the final one around 11 pm, although both notes were written over a period of time. She died at 11:46 pm. The two notes were analyzed using the same program used by Lester (2010).

Pennebaker, et al. (2001) developed a text analysis program (known as LIWC (Linguistic Inquiry and Word Count) that analyzes written texts word-by-word for over 88 language variables, 74 of which refer to content. The program can count pronouns (for example, "I," "me," and "us"), emotional words (negative and positive), and particular words (such as "death"). The program presents the scores as percentages of the total number of words.

Table 1: The LIWC comparison of the two notes (in % except for Words)

	First	Second
Words	570	950
Pronouns	19.1	24.5
Cognition	29.5	34.8
Cognitive processes	8.9	17.0
Death	1.2	0.4
Want	0.5	0.9
Health	0.5	2.2
References to self	13.9	16.0
References to we	0.0	0.0
References to you	0.7	0.9
Social references	0.9	3.7
Swearing	1.2	0.6
Emotions	2.8	4.3
Positive	1.1	0.9
Negative	1.7	3.3
Anxiety	0.3	0.5
Anger	0.0	0.0
Sad	0.0	0.6
Positive tone	1.0	0.9
Negative tone	3.0	4.7

The results comparing the two suicide notes written by Indiana are shown in Table 1. One cannot test for statistical significance with just two notes, and so differences greater than 5% are shown at first. Clearly, there were very few large differences. The I-word usage by Indiana was exceptionally high on her first note and very, very high on her last one (13.9% and 16.0%). The second (and final) note had more evidence of cognitive process, such as thinking and deciding. It would appear, therefore, that Indiana's state of mind did not change much as the time came closer to her suicide.

In the study by Lester (2010) described above, smaller differences were reported. Let us look at smaller differences. Remembering that these differences are small, there was a little less mention of death, consistent with Spiegel and Neuringer's hypothesis. More noteworthy is that the tone was more negative in the second note, and there were more negative emotions in general, but no anger in either note.

Discussion

It seems from these data that Indiana's state of mind was stable in the four hours leading up to her suicide. The second note did have more negative emotions than the first, but only by 1.5%. The stability in Indiana's psychological state is in contrast to the young man in the study by Lester (2010) mentioned above. Stephen was crying in the first tape recording and calm in the second. He was also more concerned in the second recording with staying calm and reassuring his parents. In addition, Stephen had lunch with his mother between the two recordings whereas Indiana was by herself for the whole evening, getting food at a restaurant and then getting to the train tracks. In contrast, Indiana had planned her suicide for weeks, perhaps months, and was resolute and decisive in her actions and thoughts.

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HOW DOES CULTURE IMPACT SUICIDE?

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Gertrude Stein once said, “A rose is a rose is a rose.” For many of those who study suicide, it might similarly be said, “A suicide is a suicide is a suicide.” We talk of the risk of suicide and the rate of suicide, implying that all suicides are the same. Of course, suicide is engaged in by different people - men and women, the young and the old, and psychiatrically disturbed and non-disturbed people. But the nature of their act is rarely examined.

Consider two suicidal acts. On November 25, 1970, in Tokyo, Japan, Yukio Mishima, aged 45 and a successful Japanese novelist, decided to take his paramilitary force, invade an army base, and persuade the soldiers there to overthrow the Japanese government and restore the Emperor to absolute power. The soldiers refused to follow his commands. Mishima then committed seppuku. He took a knife and ripped his abdomen open, and then his loyal assistant decapitated him.

What a death! Mishima orchestrated his suicide, and the report of his suicide by the media captured world-wide attention. The setting of his suicide, the manner of his suicide and the timing of it all added to the dramatic aspects of the act.

Consider the suicidal attack on the World Trade Twin Towers on September 11, 2001, by two planes led by Mohamed Atta. This act of martyrdom for an Islamic cause created images that haunt us still today. The planes hitting and damaging the towers, the response of those rushing to the towers, the collapse of the towers, people jumping from the twin towers, and the scenes of people fleeing the scene - all of these images added to the impact that Atta and his team had hoped to create. However you might label or judge those involved in this attack, you cannot deny the drama created by their actions.

Lester and Stack (2015; Lester, 2015) viewed suicide from this dramatic perspective. They examined to what extent suicidal acts (or at least some suicidal acts) can be viewed from a theatrical perspective - how suicides choose the timing, setting, method and other circumstances of their suicide to heighten the impact on others and to frame their suicide in a way that they want it to appear.

Some of those who die by suicide alone leave a suicide note. Does this suicide note provide insights into the mind of the suicides, or it designed merely to present themselves to others in a particular way (Yang & Lester, 2011)? There are other ways that the suicidal person can communicate to others, such as using Twitter and YouTube, or live on television? Does the timing of the suicidal act have significance? Does the suicide choose daytime or nighttime? It has been claimed that there is a birthday effect in suicide, that many suicides kill themselves close to the time of their birthday. What does this signify?

What about the way suicides dress themselves? Are there common choices of clothing and does the choice of clothes have any psychological meaning? The 39 members of the Heaven's Gate cult, who died by suicide together on March 26, 1997, all clothed themselves identically and positioned themselves in their beds in the same way.

Suicides choose a location for their suicide. This is typically at home, but many die by suicide away from home. Very little is known about the characteristics of those who choose to die away from home. What factors, psychological, social and cultural, influence this choice? Wasserman and Stack (2008) have written on the notion of *lethal locations* and noted that the choice of certain locations influences the chances of another person interrupting the suicidal act. People who rent a motel room for their suicidal act, for example, are less likely to have their suicide interrupted by someone who will try to prevent the suicide. People choosing to die by suicide alone in the wilderness (e.g., deep in the trail system in a National Park) will be less likely to be interrupted than are persons choosing to de by suicide at home where significant others may try to stop them. Some locations almost insure death, while other locations may make a successful suicide less likely. In short, suicidal intent, a major concern to clinicians, varies with the chosen location for suicide. Locations vary in their lethality and implied suicidal intent just as the methods chosen for suicide (guns versus poison) vary in their lethality. In the theater, the issues involved in staging a play are handled by the scenographer. In acts of suicide, the scenographers are none other than the suicides themselves.

The issues we discuss may seem offensive to some of those concerned with preventing suicide. Focusing on the dramatic aspects of suicidal acts may seem tangential to the physical and mental pain of those dying by suicide. But these aspects of the act often give us clues into their mental state, clues that might be helpful in understanding and preventing other suicides.

The Role of Culture

The Staging of Suicide

This is where culture clearly has a role. Culture has an impact on *ho*w people die by suicide, the choices they make in the staging of their suicide. Mishima's suicide mentioned above was clearly shaped by the culture to which he belonged. Other aspects of suicide are less commonly studied for the impact of culture, such as the rate of suicide and the reasons for suicide. Does culture play a role in the answer to these questions?

The Suicide Rate

There isn't much research on the role of culture in suicide rates. However, Lester (1972) found that the suicide rates of immigrant group to Australia were strongly associated with the suicide rates in their home country. Thus, their risk for suicide appears to be culturally influenced. Lester (1984) reported that Hungary had the highest suicide of European countries in 1920, 1960, and 1974, and Lester (1994) reported also that Hungarian immigrants to the United States had the highest suicide rate of all immigrants from Europe for whom data exists.

Burvill, et al. (1982) provided suicide rates that are relevant here. The male suicide rate in Australia during the period 1961-1970 was 16.3 per 100,000 per year and the female suicide rate was8.8. Burvill, et al. provided rates of nine immigrant groups in Australia, and Hungarians had the highest suicide rates (males 38.0, females 31.1). The suicide rates back in the nine countries from which they had emigrated were also the highest for Hungary (males 44.4, females 18.3).

Interestingly, Lester (1992), using the same data source as Lester (1972),[27] found that this phenomenon was not found for deaths from motor vehicle accidents, nor for "all other violent deaths.

In line with the discussion of the role of culture above, Burvill, et al. (1983) found that they changed their preferred methods for suicide from those in their home country to those preferred in their new country.

[27] From Burvill, et al. (1973).

The Reasons for Suicide

Almost no country formally lists the reasons for their suicide in those who die by suicide. The notable exception is Japan. Lester and Saito (1998-1999) documented national statistics for the reasons for suicide in Japan and found differences by sex and over time. For example, the most common reasons for men to die by suicide were, for example in 1990, illness and ailments 43.7% and alcoholism and mental illness 17.1%. For women, the percentages were 55.3% and 21.2%, respectively. Economic hardship was the reason given for 8.6% of the men and 1.8% for the women. This estimation of the reasons for suicide by the central government agencies may not be reliable or valid, of course, but it is a pity that more countries do not estimate the reasons for the suicides in their country.

Religion, of course, plays a role here. Roman Catholicism provides procedures for forgiveness for sins, whereas strict Protestant sects do not. Catholics are, therefore, probably less likely to die by suicide motivated by their sins.

Additional Possible Cultural Factors: Subcultures

The methods rate and reasons for suicide may also vary by ethnicity, age, where you live, and other similar factors. Minority groups develop different subcultures from the majority ethnic group, as do those of different sexual persuasions. We now label different generations (baby boomers, gen-z, etc.) which implies that they have different subcultures. It is common folklore that the northern and southern regions of a country have different subcultures, and these regions do differ in suicide rates (with higher rates in the north for countries above the equator (Lester, 1997, 2004) and, in the United States, there is good evidence for a Southern subculture (Wolfgang & Ferracuti, 1962). Lester (1986-1987) found that the rate of suicide using firearms in the American states was associated with a measure of southernness (but not the overall suicide rate).

Small groups of people can create their own subculture, as in the Heaven's Gate cult described above. Lester (1987) applied the construct of subculture to a small group of five teenagers, three of whom died by suicide. There was heavy drug involvement (LSD, speed and alcohol), difficult relations with parent characterized by intense resentment toward the parents or alienation from them, poor self-image (feelings of worthlessness and of being ugly), shyness and dependency on one person or a small group of peers, and love of heavy metal music.

Discussion

The results of writing this essay has convinced me that, not only does culture (and subculture) impact the staging of the act of suicide, it also impacts the suicide rate and perhaps the reasons for suicide, although this latter possibility has not been well studied.

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Suicide Studies, 2025, 6(5), 84-86

SUICIDE IN PRISONS AND IN THE COUNTRY AS A WHOLE

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Abstract: The suicide rates of prisoners in 15 European countries were positively associated with the suicide rates of the total population of those countries, indicating, perhaps, the role of culture in determining suicide rates.

In a series of time-series studies, Lester found that the suicide of men in prison was associated with the suicide rate of men in the country as a whole. This was found for Austria (Lester, 2001), Canada (Lester, 1995), Finland (Lester, 1999), France (Lester, 1994) and the United States (Tartaro & Lester, 2005). The prison suicide rate was also associated with the suicide rate for the 48 continental contiguous states of America (Lester 1998).

In addition, Lester also found that the time series suicide was correlated with and predicted by Durkheim's variables measuring social integration. This was found for Austria (Lester, 2001), Canada (Lester, 1995), Finland (Lester, 1999), France (Lester, 1994) and the United States (Tartaro & Lester, 2005).

Themeli (2006) documented prison suicide rates for 18 European countries for1983-1987, 1988-1991 and 1994-1997. The present study examined whether these prison suicide rates were associated with the suicide rates for the countries as a whole.

Method

The prison suicide rate for 18 countries came from Themeli (2006) for1983-1987, 1988-1991 and 1994-1997. Iceland had no prison suicides and was excluded. Themeli provided suicide rate for the UK, Scotland and Northern Ireland. Assuming that Themeli's table of data is correct, then Scotland and Northern Ireland are included in the UK. Therefore, data for Northern Ireland and Scotland were excluded.

Now that the internet has taken over printed works, data are not as available as in the past. Suicide rates for countries of the world in 1990 were not available online. From past studies, I have suicide rates for 1990 for some of the countries in Themeli's list. I also have suicide rates for every country from the WHO for 2000, and so these rates were also used for this study.

Because most prisoners are male, a check was made of the male and female suicide rates in the countries in this study. The total suicide rate was strongly correlated with the male suicide rate (r=0.99) and the female suicide rate (r=0.92), and so, for simplicity, the total suicide rates for the countries were used.

Results and Discussion

The prison suicide rates for the three periods provided by Themeli were positively associated (see Table 1), indicating some stability in prison suicide rates over time.

Table 1: Correlations between prison suicide rates in three periods

	1983-1987	1988-1991	1994-1997
1983-1987	-	0.68**	0.53*
1988-1991		-	0.39
1994-1997			-

* two-tailed p<.05
** two-tailed p<.01

For the eleven countries with national suicide rates available for 1990, the correlation between prison suicides rates in 1988-1901 was 0.60 (one-tailed p<.05). The correlation between prison suicide rates in 1994-1997 and suicide rates in 2000 for 15 countries was 0.80 (two-tailed p<.001)

The results of the present study confirm the results of Lester's earlier studies that the suicide rates of prisoners conform to the suicide rates in their countries, indicating, perhaps, the role of culture in determining suicide rates.

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A REVIEW OF RESEARCH ON SUICIDE IN 2006

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I have reviewed research on suicidal behavior now each year from 1998 to 2005. These reviews do not provide the reader with information on articles to cite in current research because editors and reviewers typically insist on recent citations. My reviews may, however, provide readers with ideas for their research which may aide their hiring, tenure and promotion.

It may be time for me to make a decision. If you have read previous reviews and my essays on methodology, you will know that I have three strong opinions. First, the same variables are studied year after year after year. I documented this with examples from the association between childhood sexual abuse and suicidal behavior, first noted in 1986 and still studied today, 39 years later.

Second, although clinicians are concerned about non-lethal suicidal behavior (ideation and attempts), as a researcher I am interested in completed suicide. I have argued that the study of suicidal ideation is useless for understanding completed suicide, and the study of attempted suicide is useful ***only if*** the attempters are classified for suicidal intent so that extrapolation can be made to those with most intent – suicides – as urged by Lester, et al. in 1975. I am tempted, therefore, to limit these reviews to completed suicides and perhaps attempted suicides, especially as the volume of research increases each year. In 1998, PsycINFO had 402 articles on suicide. In 2006, PsycINFO has 726 articles on suicide.

As an aside, apart from concerns about being sued for dereliction of duty when treating suicidal clients who die by suicide, suicidal ideation is not the main issue when treating these individuals. Suicidal ideation is, however, a problem for the clinician who becomes anxious when faced with a suicidal client, fearing that the client may go ahead and die by suicide. The clinician should, of course, inquire about the client's suicidal ideation in some detail (how long have the thoughts been present, does he or she have a plan, etc.). However, the real issue is what circumstances are making the client have these suicidal thoughts and what solutions can be found to resolve these issues. I worked for two years at a suicide prevention center, I worked several all-night shifts on the telephones, and I

prepared the first manual for telephone counseling which went to three editions (the third edition: Lester & Rogers, 2012). Our counselors, who were provided with excellent training, handled suicidal clients on the telephone and as walk-ins very well.

Third, in my opinion, the physiological research has no bearing on why people die by suicide, although it may help researchers develop new medications for suicidal behavior.

I have now downloaded the list of 726 articles from PsycINFO and 117 from Sociological Abstracts.[28] I am writing this Introduction prior to beginning my review for 2006. Let us see how it goes. For the standard Introduction to these reviews, see previous reviews from 1998 to 2005 (e.g., Lester, (2025). Since I do have obsessive tendencies, the useful research is reviewed in the first section, and the less useful research in a separate second section.

