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SUICIDE NOTES OF CHINESE YOUTHS

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There has been a growth of interest in suicide in China in recent years. Many have consisted of analyses of epidemiological data on suicide rates by sex, age, method and urban/rural location, while others have consisted only of speculation of the causes of the high Chinese suicide rate without any supporting data. There have also been some psychological studies of suicide using samples of Chinese residents. This is the first paper on suicide notes from China.

The present paper is based on 17 suicide notes written by Chinese youths and young adults published by Zhang (1987). All of the notes reproduced in Zhang's book have been translated for the present paper.

The 17 suicide notes are from 8 males and 9 females whose ages ranged from 16 to 28 with a median age of 22. Seven suicides used solids or liquids (two overdoses and five poisons), four used hanging and two drowning, two jumped in front of trains, one jumped from high, and one electrocuted himself. There are too few notes for a meaningful content analysis to be conducted or for a comparison with notes from other nations.¹ However, some observations can be made from the notes.

First, six of the notes reflect an angry mood (numbers 7, 11, 13, 14, 16, and 17). Four Of these notes display general anger toward the people in general, one toward parents and one toward a lover. Anger is often found in suicide notes from the United States. Menninger (1938) suggested that outward-directed anger was one of the three themes found in suicide notes, a theme he labeled as "to kill." The frequency of anger in these notes from Chinese youths seems higher than in other

¹ Antoon Leenaars (personal communication) has suggested that a minimum of 30 notes is required for a meaningful content analysis

samples we have studied. The anger at society seems to suggest a strong need to connect to society (and to the family) and unhappiness when the youths cannot connect or bring themselves to conform, rather than experiencing pleasure in youthful rebellion.

Four of the notes contained self-criticism (numbers 6, 10, 11, and 12), while two others talked of sins that the writers had committed (numbers 12 and 14). Again, this self-directed anger (a theme which Menninger labeled as "to be killed") seems to be more common in these notes than in other samples we have studied. Several of the notes indicate, or imply, shame: for example, number 12 for getting his girlfriend pregnant and number 14 whose reputation is ruined. Shame is a motive for suicide which has been neglected in most Western psychodynamic explorations of suicide (Lester, 1997) but which merits closer attention, especially in other cultures.

It has been observed that the suicides of younger individuals are more often precipitated by interpersonal friction than the suicides of older individuals. This seems to be the case here. Five suicides were precipitated by romantic or love crises (numbers 1, 4, 5, 9 and 4), three others by marital crises (12, 15 and 16), and one by family conflict (number 11), accounting for more than half of the suicides. Psychiatric disturbance was present in only four of the suicides (numbers 7, 8, 10 and 17), while work crises were present in three of the suicides (numbers 3, 6 and 13).