POTENTIALLY USEFUL RESEARCH FOR UNDERSTANDING SUICIDE

Studies of Suicide Rates

Methodological Issues

Whitt (2006) documented that a drop in the number of suicides in New York City from 1985 to 1988 was due to intentional misclassification of suicides by the medical exmainers.

Corcoran, et al. (2006) compared suicides in two systems in Ireland: one based on deaths registered in the particular year and the other based on the deaths that occurred in that year. The occurrence figures were, on average, 6% higher than the registration figures, indicating the lack of reliability for suicide statistics in Ireland.

Theory

No new ideas for theories of suicide were proposed in 2006.

[28] There were 171 articles on suicide in Criminology Abstracts, but many were duplicates of articles already viewed while others did not present quantitative results. In future reviews, I will not check this abstract system.

Regional Studies

For 12 countries, Cutright, et al. (2006) examined male suicide rates by marital status (married versus unmarried) and age. They measured the proportion of married individuals in each age group as a measure of status integration. For young people, the majority are unmarried, but for older ages, the majority are married. For social integration, they used female labor force participation which makes no sense. Norms were measured by approval of suicide in the country. All three associations with suicide rates were found.

In a study of suicide rates of 15-19 year-olds in 15 countries, Messner, et al. (2006) found that the suicide rate of young men was associated with relative cohort size, divorce rates and non-marital fertility. For young women, only divorce rates predicted suicide rates. The authors talk about changes in suicide rates, but they appear to have used absolute suicide rates.

Voracek (2006d) found that, in a study of 85 countries and 48 Eurasian countries, an exponential finction fitted the association between national estimates of IQ and suicide rates better than a linear fnction.

In 46 countries, Voracek (2006h) found that suicide rates were negatively associated with national scores for agreeableness and conscientiousness (from the Big 5).

In two samples of countries, Voracek (2006f) found higher suicide rates in countries where residents have lighter skin color, independently of national differences in affluence.

In 33 European countries, Bray and Gunnell (2006) found that suicide rates were associated with scores of the residents for life satisfaction and happiness, but not with the prevalence of mental disorders. For countries in Western Europe, the associations were statistically significant.

For Eastern European countries, Mäkinen (2006a) found that the regional pattern in 1910 was different from the pattern in 1989, but there was consistency before and after the fall of the Soviet Empire in 1989.

In a sample of European countries after World War Two, Mäkinen (2006b) found annual changes in the levels of agricultural employment and those of suicide mortality were not associated.

In 34 European countries, Sher (2006a) found that those with lower per capita income have higher male suicide rates (but not for females).

In a sample of 54 countries, Wu and Bond (2006) compared the predictors of suicide rates for those aged 15-24 and 65-74. Suicde rates for those aged 15-24 were positively associated divorce rates and the sex ratio and negatively with life expectancy and home satisfaction. Elderly suicides rates had many more correlates: positively with divorce rates and the sex ratio and negatively with life expectancy, the Gini Index, life satisfaction, home satisfaction, happiness, family importance, perceived state of health and sense of control over life.

In 17 countries, Sher (2006b) found that the suicide rates of 15-24 year-olds was negatively associated with the roportion of youths who drank alcohol for both men and women.

In a study of 19 countries using age-specific suicide rates for those born 1875 to 1985, Stockard and O'Brien (2006) found that "two indicators of cohort-related social capital, relative cohort size and percentage of non-marital births, are positively and significantly related to suicide rates. These effects are significantly stronger in the English-speaking family of nations, which have historically provided fewer political and social supports to families and children" (p. 5).

Regions within a Country

In a study of 78 regions in Russia, Pridemore (2006) found an association for both male and female suicide rates and death rates due to alcohol poisoning. Poverty, unemployment, percentage living out side of cities of 100,000, and the region of North Caucasus also played a role.

Voracek (2006a) studied suicide rates in the United States for their association with the percentage of Finno-Ugrians in the states. He used data from those with ancestors in from several European countries, but only Hungarians and Finnish people have the Finno-Ugrian gene, and Voracek had data only on those with Hungarian ancestry. He also used suicide rates from before 1933 when not all states reported suicide rates. His samples varied in size, but he included 51 regions (50 state plus Washington, DC) for his later suicide rates. For 1990-1994, the suicide rates of the 51 regions were negatively associated with the percentage of Hungarians in 1990.

In Austrtia, Voracek (2006b) found that estimates of IQ were not associated with male suicide rates over the 99 districts but, after controls for male net income, divorce rate, and unemployment rate were partialled out, the association was positive.

Voracek (2006e) found a positive association between suicide rates and estimates of intelligence ascorss the seven regions of Denmark, and Voracek (2006g) found weak positive associations over the states of the United States.

In a study of 10 German western states, Voracel (2006c) found no association between suicide rates and estimates of the intellgience of the residents of the states.

Giles-Sims and Lockhart (2006) studied 18 predictors of elderly (65+) suicide rates in the 50 American states. The statistical analysis is extremely poor. They did not factor-analyze these variables, nor do they appear to have put all 18 in a single multiple regression, instead presenting data for five models. They also often combined two variables in to a single variable. However, elderly suicide rates may have been significantly associated positively with divorces rates and firearm availability plus percent of 65+ residents in rural areas, and negatively with nursing home residents, religious adherents and the provision of Medicaid and long-term care.

Tondo, et al. (2006) studied the states of America and found that suicide rates were positively associated with the proportion of males, Natvie Americans and uninsured residents and negatively with population density, per capita income, density of psychiatrists, density of physicians, federal aid for mental health and the percentage of African Americans.

In a study of districts in the Czech Republic, Dzorova, et al. (2006) found that the suicide rate was predicted by the abortion ratio, the percentage of locally-born population, and the percentage of adults with limited education

In a study of 9,265 electoral wards in England and Wales, Middleton, et al. (2006) studied the suicide rate for men aged 15-44 but chose to rely primarily on mapping rather than conventional statistical analyses. They found higher suicide rates in inner city areas in the most densely populated cities and in coastal areas, especially those more remote. They also found that social fragmentation (e.g., the proportion of single-person households) was associated with suicide rates in both urban and rural regions.

In a study of American counties, Gibbons, et al. (2006) found that the suicide rate of 5-14 year-olds was predicted by SSRI prescriptions, ssex and race.

In those aged 15-34, Kubrin, et al. (2006) found that black disadvantage predicted black suicide rates in American cities, and white disadvantage predicted white suicide rates. Theye also reported what socio-economic variables predicted disadvantage: e.g., for black males, the percent blacks positively and industrial composition (deindustrialization) negatively. Industrial composition did not predict white disadvantage.

Regions within a State or Province

In a study of suicides in one region in England, Rezaeian, et al. (2006) focussed on 43 local authorities with 725 wards, using two indices of deprivation: income deprivation and unemployment. These variables were not associated with suicide rates at the local authority level but did predict suicide rates for men and for women at the ward level, except for women over the age of 50.

Hourani, et al. (2006) studied the 159 counties in Georia (America) and found that the suicide rate was predicted by number of DUI (driving under the influence) crashes and, for the 53 counties with >20 suicides, the percentage of the population aged 65 or older. Net migration, divorce, unemployment violent crimes, high school dropouts, whites, males and temporary assistance for needy families did not predict the suicide rates. The researchers should, of course, factor analyzed their variables to identify clusters of variables. They also analyzed the data for the counties with >20 suicides and<20 suicides separately, which makes little sense.

Hempstead (2006) studied 567 municipalities in New Jersey (America). She found that measures of isolation (such as low population density and high proportions of households with only one member) were predictive of completed suicides, while rates attempted suicide were associated with unemployment and median age. Both behaviors were more common in municipalities which lost population between 1990 and 2000 and where divorce rates were high.

Time-Series Studies

Lester (2006e) found that, in Israel from 1983 to 1999, the frequency and lethality of suicide attacks was negatively associated with the suicide rate.

Pridemore and Chamlin (2006) studied Russia for the period1956 to 2002 and found that suicide rates (overall and for male and female suicide rates) were associated with a measure of heavy drinking (chronic alcoholism, alcohol psychosis, including encephalopathy and dementia, alcoholic cirrhosis plus alcohol poisonings).

Although not strictly a time-series study, Page, et al. (2006) found that Australian suicide rates during 1979-2003 declined for those in middle and high socio-economic status and increased in those with low socio-economic status.

Ajdacic-Gross, et al. (2006) studied Swiss suicide rates by cohort from 1881-2000. They noted trends over time and the age variation. In early male cohorts, the distribution by age was U-shaped, but in later cohorts, the suicide rate increased with age. Female cohorts did not show any changes over time in the suicide rates by age.

In a time-series study in Soth Korea, Park and Lester (2006) found that both male and female suicide rates were positively associated with divorce rates and negatively with marriage and birth rates. These associations were significant for men and women over the age of 30.

In a time-series study of suicide in Ontario (Canada) in 1968-1991, Mann, et al. (2006) found that total alcohol consumption and consumption of beer, distilled spirits, and wine were all positively related and AA membership was negatively related to total and female suicide rates. The associations for male suicide were in the same direction, but not significant, except for wine consumption. Unemployment rates were positively related to male and total suicide rates.

Taiwan

Lin (2006) found that the unemployment rate and the suicide rate were positively associated over time in Taiwan and in panel data from seven Asian countries over time. In Taiwan, a multiple regression for 23 cities for 1979 to 2002 found that the suicide rate was predicted by the unemployment rate, percentage male, percentage elderly, percentage college graduates and a lower per capita income, but it is not clear to me that there would have been much variation in the latter variables over time.[29]

[29] Panel data is poor methodology because one cannot distinguish between ecological factor and time series factors.

In a study of suicide rates by month in Taiwan from 1997 to 2003, Lee, et al. (2006a) found a Spring peak regardless of age or sex, Suicides were positively associated with temperature and relative humidity, negatively with atmospheric pressur and not significantly with rainful or sunshine hours.

Japam

Inoue, et al. (2006a) found that male suicide rates in Japan were associated with unemployment rates for the period 1985-2002. The association was positive for female suicide rates, but not significantly so. Inoue, et al. (2006b) found a time-series correlation in one prefecture in Japan between the unemployment rate and both male and female suicide rates.

In Japan from 1971-2001, Otsu, et al. (2006) found that the unemployment rate was positively associated with the male suicide rate and negatively with the female suicide rate. They studied sunspots but failed to report the correlations with suicide rates.

Cheng and Lester (2006) found that from 1985 to 2000, unemployment was the strongest correlate of Japanese suicide rates.

USA

In a complex study and analyis, O'Brien and Stockard (2006) found the following: "Our results indicate that changes in the age distributions of suicide and homicide rates throughout much of the 20th century in the United States are strongly related. We posit that this relationship is due, at least in part, to the dependence of both forms of lethal violence on the degree of social integration and regulation that characterize cohorts. On theoretical and empirical grounds, we suggest that two characteristics of cohorts, relative cohort size and non-marital births, are negatively related to their degree of social integration and regulation and positively related to the age-period-specific rates of suicide and homicide deaths for the total population and for the rates disaggregated by race and sex (p.1552).

In a time series study of suicide rate in those aged 15-24 in America during 1960-1998, Cebula and Zelenskaya (2006) found that the suicide rate was predicted by the divorce rate, the violent crime rate and the Vietnam War (positively) and the proportion of 15-24 year-olds in the population (negatively) but not by per capita income.

Research on Distal Variables

Yip, et al. (2006a) studied suicide in Hong Kong after a celebrity died by suicide by jumping from a height on April 1st, 2003 and documented a 6-fold increase in suicides in that April, especially in men, those aged 25-39 and by jumping.

Lester (2006c) reviewed research and found lower rates of suicide in Muslims and in Muslim majority countries. Attempted suicide rates were not, however, lower.

In a national sample of Australian suicides, Berk, et al. (2006) found that: "There were significant associations between suicide rates and eleven macroeconomic indicators for both genders in at least one age range. Data was divided into male and female and five age ranges and pooled ages. Analyses were conducted on these 132 datasets resulting in 80 significant findings. The data was generally stronger for indices measuring economic performance than indices measuring consumers' perceptions of the state of the economy. A striking difference between male and female trends was seen. Generally, male suicide rates increased with markers of economic adversity, while the opposite pattern was seen in females. There were significantly different patterns in age-stratified data, with for example higher housing loan interest rates having a positive association with suicide in younger people and a negative association in older age groups" (p. 181).

World War Two

Van Tubergen and Ultee (2006) documented a high suicide in Jews from 1937 to 1943 and a high suicide rate after the war in those belonging to the pro-German Dutch National Socialist Movement. There was a decrease in the Dutch suicide rate during the war.

In May, 1945, Goeschel (2006) documente d a large rise in suicide in Berlin but not in Hamburg. Goeschel argued (and documented with cases) that the fear of the Russians led to an increase in suicides in the eastern part of Germany, but not in the western part.

Sex

Yip and Liu (2006) noted that China was the only country where female suicide rates are higher than male suicide rates and was greatesr in young women (aged 20-34) in rural areas. The difference was declining over time.

Firearm Suicides

Ajdacic- Gross, et al. (2006) examined firearm suicides in 18 countries. The proportion of suicides using firearms was associated with the proportion of households owning firearms. Beautrais, et al. (2006b) found that firearm control legislatition in New Zealnd reduced the suicide rate by firearms but not the overall suicide rate.

Chapman, et al. (2006) studied the impact of stricter firearm laws in Australia and found that firearm-related deaths before the law reforms decreased after the reforms for total firearm deaths, firearm suicides and firearm homicides, but not for unintentional firearm deaths.

Season of Death and Birth

Dervic, et al. (2006a) studied 275 suicides in Austrians aged <14 years of age and found peaks in April/May and October/November.

Yip, et al. (2006b) reported that the seasonality of suicides in Denmark from 1970 to 1990 (n=36,536) varied by sex. whether the suicides had a known psychiatric disorder or not, and by time period. Females suicides with a psychiatric disorder showed no seasonal pattenr. The seasonal variation for other sex-by-psychiatric disorder existed, but the authors fail to tell us what it was.

Oravecz, et al. (2006) reported that the seasonal variation in suicides in Slovenia had decreased over time, but they failed to tell us what the seasonal variation.was.

In Chile, Heerlein, et al. (2006) found a Spring peak for suicides in both men and women, b ut only in the central and southern zones of the country.

Lahti, et al. (2006) compared adolescent and adult suicide in Northen Finland. Adolescent suicides (<18 and mostly by shooting [60%]) peaked in Autumn (Agust, September, November). Adult suicides by shooting peaked in May and June and all adult suicide in May and September. They suggested three

factor for the adolescent peak in shooting suidies: the beginning of the hunting season, the beginning of the school year and seasonal affective disorder.

In Slovenia, Oravecz, et al. (2006) reported a peak in suicides in May up until 1993, after which the Spring peak declined and an Autumn peak appeared. By month, the suicide rate was positively associated with the number of sunny hours, average temperature and rain.

In Western Australia, Rock, et al. (2006) found no uneven distribution for the season of birth of suicides. However, non-lethal attempted suicide peaked in the Fall (circa day 271) with troughs in the Spring (circa day 91) and at the end of the year (circa day 331). Attempted suicides peaked October. Data for suicides were not reported. There was no association between day of birth and day of suicide.

MilitaryPersonnel

Eaton, et al. (2006) endeavored to measured suicide rates in the American military accurately. Across all branches, they found that the suicide rates were lower than the general poulation matched for age, sex and race.

College Students

In the United States. Schwartz (2006a, 2006b) found that college students had a lower suicide rate than non-college students (50% lower).

Ethnicity

Beautrais and Fergusson (2006) found that Marois in New Zealnd died by suicide and attempted suicide at a younger age than other New Zealanders, especially those aged <25.. A similar peak in suicides among young adults (15-24 years of age) was documented in Greenland by Bjerregaard and Lynge (2006), especially in regions further from the capital.

Värnik, et al. (2006) found that, in recent years, the suicide rate of Russians in Estonia (especially) for males) rose much more than than that of Estonians in Estonia and Russian in Russia.

In Sweden, Westman, et al. (2006) found that suicide rates varied with country of birth, with men from Finland having the highest rates along with

women from Finland, Poland, and Eastern Europe. In Denmark, Sundaram, et al. (2006) found that suicide was more common in those born in Greenland, those with one or two foreign-born parents and those born in other Nordic countries and lowest in those born in Asia.

Crisess

Selakovic-Bursic, et al. (2006) examined suicide rates before, during and after the civil war in Serbia and Montegro (1991-1994). They claim that suicide rates declined briefly after the war and then rose again, but their figures indicate a steady suicide rate. The use of firearms for suicide after the war did increase.

Chan, et al. (2006) found that the SARS epidemic in Hong Kong in 2003 was followed by an increase in the suicide rate of elderly women (>65), but not in elderly men or those of younger ages.

Media Coverage

In Australia, Pirkis, et al. (2006) found that suicide-related coverage of suicide in the media was followed by an increase in female suicides 31% of time and in male suicides 39% of the time in the next week. An increase was more likely if there were multiple reports on a suicide, if they were on television and if they were about completed suicide. The impact of the content of the news reports differed slightly for female and male suicides.

In a study of six American cities, Romer, et al. (2006) studied the nine days after a news report of a suicide. They found that suicides increassed in general after a news report of a suicide. Local television news was associated with an increased incidence in deaths by suicide for those < 25 years and those over the age of 44. There was an unexpected decrease in suicides of those aged 25-44.

Celebrations

Joiner, et al. (2006) found lower suicides during the American success at hockey in the Olympics (the Miracle on Ice) and on Superbowl Sundays. For two cities where the university football teams were a major focus (Ohio State University and the University of Florida), from 1990-2002, the ranking of these two teams was negatively associated with the sucide rate, even after controls for gdp/capita. This effect was also found for each city separately.

Studies of Suicides

Methodological Issues

Agerbo, et al. (2006) conducted a study that I have long advocated. They compared suicides with sex and age matched siblings and controls. Compared to their siblings, the suicides more often had psychiatric admissions, were more often unemployed or on social benefits, less often had university degrees, and were less often married. Compared to controls, the siblings differed for the same variables except for matital status.

Rockett, et al. (2006) looked at national data on suicides by age race and sex and suggested that suicide by African Americans were more likely to be misclassified than suicides by whites, especially as accidental (unintentional poisoning and drowning) and undetermined.

Lester (2006a) drew attention to the complete absence of suicide research in some ethnic groups, such as the Welsh and Cornish subcultures in England and Wales and the Basques in France and Sain. Studies of suicide in African nations have followed the colonial division of the continent into countries and not studied the ethnic groups that exist. Typically, researchers fail to note the ethnic identify of the groups studied. My own studies of suicide in Zimbabwe (e.g., Lester & Wilson, 1988) were hindered by the absence of the national statistics to note the ethnic identity of the suicides (the Shona and the Ndebele) whose patterns of suicide may differ considerably.

Theories of Suicide

Again, nothing appeared on new and alternative theories of suicide.

Youth Suicides

Ang, et al. (2006) studied a sample of suicides in Singpaore aged 10-19. The females more often had relationship problems as a precipitant but did not differ from males in family problems or school/academic problems as triggering stressors.

Engqvist and Rydelius (2006) followed up child and adolescent patients seen as a psychiatric unit. In a poorly designed study, the authors claim that family problems characterized those who died by suicide, and perhaps problems at school

and behavior disorders. The only variable that was flagged as significant was that the suicides more often had psychiatric care after discharge.

Adult Suicides

Alaräisänen, et al. (2006) followed up a cohort of 16-year-old Finnish teenagers until they were 35 years old. They found that good school performance at age 16 years was associated with increased risk of suicide in persons who develop psychosis, whereas in persons who do not develop psychosis, it is associated with lower suicide risk.

In a follow-up study of adopted children in Sweden, von Borczyskowski, et al. (2006) found that international adoptees had increased risks for suicide attempt and suicide. National adoptees had lower risks than international adoptees, but increased risks compared to non-adoptees for suicide attempts and suicide.

Kumar (2006) documented a rise in suicides among farmers in Andhra Pradesh in India.

In a large sample of Japanese men aged 40-69, Akechi, et al. (2006) found that non-drinkers of alcohol and heavy drinkers were both more likely to die by suicide than were moderate drinkers – a U-shaped curve. Suicide was equally common in those who had facial flushing with alcohol and those who did not. Among flushers, the heaviest drinkers were more likely to die by suicide.

Zonda (2006) compared suicides in Budaest (Hungary) with controls who died of natural causes. The suicides had experienced more interpersonal problems, but not more financial stress. The groups did not differ in having a history of one suicide attempt, but the suicides more often had made multiple attempts. The suicides more had major depression but less often alaocohl abuse.

In a study of suicides in South Korea, Kim, et al. (2006a) found that suicide was more common in men, younger people, the divorced, widowed and never married, those in rural areas and those in the lower social classes.

Thoresen, et al. (2006) compared Norwegian peacekeepers who died by suicide with those who did not do so. The suicides more often involuntary repatriation, negative life events before serving as peacekeepers (parental psychosocial problems), and problems with their marital status (unmarried,

separated, divorced), and more negative life evetns after serving (unemployment, on sick leave).

Chen, et al. (2006a compared suicides in Hong Kong with living controls using informant interviews for both groups. The suicides, differed in unemployment, indebtedness, being single, social support, psychiatric illness, and a history of past attempts

In the city of Belgrade (Serbia), Nikolić-Balkoski, et al. (2006) found that male and female suicides were similar in personal characteristics (education, urban-rural, etc.) and aspects of the act except for method, with men choosing more violent methods.

Oei, et al. (2006) studied suicides in Australia who had ingested substances prior to suicide (primarily alcohol). The number of drugs ingested was higher in females, in the older suicides, and in those using poisons as a method for suicide. Alcohol was present more in men, those employed, never married, aged 21-34 and those using firearms and hanging as a method.

Lostao, et al. (2006) found that for men aged 25 44, professionals and managers had the lowest suicide rate in Spain, and clerical/sales/service workers in France. Among those aged 45–64, clerical/sales/service workers had the lowest suicide rate relative to the other occupational groups in both countries, but only in 1980-1982 and not in 1988-1900.

In a Swiss sample of suicides, Frei, et al. (2006) found that those using firearms for suicide were more often men, younger, professionally better qualified and less often had received psychiatric treatment/

Canada

McGirr, et al. (2006a) compared male and female suicides in Montreal (Canada). The female suicides were less often alcohol abusers, less impulsive, and more often with lifetime anxiety disorders. For both sexes, anxiety disorders were associated with the use of less violent methods for suicide, and impulsivity was associated with alcohol abuse.

In a psychological autopsy study in Canada, Zouk, et al. (2006) had informants complete an impulsiveness scale for a sample of suicides. They then compared those with high scores >70th percentile with those with low scores (<30th

percentile). The two groups were similar in many variables, but the impulsive suicides were younger, had less education and a lower income, had worked for fewer years and were less often the major income provider. They more often abused alcohol and abused drugs, more often had borderline and antisocial personality disorder, and more often had comorbidity of diagnoses (2 or more up to 5 or more). Based on informant responses to personality inventories, the impulsive suicides scored higher on lifetime aggression scores and hostility scores, and scored higher on novelty seeking and self-transcendence. The impulsive suicides more often had received negligence, indifference and rejection from parents, scored lower on persistence, self-directedness and cooperativeness, and more often a stressful event within a week of the suicide. This study would have been better if they had some data on the validity of personality test scores from informants. They claim that the technique has proven to be valid, but the studies they cited were not of responses to personality tests.

England & Wales and Scotland

In a large sample of English suicides who had been seen by mental health services in the prior year, Hunt, et al. (2006c) found that their socio-demographic characteristics and clinical features varied by age and diagnosis.

In a national sample of suicides in England and Wales, Hunt, et al. (2006a) found that those with schizophrenia died from more violent methods, including jum;ping froma height or jumping in front of a moving vehicle. They were more likely to be young, male, unmarried, unemployed and from an ethnic minority. Rates of previous violence and drug abuse were high. They were more likely to be inpatients at the time of death and to have been noncompliant with medication.

In a study of suicides in England and Wales, Salib and Cortina-Borja (2006) found an excess of births in April, May and June (with, therefore, an excess of conceptions nine months earlier).

Harwood, et al. (2006) compared English suicides older than 60 with those dying from accidents. The most precipitants for suicide were physical illness, interpersonal problems and bereavement. Compared to the accident victims, the suicides more often recent breavement (<1 year), retirement, problems with accompdation and financial problems.

Bickley, et al. (2006) compared suicides by the homeless in England and Wales with all other suicides, but failed to report statistical tests of differences in

detail. The homless suicides apparently more often had a diagnosis of schizophrenia, borderline personality disorder and drug and alcohol abuse. They less often used posioning but, when they did, more often used opiates. They were more often inpatients, had a recent relationship break-up, and showed suicidal ideation and attempts in the prior three months.

In a follow-up study of a cohort of people in Scotland for an average of 25 years, Riordan, et al. (2006) found that individuals born to women with one or more previous completed pregnancies were more like to die by suicide than were first-borns. This was found in all three parental occupations (professional, skilled and unskilled). The association was greater in mothers <24 years of age. Individuals of low birth rate had a higher suicide rate. The length of the pregnancy had no impact on suicide rates.

Meehan, et al. (2006) identified a sample of English suicides who had been in contact with mental health services in the year before their suicide. There were 20, 927 suicides, of which 14,048 were labeled as suicide and 6,879 as open verdicts or deaths from undetermined, attesting to large under-count of British suicides. Of these, 5,099 had been in contact with mental health services in the year prior to death. A total of 754 individuals died during an episode of inpatient care, and 1,100 died within three calendar months of discharge from psychiatric inpatient care. Nearly a quarter of the inpatient deaths occurred within the first 7 days of admission, and 31% occurred on the ward, the majority by hanging. Post-discharge suicide was most frequent in the first 2 weeks after leaving hospital with the highest number occurring on the first day.

Germany and Estonia

Kõlves, et al. (2006a) compared suicides in Frankfurt (Germany) and Tallnin (Estonia), each sample compared with interviews with living controls, a poor technique. The suicides in the two cities did not differ in the number of stressful life events, only in the type. For example, somatic illness was more common in Frankfurt and separation in Tallnin. Kõlves, et al. (2006b) focused on suicides in Estonia and found that alcohol abuse and alcohol dependence werere more common in suicides than in living controls for males especially those aged 35-59, but abstinaence was more common in female suicides..

In a sample of German suicides and healthy living controls whose data came from informants as was the case for the suicides. Schneider, et al. (2006) found that both the male and the female suicides more often had an Axis 1 psychiatric

disorder than the controls, overall and for substance abuse, schizophrenia and affective disorder and for Cluster A, B ad C personality disorders and for comorbidity, not surprisingly.

Norway

Strand and Kunst (2006) followed up Norwegians born in 1955-1965 until 1990-2001. Those dying from suicide had higher socio-economic positions in childhood, especially for women. Strand and Kunst suggested that the reasons for this were downward mobility, not meeting high demands set by highly educated parents, psychological distress, and mental disorder.

Thoresen and Mehlum (2006) compared Norwegian peace keepers who died by suicide with those dying from accidents. The suicides more often had psychiatric problems, were living alone and had the break-up of a love relationship. Peace keeping variables did not predict suicide.

USA

Young, et al. (2006a) compared suicides in Kansas City (Missouri) with those dying from other causes. The suicides were more often living in houses rather than apartments or trailers, to be living in more expensive houses, and motivated for suicide because of financial strain. The major stressors for the suicides were psychiatric problems, relationship problems and drug problems.

Kposowa and McElvain(2006) studied the suicides in one American county and found that the method used by suicides varied by sex and whether the suicide took place at home or not.

In a national sample of Americans, Kaplan, et al. (2006) compared those who side by suicide within one year of a survey with those dying by suicide later. Those dying within a year were more often white, less educated, unemployed, and using firearms, but had higher levels of self-rated health at baseline.

Abe, et al. (2006) compared black and white suicides in one county in Georgia (United States)). Black suicides were more likely to be male, younger and to hurt others, but less likely to be depressed, have a family history of suicide or to leave a suicide note. Black suicides were less likely to have money problems, be under psychiatric care, have a chronic disease or a substance abuse problem, or to be found at home.

In a superficial study of suicides in Indianopolis (USA) with no control group, Shen et al. (2006) found that the occurrrence of suicide was impacted by impaired mental health, psychosocial stressors and access to firearms and these factors varied by age and sex.

Zarkowski and Avery (2006) studied suicides in hotel rooms in King County, Washington (USA). There were 23 suicides, 61% of whom lived in King County. The researchers did not carry out statisrtical tests, but the hotel room suicides tended to more be male and to be divorced, and they argued that the suicide rate was higher for local residents than for visitors.

Elderly Suicides

Rowe, et al. (2006a) compared 14 patients in home health care who died by suicide with four control patients who did not do so, very small samples. The suicides were more likely than their counterparts to suffer from depressed mood, suicidal ideation, prior suicide attempts, alcohol dependence, chronic pain, strained family relationships, lack of social support, and financial difficulties.

People with Psychopathology

Steer, et al. (2006) studied 49 suicides out of 6,891 psychiatric outpatients followed for an average of 10 years. They found that, “the daily hazard rate for committing suicide decreased rapidly for approximately three years, at which time the daily hazard rate dropped below that which would have been predicted if a constant (exponential) hazard rate had been assumed for each day of follow-up” (p. 463).

Ho (2006) studied discharged psychiatric patients in Hong Kong and found that patients hospitalized shorter than 15 days had significantly lower suicide rates in the following year than longer stay patients (both in the first 28 days and also thereafter).

Affective Disorder

Marangell, et al. (2006) followed patients with bipolar disorder for two years. Attempted plus completed suicide was predicted by the percentage of days depressed in the prior year and a history of suicidal behavior.

de Lara, et al. (2006) studied a sample of patients with major depressive disorders. Those who later died by suicide more often had a substance abuse disorder in the past six month (drugs or alcohol), a Cluster B personality disorder and a genetic (STin2) variation, and a family history of suicide.

Gonzalez-Pinto, et al. (2006) followed-up bipolar I patients but did not distinguish between suicides and attempted suicides during the follow-up! Suicidal risk was higher with prior attempts, more depression and hospitalization, familial mood disorders, and being single and younger, as well as treatment non adherence, but not with sex or substance abuse. In a multiple regression, suicidal behavior was predicted by being suicidal before treatment, poor treatment adherence, more depressive episodes and younger at the end of the study (and at treatment onset).

In a sample of elderly (>60 Danish psychiatric in patients, Erlangsen, et al. (2006) found that suicide was predicted by a diagnosis of affective disorder, first admission, and the absence of dementia.

Walby, et al. (2006) compared suicides with matched living psychiatric patients. They found that depressive disorders and bipolar disorders were associated with an increased risk of suicide during or after hospitalization. No such effect was found for comorbidity between Axis-I disorders and for comorbidity between Axis-I and Axis-II disorders.

Psychosis

McGirr, et al. (2006b) compared psychotic patients who died by suicide with those who did not. The suicides were predicted by depressive disorders NOS, moderate to severe psychotic symptoms, a family history of suicidal behavior, fewer negative symptoms,and having more comorbid diagnoses. contrary to findings in other populations, cluster A and C personality trait symptoms had a protective effect against suicide.

Lester (2006b) conducted a meta-analysis and statistical analysis of studies of suicides in schizophrenics who were followed-up. He found that the percentage of deaths from suicide was significantly greater for the male schizophrenic patients than for the female schizophrenic patients in studies where both sexes were included. Regression equations devised to predict the percentage of deaths from suicide after all of the sample had died estimated that 0.50% of male schizophrenic patients would die from suicide as compared to 0.20% of female schizophrenic patients.

Individuals with Medical Disorders

Pompili, et al. (2006a) conducted a meta-analysis of suicides in patients with epilepsy. They claim that suicide in these patients is frequent, but they did not calculate a combined suicide rate. As far as I can tell, the overall suicide rate was 0.8 per 100,000 per year, which is very low. (They report that the percentage of deaths from suicide is high in these patients, but the patients were not followed-up until death. Some studies had patients aged 0-14 followed-up for 3 years. The percentage of deaths from suicide in a group typically declines as the group gets older and older, for example, see Lester [2006b] in his meta-analysis of studies of suicides in schizophrenics.)

Offenders

In a study of suicides in American juvenile justice residential facilities, Gallagher and Dobrin (2006) found that suicides were more likely in facilities with locked sleeping rooms, with a higher percentage of black offenders and in facilities with larger populations.

Pratt, et al. (2006) followed up released prisoners in England and Wales withn one year of release. The suicide rate was 156 per 100,000 per year. Some 21% occurred within the first 28 days after release. The high suicide rate was found for men and women and for all ages.

Murder-Suicide

Moskowitz, et al. (2006) studied murder-suicides in New Zealand found that those killing children and themselves (compared to those killing partners) were more often mentally ill (affective disorder with psychotic features or a non-affective psychotic disorder such as schizophrenia). The female murderers were also more often mentally ill than the male murderers.

Koziol-McLain, et al. (2006) compred cases of femicide-murder with physically abused women. In a multiple regression, prior suicide threats by the perpetrator and by victims having ever been married to the perpetrator. However, there were many other differences. For example, the murders were older, had left school earlier and were more often unemployed than the abusers. The murdered women had worse mental health, and the households more often had fireamrs.

SuicideNotes and Diaries

Chávez-Hernández, et al. (2006) compared suicides in Mexico who left a suicide not with who did not do so. The note writers were more educated, more often salaried workers, less often living in urban areas, and less often with previous attempts.

Kuwabara, et al. (2006) compared suicides who left notes with those who did not. The note-wriers were older, used different methods (more often CO), lived alone, were not a psychiatric patient, were drinking at the time of the suicide and had different reasons (e.g., pessimism, relationship problems, and socioeconomic progrblems)

Lester (2006f) examined two diaries, one from a completed suicide and one from an attempted suicide, for the use of three words indicating absolutist thinking (perfect, always, and never). The diary of the attempted suicide had a significantly higher frequency use of "never" but not the other words.

Attempted Suicide versus Suicides

Fushimi, et al. (2006) compared attempted and completed suicides in one prefecture in Japan. The two groups differed in sex (the suicides were more often male), age (the suicides wereolder), method (thesuicides used hanging more often and overdoses less often) and previous attempts (suicides fewer) but not place, suicide note (suicides slightly more) or living arrangments. The groups differed in motive: “The most common complaint in the completed suicide group was ‘economic-related problems’, followed by ‘health-related problems’ or ‘private problems other than health related problems’. In the attempted suicide group, however, ‘private problems other than health-related problems’ was the most common complaint, followed by ‘economic-related problems’, and ‘family related problems’” (p. 292).

Follow-Up of Attempted Suicides

Holmstrand, et al. (2006) compared two small samples of attempted suicides who later died by suicide and those who did not do so, matched for sex, age and psychiatric diagnosis. The suicides more often attempted suicide after the index admission, received more psychiatric treatment, had comorbid personality disorders and scored higher on a depression scale.

In one region of Slovenia, Ziherl and Zalar (2006) identified attempted and completed suicides. Suicide after an initial attempt was more likely if the attempt used violent methods and if the individual was a repeater of attempted suicide. However, the presentation of data and results in this paper is extremely poor. These are the conclusions of the authors, but the data are not apparent in the paper.

Samuelsson, et al. (2006) studied 15 attempted suicides, five of whom died by suicide in the following two years. The suicides did not differ in suicidal intent for their baseline attempt or hopelessness, but the sample was small.

Studies of Attempted Suicides

Methodological Considerations

Christl, et al. (2006) documented how adolescents do not reliably report their suicide attempts. Andriessen (2006) noted that restrospective reports of suicidal intent often differ from prospective reports of intent, and the latter is more valid.

Linehan, et al. (2006) developed an interview protocol to assess suicide attempts, including suicidal intent.

Thompson, et al. (2006b) found very low concordance btweeen the report by children of their suicidal ideation and behavior and that of their caregivers and even lower between the children and their teachers. The degree of concordance was associated with race, academic performance, minimal thought disorder, low social withdrawal and aggression and fewer child/caregiver transitions.

Typologies

Based on his clinical experience with male suicidal patients (ideators and attempters), Lindner (2006) suggested four types:
(1) ideal type ‘disconnected’: a predominance of disconnected feelings that is associated with rejection experiences;
(2) ideal type ‘hurt’: aggressive conflicts and the realization of disillusioned life reality combined with experiences of real loss and real trauma;
(3) ideal type ‘stormy’: an attached-symbiotic transference offer mobilizes unrealistic wishes to help against a background of unresolved dependency conflicts; and

(4) ideal type ‘object dependent’: concrete facts are important in relationships; in case of separation, real repossession of the woman must occur, a lack of emotional experience is compensated. (p. 197).

Attempted Suicides by Intent

In a sample of adolescent outpatients with depressive mood disorders, Tuisku, et al. (2006) compared the nonsuicidal, suicide ideators and attempted suicides. Scores for depression, anxiety and global assessment of functioning increased linearly from the non-suicidal adolescents to the attempted suicides. (They also had a group with non-suicidal self-injury whose scores were discrepant.)

Lauterbach, et al. (2006) found that platelet 5-HT2A receptor binding and tryptophan availability in depression were not associated with a recent history of suicide attempts. However, the risk/rescue ratio was positively associated with the 5-HT_{2A} B max, and the medical damage score was negatively associated with the tryptophan/amino acid ratio.

In a small sample of attempted suicide who were problem gamblers, Penfold, et al. (2006) found that 75% were also alcohol abusers. Scores on the gambling scale for the total sample (problem gamblers and non-problem gambers) were not associated with suicidal intent.

In a sample of child and adolescents treated at an emergency psychiatric clinic and followed up for 5-9 years, Skarbø, et al. (2006) found that those who attempted suicide had more alcohol and mental disorders. The suicidal intent of the attempters was associated with worse global assessment of functioning scores, worse mental health (on scales such as the Symptom Check List-90), lower self-esteem and self-liking, and higher depression scores.

Kumar, et al. (2006b) compared attempted suicides in India with high and low intent using a suicide intent scale. Intent was higher in males, unmarried, with a psychiatric diagosis (especially depression), higher depression scores, using self-immolation, using a method with high lethality, and more recent stressful life events.

Kim, et al. (2006b) found that plasma nitrous oxide levels were higher in depressed patients who had attempted suicide than in non-suicidal depressed patients or normal controls, but higher plasma NO levels in the depressed

attempters were significantly related to a lower lethality of the suicide attempt and lower severity of depression.

Horesh and Apter (2006) conducted a confusing study of adolescent psychiatric inpatients, some of whom had attempted suicide. They also measured suicidal ideation, and then talk throughout their paper of suicidal adolescents which is undefined. The suicidal adolescents (perhaps the attempters) reported less self-disclosure to family members and scored higher for depression, state anxiety, and trait anxiety. Most importantly for the purposes of this section: "There were no significant correlations between measures of self-disclosure and severity of attempt, either as measured by lethality of attempt or as measured by intent. This was true even when depression and anxiety (state and trait) were partialled out" (p. 69). Thus, we cannot conclude that suicides would have even less self-disclosure to family members. Suicidal ideation (in which sample? perhaps the whole sample?) was related to self-disclosure to family, but not when depression and trait anxiety were added to the regression. [30]

Conner, et al (2006) compared alcohol-dependent patients who had attempted suicide with and without pre-contemplation of a week or more and non-attempters." Pre-contemplated acts were carried out with greater intent and were more likely to result in medical treatment. Dependence on illicit drugs and history of depression were more likely among attempters showing pre-contemplation. Impulsive attempts were more likely to be carried out by women and individuals with higher levels of alcohol-related aggression" (p. 95).

Wilson, et al. (2006) studied patients younger than 30 with borderline personality disorder (BPD) with and without alcohol abuse. The two groups did not differ in past attempted suicide, but the BDP only group tended to have higher suicidal ideation scores. Adding patients up to age 55, the BPD plus alcohol abuse had more lifetime attempts and with higher lethality.

Repeaters

Youths

Groholt, et al. (2006) followed up adolescent attempters for nine years. In a multiple regression, attempting suicide again was predicted by hopelessness,

[30] In this, and other papers, it is very surprising that editors and reviewers would let such ambiguity remain in the paper.

number of psychiatric diagnoses (comorbid disorders), ever been treated for mental or behavioral problems, and affectionless control by the father.

In a study of youths aged 5-19 seeking mental health services, Mandell, et al. (2006) found that first-time attempters were predicted by sexual abuse, running away from home, race, sex, age, and impairment in their home role performance. Prior attempters were predicted by sex, age, sexual abuse, physical abuse, running away from home, substance use, psychiatric illness in their biological family, self-harming behavior and impairment in their home role performance. Repeat attempting was predicted by sex, age, sexual abuse, physical abuse, running away from home, substance use, psychiatric illness in their biological family, biological parent convicted of a crime, self-harmful behavior and impairment in moods and emotions.

Adults

Kaslow, et al. (2006) compared low-income African American women who had attempted suicide with those who had repeated their attempts. The attempts made by repeat attempters involved higher levels of intent, planning, and perceived lethality and were associated with more psychological distress, hopelessness, substance abuse and childhood trauma.

In a national sample, Nock and Kessler (2006) found that attempted suicides differed from those making gestures in male gender, fewer years of education, residence in the southern and western United States. psychiatric diagnoses including depressive, impulsive, and aggressive symptoms, comorbidity, and a history of multiple physical and sexual assaults.

Wang and Mortensen (2006) followed up attempted suicides in the Faroe Islands and found that repetition at 5, 10 and 20 years was predicted by being a newcomer and alcohol intoxication, and also at 20 years by leaving a suicide note.

Kar (2006) studied attempted and completed suicide using organophosphorus poisoning in India. The suicides were older than the attempters, ingested more toxic chemicals, had a longer wait for medical intervention, more often died from respiratory failure and were rated as making more lethal attempts on a scale devised by Kar.

In a study of attempted suicides, Holden and DeLisle (2006) found that reasons for attempting suicide had two main factors: internal perturbation and

extrapunitive/manipulative. The number of attempts was positively associated with the internal perturbation score, and suicidal intent was negatively associated with the extrapunitive/manipulative score.

In a sample of serious attempted suicides in India, Kumar, et al. (2006a) reported difference by sex and by urban-rural location, and they measured suicidal intent using a recognized scale. The only correlated of suicidal intent reported was that men had higher suicide intent than women, but the men and women were similar in lethality, depression and recent stressful life events.

In a study by county in Colorado of attempted suicides, Cooper, et al. (2006) in a poorly presented study (how many counties does Colorado have?) found that repreating an attempt in the following year was less likely if the county had minimum safety-net mental health services (e.g., mental health treatment, crisis treatment, and case management).

In a sample of adolescent and young adult patients with substance abuse or eating disorders, Laget, et al. (2006) compared non-attempters, attempters and repeat attempters (both recent and past attempts) on the MMPI and a large number of scales. The use of two different psychiatric disorders confuses the data. Comparing at those with one recent attempt with those with more than one, the repeaters scored higher on depression, disinhibition, susceptibility to boredom and psychopathic deviation.

Elderly Attempters

Lebret, et al. (2006) found that eight of 51 elderly suicide attempters repeated therir attempt and three died by suicide. The repeaters had advanced age, pre-existing physical disability, several co-existing physical illnesses, severe physical consequences of the suicide attempt, a history of psychiatric illness other than depression, memory disorders and one previous suicide attempt. The modal attempter was a widowed woman suffering from social isolation, loneliness and depression.

Adults with Psychopathology

In a sample of patients with bipolar disorder, Ostacher, et al. (2006) found that having ever smoked was associated with lifetime attempted suicide and so were lifetime comorbid disorders of anxiety disorders, alcohol abuse and dependence, and substance abuse and dependence.

Prisoners

In a study of female inmates, Daigle and Côté (2006) compared those making attempts in the past with low and high lethality. Those with high lethality attempts reported less decrease of tension after the attempt but did not differ in impulsiveness, hostility (extrapunitive or intropunitive) or psychiatric disorder.

In a study of German male inmates, Lohner and Lonrad (2006) compared those making attempts of low intent and lethality with those making attempts with high intent and high lethality. Intent was strongly associated with lethality. Hanging was used more often by those with high seriousness (versus cutting0 Intent and lethality were associated with scores for depression, hopelessness and suicidal ideation. Inent and lethality were not associated with substance use, psychotic symptoms, prior self-injurious behaviors or demographic variables. Disciplinary infractions were negatively associated with intent and lethality.

Suicidal Ideators versus Attempters

Adolescents

Nock, et al. (2006) studied a group of adolescents who had made non-suicidal self-injuries. Some had also attempted suicide. Those who had also attempted suicide had a longer history of non-suicidal self-injuries, used more methods for self-injury, and did not feel pain during the self-injury.

Eisenberg and Resnick (2006) studied a large sample of 9^{th} and 12^{th} grade students in America. They did not compare those with lifetime suicidal ideation and those who had attempted suicide lifetime (a missed opportunity) , but the predictors of ideation and attempts were the same. Suicidal ideation for males and for females was predicted by being LGB, family connectedness, teacher caring, other adults caringm and a safe school. The same variables predicted attempted suicide except for treacher caring.

Foley, et al. (2006) followed a sample of teenagers for several years and looked for predictors of suicidal ideation and attempts in the past three months. Comparing those who wanted to die, had suicidal ideation, had suicide plans and attempted suicide, the severity of suicidality was higher in female. Other variables were either not significant or non-linear. The lack of linear trends is surprising. Of less interest, overall, anxiety, depression, and disruptive behavior disorders were

all associated with an increased risk of suicidality. They identified eleven psychiatric profiles in these adolescents with two most common being depression plus anxiety and depression plus disruptive disorder.

Liu, et al. (2006b) compared children and adolescents with major depression seen at psychiatric clincs who had suicidal ideation, suicide plans or past attempted suicide. The only significant difference reported was that there was a linear increase in a hisotry of psychiatric hospitalization, but not current depressive severity. They also looked for predictors of each behavior and found the following predictors for at least one form of suicidality: feelings of worthlessness, depressed mood, psychomotor agitation, anxiety and conduct disorders.

Adults

In a sample of Finnish primary care patients with depressive disorder, Vuorilehto, et al. (2006) compared patients who were non-suicidal, had suicidal ideation and those who had attempted suicide. For current behavior, there were linear trends for depression, anxiety and hopelessness. Substance abuse and Cluster B personality disorders also increased linearly. Lifetime ideators and attempters did not differ on these variables.

In a community sample of suicide ideators, Fairweather, et al. (2006) found that attempted suicide in this group was predicted by physical medical condition, negative interaction with friends (and unemployment). Depression and anxiety did not predict attempted suicide.

Beautrais, et al. (2006a) reported on a large sample of residents of New Zealand and assesed suicidal ideation, making suicide plans and attempting suicide. They did not compare the three groups with statistical tests, and the percentages do not make sense. For example, the attempted suicides had a lesser incidence of every psychiatric disorder than did the ideators, which seems unlikely.

Tiet, et al. (2006a) studied patients who were substance abusers to predict who attempted suicide in the following 30 days. The predictors were prior suicide attempts, current drinking to intoxication, current cocaine use, no prior suicidal ideation, and difficulty controlling violent behavior.

Cheung, et al. (2006) surveyed three groups of residents of Hong Kong: no suicidal ideation, suicidal ideators and attempters. They did not however, report any statistics for comparing these three groups. However, linear trends for those

three groups in order appear to be: increasing hopelessness (but not depression), decreasing social support, increasing smoking, increasing unemployment, more often debts, decreasing age, and more often female. There were no linear trends in chronic illness, drug abuse and education.

In a Dutch sample of residents, Enns, et al. (2006) studied predictors of suicidal ideation and attempts during the study period, but did not directly compare the two samples. However, they noted that the attempters had experienced many more childhood adversities than had the ideators.

In a national survey in America, Borges, et al. (2006) compared suicidal ideators who had a plan for suicide with those who had attempted suicide in the prior year. As far as one can tell from their poor statistical presentation, the attempters more often had major depression, panic disorder, and generalized anxiety disorder but did not differ in substance dependence or antisocial personality disorder. The researchers did not compared the ideators without a plan or an attempt with the other two groups.

In a national sample of black Americans, Joe, et al. (2006) found that 11.7% had lifetime suicidal ideation and 4.1% had attempted suicide lifetime. Of the 542 ideators, 190 (35%) made a plan. Of these with a plan, 117 (62%) made a planned attempt. Of the 352 ideators without a plan, 72 (20%) made an impulsive attempt. Unfortunately, Joe, et al. did not carry out statistical comparisoons between the groups as far as I can tell.

Hodgkins, et al. (2006) studied problem gamblers and compared those with suicidal ideation, suicide attempts and who were non-suicidal. The data were presented for all three groups, but no tests of significance calculated. There were linear trends in the number of psychiatric diagnoses, history of mood disorder, history of alcohol abuse and history of drug abuse, and the socialization score on the California Personality Inventory, but not scores on a pathological gambling scale.

In a sample of psychiatric inpatients, Fliege, et al. (2006) found that those with suicidal ideation had higher rates of deliberate self-harm than those who had attempted suicide.

Szanto, et al. (2006) studied a sample of people experiencing bereavement after loss of a significant other. They compared those who had attempted suicide, had suicidal ideation and who were non-suicidal. There were significant linear

trends for current and for lifetime major depressive disorder, history of attempted suicide, scores on scales measuring anxiety, depression and complicated grief and, negatively, with scores for interpersonal support.

Goldstein, et al. (2006) studied suicidal ideation and attempted suicide in patients with schizophrenia andschizoaffective disorder but failed to copared these two groups statistically (although the attempers and ideators differed on Trail Making B-sec and card soring perseverate errors). Suicidal and non-suicidal groups did not differ on cognitive tests (e.g., card sorting and trail making tests) or comorbid alcohol use. Suicidal behavior was more common in those with schizoaffective disorder.

Discussion

It was eciting to read the paper by Agerbo, et al. (2006) who used a research design incorportating suicidal intent, a design that I advoacted back in the 1970s. He studied only non-psychological variables, but I have hopes for 2007+.

Of course, I have to admit that many of the studies reviewed above did not increase my understanding of why people die by suicide!

RESEARCH OF NO USE FOR UNDERSTANDING WHY PEOPLE DIE BY SUICIDE

Physiological Research

Blood

In a study of inpatient adolescents, Tyano, et al. (2006) found that plasma serotonin (p5-HT) levels were lower in those who had attempted suicide and the non-suicidal group compared to healthy controls. There was a negative correlation between p5-HT levels and suicidal behavior severity among the suicidal inpatients. Gender, depression, and anger were associated with suicidal behavior in all groups.

In a sample of attempted suicides compared to non-suicidal psychiatric patients and normal controls, Lee, et al. (2006c) found no differences in BMI, but plasma NO_x was higher in the attempters.

In a national sample, Brunner, et al. (2006) found that suicidal ideation and attempted suicide in the prior year was associated with having a major depressive

disorder. In those with this disorder, suicidal ideation was associated with total cholesterol and triglycerides, while attempted suicide was associated with BMI as well as total cholesterol and triglycerides. HDL cholesterol was not significant in these analyses.

In a sample of attempted suicides in Russia versus healthy controls, Gaysina, et al. (2006) found the SLC6A4 gene in the blood was associated with attempted suicide in women, but not in men, both the L/L genotype and L10 haplotype.

Atmaca, et al. (2006) compared the blood of attempted suicides and healthy controls. The attempters had lower cholesterol levels but higher ghrelin levels compared with the controls.

Using DNA isolated from lymphocytes from the blood of a sample of depressed elderly patients, Hwang, et al. (2006) found that who were also APOE4 allele carriers showed significantly lower Mini-Mental State Examination scores and an increased suicide attempt history,

Viana, et al. (2006) found that the A218C tryptophan hydroxylase polymorphism had no association with attempted suicide, the lethality of the attempt or the method used in a sample of psychiatric patients. Patients with a family history of suicidal behavior made more lethal and more violent attempts. Viana, et al. probably used blood samples but they do not specify.

Sublette, et al. (2006) followed up medication-free depressed individuals for two-years. Attempting suicide was associated with a lower docosahexaenoic acid percentage of total plasma polyunsaturated fatty acids and a higher omega-6/omega-3 ratio.

Booij, et al. (2006) found that high-dose tryptophan depletion (thereby lowering serotonin levels) increased impulsivity and anxiety in remitted depressed patients with past suicidal ideation.

In a sample of African American diabetic patients, Roy and Roy (2006) found no association between serum cholesterol levels and depression scores on the Beck Depression Inventory or on the suicide item.

Cerebrospinal Fluid

Sher, et al. (2006) compared depressed patients who had attempted suicide in the past with those who had not done so. The two depressed groups did not differ in depression, aggression, hopelessness, and total hostility scale scores. The suicide attempters had higher current suicidal ideation scores and lower CSF HVA levels compared to the non-attempters and to healthy controls.

In a sample of patients with major depression, Sullivan, et al. (2006) found that suicidal ideation was associated negatively with cerebrospinal levels of transthyretin.

Lundbäck, et al. (2006) studied a sample of psychiatric inpatients who had attempted suicide, 84% of whom had a major depression. Lundbäck, et al. found that low CSF 5-HIAA was associated with a suicidal score obtained from the patients' responses to the Rorschach Test.

Brains

Martín-Guerrero, et al. (2006) found that the N251K polymorphism was absent in both suicide victim and control groups.

De Luca, et al. (2006c) found that the brains of suicides did not differ from controls for tryptophan hydroxylase isoform 2 (TPH2) genotypes. De Luca, et al. (2006d) found no differences in mRNA levels.

Zhu, et al. (2006) found no significant differences in the amount of binding to $GABA_A$ receptors between control subjects and patients with major depression or depressed suicides.

Miguel-Hidalgo, et al. (2006) found that the packing density of either neurons or glial cells in the orbitofrontal cortex was not significantly different in alcoholic suicides compared with alcoholic non-suicides.

Oquendo, et al. (2006) compared the brains of suicides and non-suicidal individuals and found lifetime aggression scores correlated positively with [^{3}H]ketanserin binding in all prefrontal Brodmann areas examined, after adjusting for age and sex but not in the non-suicides. The two groups did not differ in aggression scores or [^{3}H]ketanserin binding.

Comparing suicides with those dying from other causes, Strauss, et al. (2006b) found that neither brain-derived neurotrophic factor (BDNF) nor tyrosine

kinase B (NTRK2) transcript expression were altered in the anterior cingulate cortex of subjects with completed suicide compared to those with other causes of death.

Dwivedi, et al. (2006a) compared the brains of suicides and non-suicides for Rap-1 (a Ras family of small guanine nucleotide triphosphate [GTP]–binding proteins). Rap-1 activation was significantly reduced in prefrontal cortex and hippocampus of the suicides. This was associated with significant reductions in Rap-1 messenger RNA and protein levels. The protein level of only Epac-2 but not Epac-1 (exchange protein directly activated by cAMP) was significantly increased in the prefrontal cortex and hippocampus of the suicides. None of the measures showed any significant change in cerebellum of the suicides.

In a similarly designed study, Dwivedi, et al. (2006b) noted that: "It was observed that the catalytic activity of B-Raf was significantly reduced in PFC and hippocampus of suicide subjects. This decrease was associated with a decrease in its protein, but not mRNA, level. On the other hand, catalytic activity, and mRNA and protein levels, of Raf-1 were not altered in post-mortem brain of suicide subjects." (p. 86).

In the brains of drug-free suicides, Bach-Mizrachi, et al. (2006) found that TPH2 expression was 33% higher in the DRN and 17% higher in the MRN of the suicides as compared to matched non-psychiatric controls. Higher levels of TPH2 mRNA were found throughout the entire extent of the rostrocaudal axis of the DRN.

Merali, et al. (2006) compared suicides with those dying of other causes and found that: "Levels of CRH-ir [corticotropin-releasing hormone] among suicides were elevated in the locus coeruleus (LC), frontopolar, dorsolateral prefrontal (DMPFC) and ventromedial prefrontal cortices, but were reduced at the dorsovagal complex (DVC). The concentration of AVP-ir was elevated at the paraventricluar hypothalamic nucleus, LC, and DMPFC, and reduced at the DVC. Finally, GRP and NMB variations, which might influence anxiety states, were limited, although GRP-ir within the LC of suicides was higher than in control subjects, while NMB-ir was reduced at the DVC of suicides" (p. 594).

Ryding, et al. (2006) found no differences between attempted suicides and controls for regional brain serotonin and dopamine transporter binding capacity. For the attempters, but not the controls, these physiological variables were associated with impulsiveness and mental energy.

DNA and Gene Analyses

In a comparison of suicides with controls, Pungercic, et al. (2006) found no differences in the genotypes for the serotonin transporter (5-HTT) HTTLPR and VNTR or allele distribution.

Zaboli, et al. (2006) compared women with borderline personality disorder who had attempted suicide at least twice with psychiatrically normal women. They found that tryptophan hydroxylase-1 gene variants were found more often in the plasma of attempted suicides.

Wasserman, et al. (2006) found no over-transmission of the G-allele in the blood of a sample of suicide attempters except for a trend for over-transmission of the G-allele in a sub-sample selected for a high level of previous traumatic or stressful life events prior to the suicide attempt

In a small sample of psychiatric patients, Gibb, et al. (2006b) found that childhood physicial and sexual abuse (but not emotional abuse) were associated with attempting suicide only in those with one or two copies of the s allele, but not among those homozygous for the long allele or for the serotonin transporter gene (5-HTTLPR).

In a sample of patients with major depression, Ke, et al. (2006) studied the tryptophan hydroxylase isoform (TPH2) (an enzyme in the biosynthesis of serotonin). For the A-G single nucleotide polymorphism (SNP) at the position 40237 relative to 5′-end of TPH2 gene, they found that attempted suicides less often had the A allele. Individuals with the A/A genotype had a lower risk of suicide behavior than those with the A/G or G/G genotype.

In a comparison of suicides with healthy controls, Videtic, et al. (2006) found no differences in seven polymorphisms in four serotonin receptor genes.

Segal, et al. (2006) compared depressed patients who had attempted suicide with healthy controls (blood donors), a very poor design. They found that SS and LS genotypes in the serotonin transporter gene (5-HTTLPR) were more common in the attempted suicides.

In a 9-cM genome scan study of a large sample of bipolar patients, Cheng, et al. (2006) found that 6q25 and other genomes were found more often in those who had attempted suicide..

Stefulj, et al. (2006) compared elderly suicides using violent methods with healthy controls and found that the suicides had an increased frequency of, allegedly less active, CC genotype of tryptophan hydroxylase.

In a sample of schizophrenics, de Luca, et al. (2006a) found no association between lifetime attempted suicide attempt and the multiallelic 5-HTTLPR, but there was an association with the intron 2 VNTR polymorphism and haplotype distribution. De Luca, et al. (2006b) found no association between suicide attempt in the schizophrenics and the MAOAVNTR,Val108/158Met or−287A>G polymorphisms. They found a slight difference for the 3′UTR polymorphism. Haplotype analysis for COMT gene revealed no association between suicide attempts and haplotype distribution.

Sequeira, et al. (2006) found a higher frequency of the *SSAT342C* allele among male suicides compared to controls, using reverse transcription-polymerase chain reaction, immunohistochemistry, and Western blot analyses

Other Foci

Quednow, et al. (2006) compared the acoustic startle response of depressed patients who had attempted suicide with healthy controls. The groups did not differ in prepulse inhibition, startle reactivity and habituation of the acoustic startle response (operational measures for sensorimotor gating).

In liver tissue, Mergen, et al. (2006) found no association between suicide and the A218C polymorphism of the TPH gene and a 44-base pair insertion/deletion functional polymorphism in the 5-HTTLPR.

Studies of Attempted Suicides

Youths

In a national study of Adolescents, Andrews (2006) found that suicidal ideation was more common in last born, while attempted suicide was least common in middle born children., although they more often had received medical

treatment. These effects were stronger in those expressing dissatisfaction with their mother.

In a study of adolescents, Connor and Rueter (2006) found that maternal warmth and paternal warmth were negatively associated with suicidality (ideation and attempts combined), while paternal neglect and adolescent emotional distress (depression, anxiety and hostility) were positively associated with suicidality.

In a study of German adolescents see at a psychiatric clinic, Kirkcaldy, et al. (2006) studied those who had attempted suicide and self-injured themselves (e.g., by self-mutilation). Unfortunately they did not compare these two groups. Attempted suicide in the boys was associated positively with age, family disharmony and number of siblings and negatively with intelligence, unfair parental demands and disabled siblings. Attempted suicide in the girls was positively associated with age, inadequate parental supervision, hostile rejection and family disharmony and negatively with parental over-involvement, excessive conflicts with peers and unfair parental demands. The signs for some of these predictors seem to be odd.

Young, et al. (2006b) studied teenagers in Scotland from ages 11 through 19. Those identifying with the Goth subculture were found to have higher rates of self-harm and attempted suicide, were more often male and had higher use of drugs. Identification with the Goth subculture remained significant after controls for being female, having divorced or separated parents, smoking and any drug use (but not alcohol), and prior depression.

In an incomprehensible report of a study of adolescent psychiatric inpatients, Goldston, et al. (2006) claimed that trait levels of depression, hopelessness and anxiety were associated with attempted suicide. They were unclear as to the associations of state measures, and they fail to report any correlations or t-tests. Neither do they tell us how many adolescents attempted suicide and whether this was before becoming an inpatient or after discharge.

In a sample of Canadian adolescents, Fotti, et al. (2006) found that both suicidal ideation and attempted suicide were predicted by depression, decreased parental nurutrance and increased parental rejection. Poor peer relations predicted suicidal ideation and attempted suicide for girls but only attempted suicide for boys. The researchers did not compare the ideators and attempters, nor did they define *decreased* and *increased*.

Steinhausen, et al. (2006) followed up adolescents aged11-17 three and seven years later but combined suicidal ideation and attempts. They report that suicidality was more stable over time than epxected. Compared to healthy controls, suicidality was associated with behavioral and emotional disorders (such as social withdrawal and aggressiveness), as well as substance abuse disorders, depressive disorders, phobias and any psychiatric disorders when young. The baseline predictors of suicidality in the follow-ups were less strong.

In a study of former child welfare children in Sweden, Vinnerljung, et al. (2006) found that they were more likely than peers in the general population to have been hospitalized for suicide attempts and for serious psychiatric disorders in their teens and young adulthood.

In a sample of high school and college females, Unikel, et al. (2006) found that attempting suicide was predicted by paternal emotional mistreatment, suicidal ideation, lack of maternal affection and risky eating behaviors.

In a study of high school students, Hallfors, et al. (2006) measured suicide risk, a combination of suial ideation, attempts, and depression. They concluded that "as the number of suicide risk factors rose, students were increasingly likely to engage in more drug use, to have less family support, to be less connected to school, to have more feelings of hopelessness, and to more frequently endorse suicide as an acceptable solution to life's problems" (p. 282)

In small samples of depressed adolescents, Carlson (2006) found that decreasing levels of importance of school and family and increasing levels of mood variability were found for adolescents with a history of attempted suicide (according to the Abstract, although the text seems to contradict this).

In a sample of 15-year olds, Daniel, et al. (2006) found that poor readers were more likely to report suicidal ideation and attempts, have major depression, conduct dicorder and substance abuse, and to drop out from school. Suicidality was associated with dropping out of school.

Dilsaver, et al. (2006) studied Latino adolescents presenting at a clinic for destitute individuals. Suicidal ideation and attempts weres associated with having a major depressive disorder or bipolar disorder. Social phobia increased the likelihood of attempts, while panic disorder and obsessive-compulsive disorder in the bipolar adolescents increased the likelihood of suicide ideation but not attempts.

In a national sample of adolescents, Thompson, et al. (2006c) found that delinquent adolescents were more likely to have seriously considered suicide, made a suicide plan, attempted suicide and required medical treatment after attempting suicide, for both boys and girls although the association was greater for girls.

Cho, et al. (2006) compared MZ and DZ twins for suicidal ideation and attempts and found greater concordance for both behaviors in MZ twins. (They also examined concordance for traits associated with suicidality.)

In a sample of adolescents hospitalized for suicide attempts or ideation, Kerr, et al. (2006) found that, for the girls, but not for the boys, family support was negatively associated with current suicidal ideation.

Israelashvili, et al. (2006) compared female attempted suicides with non-attempter controls. The adolescents and also their mothers did not differ in emotion focused and problem-focused coping. For the attempters and their mothers, the coping styles were not associated.

In a national sample of American high school students, Molina and Duarte (2006) found that attempt suicide was associated with gender, age, ethnicity, education failure, possession of a gun, habitual participation in sporting activities, l weight perception, taking pills or provoking vomiting to lose weight, the consumption of drugs, sexual relationships and pregnancy

In a study of Spanish 13-year-olds, Rodríguez-Cano, et al. (2006) found that body dissatisfaction and suicidal ideation predicted attempted suicide in the next two years, along with scores on measures of general health, eating attitudes and bulimia.

In samples of adolescents in the Philippines, Taiwan and Thailand, Page, et al. (2006) found that past attempted suicide (lifetime and past year) was associated with hopelessness and loneliness.

In a sample of adolescents in New Zealand, Purvis, et al. (2006) found that acne was associated with past attempted suicide and suicidal ideation even after controls for depression and anxiety. The data reported in this paper are inconsistent, making it impossible to compare the ideators and attempters in a trustworthy manner.

Shoval, et al. (2006) studied adolescent inpatients with schizophrenia or schizoaffective disorder and compared those who had attempted suicide with the other patients. The attempted suicides more often had used inhalants, LSD, alcohol and methylene-dioxy-methylamphethamine (MDMA), but did not differ in the use of cannabis, amphethamines, cocaine or opiates. The attempted suicides had more previous psychiatric admissions, a greater level of deliberate self-harm behavior, and a higher level of suicide ideation, but a lower severity of psychotic symptoms.

In a study of African American high school students, Spann, et al. (2006) found that depression and hopelessness were associated with suicidal ideation and attempted suicide. Depression was the stronger predictor. They also studied fatalism and religiosity but did not report their associations with suicidality.

Schwartz-Stav, et al. (2006) found that adolescents with schizophrenia plus post-psychotic depression had a higher risk of suicide and more often suicidal behavior (undefined) than adolescents with schizophrenia alone. Insight into their disorder was also associated with suicidal risk.

In a national sample of adolescents, Haynie, et al. (2006) examined residential mobility and attempted suicide. For girls (but not for males), moving home was associated with attempting suicide in the following year. Attempting suicide was negatively associated with attachment to their school and relations with their parents and positively with participation in delinquent activities, isolation from peers, as well as the delinquency, popularity and suicidal behavior of their friends.

In a sample of African American high school students, Molock, et al. (2006) found that none of the religious coping styles (deferring, collaborative, self-directed) were related to suicidal ideation, but students who use a self-directed religious coping style were more likely to report having made a suicide attempt.

In a national sample of high school students tested on two occasions one year apart, Kidd, et al. (2006) found that having attempted suicide was associated with depression, sex, prior attempts and relationships with peers, school and parents.

Stewart, et al. (2006) studied adolescents in Hong Kong and America and found that, in both cultures, past attempted suicide was associated with depression, current and lifetime suicide ideation, hopelessness, poor interpersonal relationships

Orbach, et al. (2006) studied adolescent inpatients and compared those who had attempted suicide with those who had not (and health controls). Attempted suicide was associated with higher tactile sensation thresholds and more negative body attitudes and experiences. The attempted suicides reported less parental care, lower positive and higher negative parental touch, and higher parental maltreatment.

In a study of adolescents, Liu (2006) found that a friend's suicide attempt and depression predicted the adolescent's own attempt, for both boys and girls. Highly depressed boys (and non-significantly in girls) were less likely than low- or non-depressed adolescents to attempt suicide when their friends attempt suicide.

In a study of students of gay males aged 18-24, Friedman, et al. (2006) used a path analysis to show that retrospective recall in elementary, middle and high school of femininity led to bullying and suicidal ideation/attempts. Higher levels of peer support during elementary and high school, and parental support during all time periods, were associated with lower levels of suicidality.[31]

Hacker, et al. (2006) compared predictors of attempted suicide in 9th and 11th grade students. For 9th grade students, attempts were associated with cigarette and alcohol use, family violence and depression. For 11th grade students, attempts were associated with illicit drug use, school violence and sexual abuse. Having friends was protective for both groups. Having more than one risk factor increased the likelihood of attempted suicide.

Kidd (2006) studied homeless youth and young adults (<24 years of age) in New York City and Toronto, using a large list of variables. He found that suicidal ideation and attempts were less frequent after the youths left home and were homeless. As for predicting suicidal behavior at home and on the street, it is very difficult to understand the results. Kidd proposed, and says he confirmed, a model in which drug use and a negative past (involving abuse and neglect) lead to loneliness and low-self-esteem and thence to feeling trapped (helpless and hopeless) and suicidality. Nowhere does Kidd seem to have Toronto and New York City as a variable and, of course, nowhere does he factor analyze his estimated 25 variables to identify factors.

[31] If you know my criticisms of research papers, it is interesting to note that the senior author's dissertation committee all got their names on this paper!

Adults

In a large sample of individuals who belonged to a website for body modification, Lester (2006d) found that the bisexuals and homosexuals reported a greater incidence of prior suicidal ideation and attempts than did the heterosexuals, even after controls for sex and self-reported depression.

Norlev, et al. (2006) followed up a sample Danish residents for 6 years. Those with suicide ideation or attempted suicide at baseline reported worse mental heatlh at follow-up and were more likely to report current suicidal ideation.

Dong, et al. (2006) in two poorly described samples found a higher rate of attempted suicide in those rated as obese based on their BMI (>40). They also report a higher rate of attempted suicide in those underweight – a U-shaped curve.

Hicinbothem, et al. (2006) studied people using a body modification website. Having body modifications (e.g., piercings, tattoos, scarification and surgical procedures) was associated with a higher incidence of prior attempted suicide. Controls for self-reported depression weakened the strength of these associations. They noted that similar associations were found for suicidal ideation, but the data for this are not reported. Suicidal ideation and attempts were also associated with sex and depression.

In a study of 21-24 year-olds in in the community in Quebec (Canada), Brezo, et al. (2006) found that lifetime attempted suicide was predicted by suicidal ideation, lifetime comordidity, childhood sexual abuse, and conduct problems. Current suicidal ideation was predicted by identifty problems, conduct problems and attempted suicide positively and social support and impulstivity-by-gender negatively. Many other variables differentiated the suicidal from nonsuicidal subjects taken one at a time.

Kapur, et al. (2006) followed up for one year a large sample of patients presenting with attempted suicide or self-harm and failed to study the two types separately. Repeating the behavior was predicted by previous suicidal behavior, psychiatric treatment, being unemployed or registered sick, self-injury, alcohol misuse, and reporting suicidal plans or hallucinations at the time of the index episode.

Stanković, et al. (2006) found no differences in the Big Five scores of depressed patients who had attempted and those who had not. The patients scored higher on N, lower on O, C and E, and did not differ on A.

Clements-Nolle, et al. (2006) studied samples of M-to-F and F-to-M transgender individuals. Attempted was predicted by younger age (<25), depression, a history of treatment for substance abuse, a history of forced sex, gender-based discrimination and gender-based victimization.

In a study of Australians, Butterworth, et al. (2006) found that those receiving income support (the unemployed, lone mothers and the disabled) more often reported suicidal ideation and suicide attempts. However, those receiving income support also differed in socioeconomic status, age, educational qualification, experience of serious violence, loneliness, and experience of psychiatric disorders.

In a national survey, Goodwin and Roy-Byrne (2006) found that panic attacks and panic disorder were associated with past year and lifetime suicidal ideation even after controlling for comorbidity and childhood trauma. The same associations were found for past year attempted suicide, but not for lifetime attempted suicide. Goodwin and Roy-Byrne did not compare the ideators and attempters.

In a sample of Japanese GBQ men, Hidaka and Operario (2006) found that attempted suicide was associated with less education, anxiety, depression, low self-esteem, loneliness, being bullied at school, verbally harassed, having had sex with a female, finding a male partner through the internet, and disclosing their orientation to their parents.

Ashkar, et al. (2006) compared Israeli Arabs and Jews who had attempted suicide. The Arabs attempters were more often female, younger, less educated, more often with no psychiatric disorder, more often attempted when others were present, and had made fewer previous attempts.

Zhang, et al. (2006) compared attempted suicides in China with accident victims seen in the emergency. The attempters were younger, and more often women, never married, with a physical illness, and of lower socio-economic status. The attempters were more likely to believe in a religion-superstition, more likely to perceive gender inequality, and less likely to experience support from either family or community.

In a sample of Finnish attempted suicides, Valtonen, et al. (2006b) found that they peaked in Autumn and had a trough in the winter. They peaked from 4 pm to 3 am. Patients with substance use disorders were relatively more common at weekends than those with mood disorders followed by those with schizophrenia. Attempters tended to contact health services in the late evening and around midnight.

Durant, et al. (2006) compared young adults who had made a nearly lethal suicide attempt with healthy controls. The attempters were more often male and alcoholics and had higher scores for depression and hopelessness. The role of hopelessness was stronger for African Americans than for whites.

In a sample of 18-24 year-olds, Donald, et al. (2006) compared those making serious suicide attempts with healthy controls. Predictors of attempted suicide were early school leaving, parental divorce (males only), distress due to problems with parents (females only), distress due to problems with friends, distress due to the break-up of a romantic relationship, tobacco use, high alcohol use, current depressive symptomatology and a previous diagnosis of depression. Protective factors included social connectedness, problem-solving confidence and locus of control.

In a sample of undergraduates with suicidal ideation or prior suicide attempts, Witte, et al. (2006b) administered scales for depression, hopelessness and suicide probability every day for four weeks. The suicidal ideation score varied over the four weeks, and multiple attempt status predicted a decreased association between suicidal ideation and depression.

Starkman (2006) compared attempted suicides in one health center in Michigan for the two years prior to and the two years after the 9/11 attack in America. The number of attempters increased by 49%, declining steadily during the two-year follow-up. The attempters in the two time periods did not differ in age, gender, prior suicide attempts, prior psychiatric treatment, alcohol abuse, substance abuse, depression or psychosis.

Pico-Alfonso, et al. (2006) found that women who were physically/psychologically abused more often had suicidal ideation. Sexual violence along with physical/psychological abuse was associated with attempted suicide.

Lhomond and Saurel-Cubizolles (2006) compared women who had had sex with women (WSW) with those who had sex only with men. The WSW group had more often experience physical violence and attempted suicide. The physical aggression was most often by men, but this was not reported by group. The two groups also differed on many other factors, but these were not placed into a multiple regression or factor analysis.

In a sample of Dutch adults, de Graaf, et al. (2006) found that homosexual men more often reported suicidal ideation and suicide attempts than heterosexual men. For women, only one measure of suicidal ideation was more common in the homosexual women. Homosexuals who perceived discrimination and older homosexuals were more likely to report suicidal ideation.

Iancu, et al. (2006) found that past suicide attempts, past suicidal ideation and current suicidal ideation in a small sample of schizophrenic patients did not differ between smokers and non-smokers. Smokers, however, had higher scores on a suicide risk scale. For the whole sample, the suicide risk score was predicted by smoking and a past suicide attempt (a variable which presumably was on the suicide risk scale!). For men, suicide risk was predicted only by the overall PANSS score. For women, suicide risk was predicted by the number of packs per day times the number of years of smoking.

In a study of college students, Stephenson, et al. (2006) found that serious suicidal ideation in the past year was predicted by depression, hopelessness, having been in a fight, alcohol in the last thirty days and attempted sexual penetration. Marijuana use, GPA, reports of physical assault, and credit card debt did not contribute to the prediction of suicidal ideation. For men the predictors were feeling hopeless in the previous year, how often the students reported feeling depressed in the previous year and being the victim of a physical (non-sexual) assault in the previous year. For women, the predictors were hopeless, depression, being sexually assaulted and consuming alcohol in the past 30 days. For men and women combined, past year attempted suicide was predicted by depression and consuming alcohol in the past 30 days.

Adults with Psychopathology

In a one-year follow-up of discharged psychiatric patients, Skeem, et al. (2006) found that attempting suicide in that year was associated with being female, depressed and employed, although the presentation of the data and results are very poor and difficult to interpret and do not match their assertions.

In a sample of psychiatric outpatients, van Orden, et al. (2006) found that perceived burdensomeness and hopelessness (as well as depression and personality disorder) predicted prior attempted suicide and current suicidal ideation.

Grava, et al. (2006) found that attempted suicides with different diagnoses differed in demographic variables as well as psychological variables such as helplessness.

In a sample of military psychiatric patients, Pettit, et al. (2006) found that negative life events did not predict attempted suicide in those with early onset bipolar disorder, but was associated with attempted suicide in those with early onset major depression or anxiety disorders.

Balestrieri, et al. (2006) studied psychiatric patients with different diagnoses but failed to compare those with ideation and those with past attempted suicide. However, they found that suicidal ideation and plans were more common in unipolar depression and bipolar disorder than in borderline personality disorder, whereas the reverse was true for suicidal attempts. In each group of patients, the number and the type of mood spectrum items endorsed (e.g., depressive and manic-hypomanic items, and vegetative symptoms) and rhythmicity (e.g., sensitivity to changes in weather and season) were associated with increased levels of suicidality.

Suominen and Lónnqvist (2006) found that older age, psychotic disorder, mood disorder, lack of alcohol consumption preceding the attempt, somatic illness, suicide attempt on a weekday, previous psychiatric treatment, psychiatric consultation and the hospital treating the suicide attempt predicted which attempted suicides were psychiatrically hospitalized.

In a sample of patients with major depression over the age of 50, Hirsch, et al. (2006) found that suicidal ideation and a history of attempted suicide was negatively associated with higher future orientation scores, but future orientation was not associated with recent attempted suicide. They did not compare the ideators and attempters with statistical tests, and future orientation sounds a lot like hopelessness which has been documented in suicidal individuals.

In a study of psychiatric inpatients, Sansone, et al. (2006) found that those who had attempted suicide also had a higher incidence of a variety of self-harm behaviors, such as self-mutilation, substance abuse and self-defeating thoughts.

Affective Disorder

Baca-García, et al. (2006) compared samples of attempted suicides with major depression and healthy controls in the United States and Spain. Depressed attempters in New York City made attempts of greater lethality and reported more lifetime agression (as did the healthy controls) than the Madrid sample.

Pompili, et al. (2006b) compared patients with affective disorders who attempted suicide with those who did not do so. The attempters were more often men, single, bipolar, substance abusing and unemployed.

In a study of patients with affective disorders, Zalsman, et al. (2006) found that the lethality of attempted suicide tended to be higher among bipolar disorder attempters compared with those with major depressive disorder. There were no differences in the number of suicide attempts, intent to die or suicidal ideation. Bipolar suicide attempters had higher levels of aggression and impulsivity but less hopelessness compared with major depression attempters. The groups did not differ in Cluster B personality disorder comorbidity.

In a 18 month follow-up of patients with bipolar disorder, Valtonen, et al. (2006a) found that attempting suicide was predicted by baseline previous suicide attempts, hopelessness, depressive phase at index episode and younger age at intake, but not by bipolar I or II, or comorbidity.

In a sample of patients with major depression with and without comorbid borderline personality disorder, Keilp, et al. (2006) found no differences between the attempted suicides and the other patients in impulsivity or hostility, but the attempters scored higher in aggressiveness in each of the two subgroups of patients.

In a sample of depressed psychiatric inpatients who reported childhood abuse, Dervic, et al. (2006b) found that those who had attempted suicide were younger, had higher depression severity and suicidal ideation, higher trait aggression and more often cluster B personality disorder comorbidity, less coping potential, and fewer moral objections to suicide on the Reasons for Living scale.

In a sample of depressed patients, Dervic, et al. (2006d) found that those with comorbid cluster B personality disorders had more often attempted suicide.

Attempted suicide and suicidal ideation were both predicted by scores on the Reasons for Living scale and aggression scores.

Galfalvy, et al. (2006) studied bipolar patients presenting with a major depressive disorder. Attempted suicide in the follow-up was predicted by a family history of suicide acts, and comorbid borderline personality disorder predicted early attempts. Past and future attempts were predicted by younger age, high hostility scores, number of past attempts, subjective pessimism as reflected in depression, suicidal ideation, and fewer reported reasons for living.

Grunebaum, et al. (2006) found that greater recent suicidal ideation, more psychiatric hospitalizations, lifetime aggressive traits and an earlier age at onset of a first mood episode predicted past attempted suicide in patients with bipolar disorder.

In a study of depressed attempted suicides versus healthy controls, Rothenhäusler, et al. (2006) found no differences in soluble interleukin-2 receptor concentrations in their plasma. The attempted suicides had a higher score for harm avoidance and a lower score for self-directedness.

Caetano, et al. (2006) compared bipolar children and adolescents who had a lifetime history of psychotic symptoms and those without psychotic symptoms. Those with a lifetime history of psychotic symptoms were more likely to have thoughts of death, suicidal ideation and suicidal plans and more likely to have been hospitalized.

In a sample of patients with major depression who had attempted suicide, Brodsky, et al. (2006) compared those with comorbid borderline personality disorder (BPD) with those without BPD. The attempters with BPD were younger, had made more lifetime attempts and at a younger age, and more often attempted suicide in response to an interpersonal trigger. Those with BPD scored higher on scales to measure aggressiveness, hostility and impulsivity, but not depression, hopelessness or childhood abuse.

Harkarvy-Friedman, et al. (2006) compared bipolar I and II patients who had attempted suicide with healthy controls. “Participants with BPI and BPII performed significantly more poorly than healthy controls on tests of Digit Symbol Test of psychomotor functioning, the N Back Test of working memory and the Go-No-Go Test of impulsiveness. Participants with BPI were significantly worse than controls but not those with BPII on the Test of Verbal Fluency. Participants with

BPII performed significantly worse than either controls or those with BPI on the Simple Reaction Time Motor Test and the Stroop Test of attention." (p. 255).

In a study of patients with and without a suicide attempt and major depression, Leibetseder, et al. (2006) found that patients who had attempted suicide, with or without a major depression, and those with just a major depression had impaired autobiographical memory compared to patients with neither.

Schizophrenia

Strauss, et al. (2006a) studied male veterans with schizophrenia. Suicidal ideation and attempted suicide weere associated with comorbid PTSD, significantly so for suicidal ideation.

In samples of patients with schizophrenia or schizoaffective disorder, Bhatia, et al. (2006) found that a diagnosis of schizoaffective disorder, history of depression, pattern of symptoms and educational status were associated with suicide attempts in an American sample, but not in an Indian sample.

Acosta, et al. (2006) identified two types of attempted suicides in a sample of schizophrenic patients: psychotic motivation and depressive motivation.The depressive group had greater educational level, age, and duration of illness, and more frequent previous suicide attempts. After one year, the depressive group had higher depression and hopelessness scores.

Clarke, et al. (2006a) studied patients with untreated psychosis and after a four-year follow-up. Attempted suicide prior to baseline was associated with a longer duration of untreated psychosis. Prior attempts were not associated with gender, age at onset of psychosis, years in education, lifetime history of alcohol abuse, lifetime history of substance misuse, diagnosis (schizophrenia or not), positive symptoms at presentation, negative symptoms at presentation or insight scores. Attempted suicide during the 4-year follow-up was predicted only by younger age of onset of psychosis and not by previous suicide attempts, gender, age at onset of psychosis, years in education, duration of untreated psychosis, diagnosis, positive symptoms, negative symptoms, insight and global functioning measured at baseline.

Nangle, et al. (2006) compared schizophrenic patients who had attempted suicide with those who had not done so. The attempters were younger, had a higher PANSS positive symptom score but did not differ in PANSS negative symptoms,

depression or insight. The attempters scored better on neurocognitive tasks of attention and verbal fluency, suggesting better cognitive functioning which may aid planning and executing a suicide attempt.

Other Disorders

Harned, et al. (2006) compared female psychiatric outpatients with PTSD and comorbid substance abuse who had self-harmed (self-harm or attempted suicide combined). Women who had self-harmed scored lower on reasons for living and were more often dependent on alcohol and less often on opioids, but not in the number or type of traumatic experiences, age at first trauma or demographic variables (age, race, marital status, and employment status).

Nickel, et al. (2006) compared bulimic (purging type) women with women with major depression (with no comorbid patients included in the study), all of whom had attempted suicide in a one-year follow-up. Attempting suicide in the bulimic patients was predicted by a history of sexual abuse in childhood, abuse of laxatives and illicit drugs; a lack of orientation in life, feeling lonely despite family and friends, directing their anger out ward, and unable to relax. Attempting suicide in the patients with major depression was predicted by prior attempted suicide, being alone as a child, hopelessness, alcohol use, smoking, little contact with neighbors or relatives, anger-in, and perceived poor body appearance.

Prisoners

Tartaro and Ruddell (2006) found that smaller American jails had higher rates of attempted suicide than larger jails. The rate of attempted suicide was positively associated with a higher rate of admissions, overcrowding, a higher concentration of special needs inmates, and more long-term inmates

Wasserman and McReynolds (2006) studied a sample of juveniles entering probation. Re cent suicide attempts were more common in girls, those with depression or substance abuse disorder, and violent offenders.

In eleven samples of prisoners and one sample of psychiatric patients, Douglas, et al. (2006) found a small but partial correlation between the behavioral/impulsive lifestyle features of psychopathy and suicidal ideation and attempts, but no effect for affective/interpersonal features. Several variables (measurement format and the age and mental illness of the sample) impacted this association.

Addicts

Deisenhammer, et al. (2006) studied alcohol-dependent patients in treatment. Lifetime suicide attempters were younger, more often smokers, had more often co-abused benzodiazepines, and currently scored higher on a depression scale and for suicidal ideation. They also had higher serum triglyceride levels. Attempters who had used a violent method were more often male, younger, and had less frequently co-abused tranquilizers.

Roy (2006) studied a sample of abstinent drug-dependent patients with a family history of suicidal behavior (suicide or attempted suicide). Those who had attempted suicide scored higher for impulsivity and risk-taking.

Agosti and Levin (2006) studied drug-dependent patients. Those with past suicide attempts had higher rates of suicidal ideation, major depression (current and lifetime), antisocial personality disorder, panic disorder (lifetime), and drug overdoses. Female gender, Caucasian race, and never-married marital status were associated with suicide attempts, but not the particular drug abused. In the one-year follow-up, suicide attempters were more likely to have attempted suicide, to have had suicidal ideation, and to have had major depression than those who did not attempt suicide during the follow-up.

In a study of alcohol-dependent patients, Preuss, et al. (2006) found that a history of attempted suicide was associated with several Cluster A, cluster B and Cluster C personality disorders. In a multiple regression, attempted suicide was predicted by living alone, paranoid personality disorder, histrionic personality disorders and borderline personality disorder.

Roy and Janal (2006) studied abstinent substance dependent patients in treatment. The females had higher rates of attempted suicide than did the men and a higher score on the Childhood Trauma Questionnaire. Sex and childhood sexual abuse predicted attempted suicide, but there was no interaction term for the two predictors.

In a sample of substance abusers, Landheim, et al. (2006) found that lifetime attempted suicide was higher in poly-substance abusers than in alcoholics. Attempted suicide was associated with a duration of substance abuse of 6-15 years, an early onset (<18 years of age), eating disorders, agoraphobia and major depression.

Tiet, et al. (2006b) studied male veterans with substance abuse disorder. Those who had been recently sexually or physically abused in the past 30 days were more likely than those who had not experienced such abuse to have attempted suicide recently. Recent sexual abuse, recent physical abuse, and lifetime sexual abuse were significantly associated with a higher likelihood of a recent suicide attempt.

In s sample of substance dependent male patients, Evren and Evren (2006) found that those who had attempted suicide were younger, more often single, with higher rates of physical, emotional abuse and neglect, self-mutilation and being alexithymic, while age at first substance use and regular substance use were lower The attempters scored higher for difficulty in identifying feelings and difficulty in describing feelings but, on the TCI, self-directedness and cooperativeness were lower

Gamblers

In a study of pathological gamblers in treatment, Battersby, et al. (2006) found a high incidence of recent suicidal ideation and attempts. Suicidal behavior was associated with the pathological gambling score, the amount of gambling debt, alcohol dependence, and depression, but not sex, living arrangements or recent treatment for depression.

In a national sample of young adults, Feigelman, et al. (2006) found that risky gambling behavior and depression predicted suicidal ideation and attempts. As well as sex and religious attendance, binge drinking was associated with suicidal ideation but not attempted suicide.

Medical Issues

In an Icelandic population, Hesdorffer, et al. (2006) found that attempted suicide was found to be more common among people with unprovoked seizures than in controls, even after adjusting for age, sex, alcohol intake, and major depression.

In a sample of HIV-positive men, Shelton, et al. (2006) found that suicidal ideaiton and attempts were more common in white men than in Hispanic and African American men.

In a community sample of the elderly, Artero, et al. (2006) found that the presence of coronary artery disease predicted lifetime attempted suicide along with depression and being female.

Studies of Suicidal Ideation

Methodological Issues

Healy, et al. (2006) compared clinician ratings of suicidality with scores on the Beck Scale for Suicide Ideation (BSI), but they do not provide the degree of concordance. However, the predictors of suicidality differed for clinicians and the SIS. For example, retired versus unemployed was a rpredictor for both measures, while passive-aggressive personality versus Cluster B personality disorder predictor only BSI scores.

Children and Youths

In a sample of teenagers in Singapore, Ang and Huan (2006) found that suicide ideation was predicted by depression and academic stress.

In a sample of urban 9-10 year-olds, O'Leary, et al (2006) found that suicidal ideation associated with depression, exposure to violence, and distress symptoms in response to witnessing violence but maternal prenatal cocaine exposure, parent-rated child behavior, and caregivers' psychological distress symptoms were not.

Reinherz, et al. (2006) followed up a cohort aged five at baseline for 25 years. Those with suicidal ideation at age 15 were more likely at age 30 to have an Axis I disorder, to have attempted suicide, to have more problem behaviors and poorer overall functioning and lower scores for self-perception of coping ability, self-esteem and interpersonal relations. The males with suicidal ideation had lower salaries and socioeconomic status and were less likely to have achieved residential in dependence.

In South Korean adolscents, Kim, et al. (2006c) found that internet addiction was positively associated with depression and suicidal ideation scores.

In a study of young Native Americans aged 9-16, Yoder, et al. (2006) found that suicidal ideation was associated with sex (females more), enculturation (into

Native American culture), negative life events, perceived discrimination, self-esteem, and drug use.

In a study of Hong Kong adolescents, Sun, et al. (2006) found that suicidal ideation was positively associated with family conflicts and depression and negatively with family cohesion, family expressiveness, teacher support and self-esteem. Sun, et al. proposed a mediation/pathway analysis, but depression was by far the strongest predictor of suicidal ideation

In a sample of Canadian rural high school students, Armstrong and Manion (2006) found that geographic distance from school a risk factor for suicidal ideation in males. Youth engagement in extracurricular activities was associated with lower levels of suicidal ideation.

Randell, et al. (2006) studied a sample of potential high school drop-outs for their predicted suicidal risk (using an inventory). Suicide risk was associated with perceived conflict with parents, unmet family goals, and family depression, and negatively with perceived parental involvement and family support for school.

In a study of Chinese female students of high school age, Chen, et al. (2006b) found that contact childhood sexual abuse (but not non-contact childhood sexual abuse) was associated with suicidal ideation and depression.

In a study of Irish adolescents, Lynch, et al. (2006) identified those at risk for a psychiatric disorder. Those so identified were more likely to have suicidal ideation and had attempted suicide.

Kay and Francis (2006) studied English and Welsh adolescents aged 13-15. Suicidal ideation was positively associated with neuroticism and psychoticism, negatively associated with church attendance, but not with team sports participation. Those with both parents alive had lower suicidal ideation scores.

In a sample of Canadian adolescents, Greenfield, et al. (2006) found no differences in suicidal ideation between those with parents born in Canada or America, those born to immigrants and those born to mixed parents.

In Hong Kong female adolescents, Lee, et al. (2006b) found that suicidal ideation was associated with depression, test anxiety, academic self-concept, and adolescents' perceived parental dissatisfaction with their academic performance. In

a study of boys and girls, they found that suicidal ideation was associated with low levels of family cohesion and support and high levels of parent-adolescent conflict.

Adults

In a sample of college students, Cukrowicz, et al. (2006) found that nightmares, and depression predicted suicidal ideation. The association between insomnia and suicidal ideation was significant but weak.

In a sample of university students at a commuter university, Gillman, et al. (2006) found that serious suicidal ideation was associated with living off campus, emotionally abused, in only fair health, being assaulted, experiencing unwanted sexual touching, being not heterosexual, and unemployment.

In a sample of Turkish university students, Gençöz and Or (2006) found that scores on a suicide probability scale were associated with family cohesion after controlling for gender, age, living with family versus away from family, GPA and mood related variables (i.e., depressive symptoms, and positive and negative affect).

Hunt, et al. (2006b) studied community adults in Scotland who were young (mean age 23), middle-aged (mean age 43) and elderly (mean age 63). Suicidal ideation was more comon in the young adults and, in this group, in women. Feminity scores were not associated weith suicidal ideation, but masculinity scores In the middle aged, masculinity scores were negatively related to suicidal ideation and more traditional views on gender roles were positively associated with suicidal ideation.

In a study of university students, Innamorati, et al. (2006) found that suicidal ideation (but not attempts) was associated with the Type A behavior pattern and aggression scores.

In a study of calls to a hotline for police officers in New Jersey, Violanti, et al. (2006) found an increase in cals regarding suicidal ideation and in urgent calls for the three years after the 9/11 attack on the Twin Towers in New york City.

In a study of Hong Kong residents, Liu, et al. (2006a) found that past-year suicidal ideation was predicted by depression, hopelessness, life distress, anxiety, psychiatric histyory, marital status, and relationship break-up.

In a study of college students, Hirsch and Conner (2006) found that suicidal ideation was associated positively with hopelessness and depression and negatively with explanatory style optimism (but not with dispositional style optimism).

Casey, et al. (2006) surveyed people in five European countries and found that suicidal ideation was associated with a younger age, being not married, depressed mood, life events, no one to count on, and no concern from others.

In a study of elderly GP patients in Australia, Pfaff, et al. (2006) found that birth month was not associated with suicidal ideation (focusing on those born during the flu season in the Northern or Southern hemispheres).

In a study of college students, Gibb, et al. (2006a) found that, among men, levels of hopelessness and depressive symptoms in males (but not in females) were associated with suicidal ideation only for those with relatively positive attitudes toward suicide.

In a poorly designed and poorly reported paper, Smith, et al. (2006) combined two groups of university students rated as high or low risk of suicide (based on scale of cognitive dysfunction) and found that suicidal ideation was predicted by hopelessness and rumination. They do not report the correlations separately for the two groups.

In a sample of suicidal young adults, Shahar, et al. (2006) found synchronous, but not longitudinal associations between hopelessness, depressive symptoms, and suicidal ideation.

In a sample of Norwegian university students, Chioqueta and Stiles (2006) found that suicidal ideation was associated with depression and hopelessness.

In a study of young adults (15-24) in Nicaragua, Rodríguez, et al. (2006) found that suicidal ideation was not associated with socio-demographic factors such as poverty or educational level but was more common in those exposed to suicidal behavior in significant others.

In a community survey, Goldstein and Levitt (2006) found that the level of alcohol use was related to suicidality (undefined) in women but not in men.

In a sample of elderly (>65) receiving homecare services, Rowe, et al. (2006b) found that suicidal ideation was associated with lower social interaction

patterns and lower perceived social support, negatively with satisfaction with their relationships and feeling useful for family and friends, but not with the size of their social network or instrumental support.

In a poorly presented study, Chou (2006) found that depression at baseline did not predict suicidal ideation in elderly residents in Hong Kong at an undetermined length of follow-up after controls for suicidal ideation at baseline.

In a sample of the general population in a Moroccan metropolitan region, Agoub, et al. (2006) found that suicidal ideation was associated with being non-married, having no children and having a psychiatric disorder.

In a study of Australian adult men, Abelson, et al. (2006) found that suicidal ideation was more common in homosexual and bisexual men than in heterosexual men. In all three groups, suicidal ideation was associated with experience of verbal abuse and physical assault (harassment), living alone and taking sexual risks.

In a sample of patients attending a primary care clinic, Pilowksy, et al. (2006) suicidal ideation was associated with panic disorder and major depressive disorder.

Patients with Psychopathology

In a sample of elderly psychiatric patients, Witte, et al. (2006a) found that the Scale for Suicidal Ideation had two factors: suicidal ideation/thoughts and resolved plans/preparation. Resolved plans was associated only with depression scores, while suicide ideation was associated with depression, hopelessness, unemployment and prior attempts.

Affective Disorder

Heisel, et al. (2006), in a study of depressed elderly (>50) psychiatric patients and found that suicidal ideation was positively associated with neuroticism and openness on the Big 5 inventory. Hopelessness and comorbidity did not contribute to the multiple regression.

In a study of patients with a major depressive disorder, Yoshimasu, et al. (2006a) found that suicidal ideation was associated with self-reproach, derealization (only for women), depressive moods, depersonalization, and trait anxiety in both men and women. Low social/family support and depersonalization

were associated with suicidal ideation in men, while depressive moods and state anxiety were associated with suicidal ideation in women.

In a sample of patients with major depression, Olgiati, et al. (2006) found that those with agitated depression (AD) had higher levels of suicidal ideation than non-AD controls. This difference was no longer significant after controlling for psychotic features. Excessive self-reproach, early awakening, diurnal changes, poor appetite, and hypomanic symptoms were independently associated with suicidal thoughts in non-psychotic patients.

Sokero, et al. (2006) followed up patients with major depression for 26 weeks. The duration of suicidal ideation was predicted by the level of baseline suicidal ideation, depressive symptoms, and the presence of any personality disorder. A decline in both depression and hopelessness independently predicted a decline in suicidal ideation.

In a sample of patients with affective disorders, Akiskal and Benazzi (2006) found that suicidal ideation was more common in bipolar-II patients than in those with major depression, and also associated with irritability, psychomotor agitation and racing/crowded thoughts, but not insomnia or a family history of bipolar disorder.

Houston, et al. (2006) found that suicidal ideation in mixed- episode, bipolar I disorder patients was associated with somatic discomfort, agitated depression, and psychosis.

Williams, et al. (2006) followed up patients with major depression. The level of suicidal ideation during a recurrence of major depression within the year was associated with the level at baseline. The same result was found for measures of guilt and worthlessness.

In a sample of depressed Holocaust survivors, Clarke, et al. (2006b) found that Holocaust survivors who were in concentration camps, work camps, ghettos, or in hiding were more likely to have PTSD and suicidal ideation than Holocaust survivors who were in Europe but had no Holocaust experiences.

Pompili, et al. (2006c) compared serious single-car crash survivors with controls. The crash victims differed on several Reasons for Living Scale scores, sometimes scoring higher and sometimes lower. The two groups did not differ for

suicidal ideation in the prior year or lifetime, but did score higher for being tired of living. The car crash victims had experienced more stressful life events.

Psychosis

In a study of psychiatric patients with psychosis, Fialko, et al. (2006) found that suicidal ideation was associated with depressed mood, anxiety, low self-esteem, negative illness perceptions, negative evaluative beliefs about the self and others, positive symptom distress and daily alcohol consumption, but not frequency of auditory hallucinations and preoccupation with delusions.

Drug Addiction

Klein, et al. (2006) found that suicidal ideation in African American woman who were cocaine addicts was associated with unemployment, sexual abuse, engaging in sexual relations to cope with stress, having less helpful relatives, having financial problems, having had a previous mental health diagnosis, experiencing anxiety and having lower levels of self-esteem.

Copersino, et al. (2008) compared pregnant, inner-city drug dependent women who had suicidal ideation with those who did not. The ideators were more often homeless, with histories of emotional, physical and sexual abuse, with past psychiatric treatment, and co-morbid current and lifetime psychiatric disorders, and less likely to be married.[32]

In a study of veterans in treatment for opiate addiction, Thompson, et al. (2006a) found that current suicidal ideation was associated with severe chronic pain, ongoing problems with street drugs, firearm ownership, and having recently enrolled in treatment, as well as a variety of recent negative life events and mental health issues (depression, recurring troubling thoughts, hallucinations), loss of employment, and conflicts with family members.

In a sample of 15-30 year-olds, Havens, et al. (2006) found that, after adjusting for age, gender and race, intravenous drug users (IDUs) were more likely than non-IDUs to report suicidal ideation. However, on further adjustment for homelessness, depressive symptoms and gay/lesbian/bisexual identity, IDU status was no longer independently associated with suicidal ideation.

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[32] This article came up in PsycInfo for 2006.

Prisoners

In a study of Greek male prisoners, Lekka, et al. (2006) found that suicidal ideation was associated with a family history of suicidal behavior, a history of psychiatric hospitalization, self-mutilation and attempted suicide, and anxiety and depression scores, but not to the type of crime or convicted/on remand.

In a sample of older adults, Heisel and Flett (2006) found that suicidal ideation was positively associated with depression, hopelessness and health problems and negatviely with life satisfaction and psychologically well-being.

Bonner (2006) found the prisoneners in segrated housing had higher levels of suicidal ideation and depression. Suicidal ideation was associated with mental health problem history, suicide attempt lethality history, and hopelessness.

Patients with Medical Problems

Edwards, et al. (2006) studied a large sample of patients with chronic pain. Suicidal ideation was associated with age, depression score, and the coping styles of praying and pain-related catastrophizing (not defined in the report). Pain severity was not associated with suicide ideation.

Larsson, et al. (2006) studied individuals with a 50% risk of getting Huntington's diease. After genetic testing, they compared the carriers and non-carriers. Psychiatric status predicted suicidal ideation. Carriers had more suicidal ideation and depression scores over time, but did not differ at baseline.

Yoshimasu, et al. (2006b) studied patients attending a psychosomatic clinic. They found that both insomnia and overall sleep disorders were associated with an increased risk of suicidal ideation, even after adjusting for depression and anxiety, especially in those without a major depressive disorder.

Robertson, et al. (2006) found that HIV seropositive individuals had an increased frequency and severity of suicidal ideation than did HIV seronegative individuals.

In patients with atopic dermatitis, Kimata (2006) found a positive association between suicidal ideation and the severity of dermatitis. The presence of murder-suicide ideation in the parents of the patients was associated with the severity of dermatitis.

Marusic and Goodwin (2006) studied male medical inpatients. Those with suicidal ideation had higher scores for emotional coping and for avoidance coping and lower scores for rational and detachment styles of coping.

Attitudes toward Suicide

In a study of Turkish nurses and dcotors, Demirkiran and Eskin (2006) found that nurses had more negative attitdues toward suicide than the doctors. The dctors believed more in the role of mental illness and biological reasons for suicide.

Pompili, et al. (2006d) found that depression and mania scores were associated with some reasons for living and with the total score (negatively for depression and positively for mania) in a sample of undergraduates.

Zadravec, et al. (2006) found that lay people prefer crisis, sociological and medical explanations of suicide whereas GPs and psychiatrists prefer medical and genetic explanations.

In a study of Japanese medical students, Sato, et al. (2006) found that sympathetic attitudes towards suicide increased over the three years while critical attitudes decereased. (The students were asked how they felt about suicides or attempted suicides.)

Voracek and Sonneck (2006) found that 80% of medical students in Austria did not believe in the existence of genetic factors in suicide, regardless of sex, age, year of study or knowledge of facts about suicide.

In a study of atttidues toward suicide of Ghanian immigrants to the United States, Eshun (2006) found that positive attitudes were stronger in those who had been in the United States longer and in those more psychologically acculturated (but not berhaviorally acculturated).

In a sample of undergraduates, Walker, et al. (2006) found that suicidal ideation was associated with attitudes toward suicide. Ideation was less common if life ownership was attributed to God rather than the individual orthe state, and if the student stigmatized suicide and also saw suicide as attributable to intrapsychic issues.

In a sample of South African high school students, Ramgoon, et al. (2006) found that scores on an ego identity development scale were associated with attraction to life on the MAST scale and negatively with repulsion by life. Indians and black students differed on their MAST scores.

Dervic, et al. (2006c) found that adolescents in New York City and Vienna (Austria) had different attitudes and knowledge about suicide. For example, the adolescents in Vienna more often attributed suicide to mental illness.

In a national survey of Americans, Miller, et al. (2006) found that the belief that, if suicides from the golden Gate Bridge had been stopped, they would have switched methods, was stronger in those who owned firearms and who smoked cigarettes, as well as being associated with personal chacteristics (being married, politically conservative).

Hjelmeland, et al. (2006) found that Norwegian and Ugandan university students had different attitudes toward suicide.

In a sample of American undergraduates, Lester and Walker (2006) found a surprsing amount of stigma against attempted suicides. For exampl,e, 52% would not date an attempted suicide, and 8% would not allow an attempted suicide to visit the United States for a two-week holiday.

Physician-Assisted Suicide (PAS)

In a study of long-term care social workers, Erlbaum-Zur (2006) found that a positive attitude toward PAS was weaker in Catholics and those with higher religiosity scores, in those who had worked longer in long-term care,

Ganzini, et al. (2006) studied family members of individuals with advanced cancer. Support for PAS for the patients was associated with low religiosity and their own personal health concerns. On the whole, family members and the patient had similar views on PAS.

Allen, et al. (2006) documented that Americans have supported PAS consistently from 1936 to 2000.

Goy, et al. (2006) surveyed hospice chaplains for their views on PAS. Chaplains opposed to PAS believed that God alone may take life, that life is an absolute good, and that suffering has a divine purpose. Those who supported PAS

emphasized the importance of self-determination and the sanctity of life as defined by the quality of life.

In a study of 5th-year German medical students, Schildmann, et al. (2006) found that those with experience with dying patients were more in favor of PAS.

Abdel-Khalek and Lester (2006), in a sample of Kuwaiti college students, found that approval of PAS was not significantly correlated with scores on trait anxiety, death depression or death obsession.

The Language of Suicide

Silerman (2006) discussed the various definitions proposed for aattempted suicide and other terms in the field of suicidology. De Leo, et al. (2006) propsed a nomenclature for suicial behavior.

Personal Comments

It is, of course, difficult to sum up what we can learn about suicide from this review. A great deal of research, but very few insights. In a separate paper, appearing in a later (hopefully the next) issue of *Suicide Studies*, I will review the research which focused on attempted suicide and measured intent to die (or the lethality of the attempt) to see what linear trends emerge.

The research reviewed here is from 2006, quite recent, and yet we find very poor research designs and sometimes bizarre statistics and, in addition, poorly presented research. For example, studies were published that compared depressed suicidal pattients with healthy controls. Researchers reported confidence interevals for the socio-demographic variables of the sample. (Were they not sure of their ability to count?). etcetera. I continue to be surrpised by the laxity of editors and reviewers.

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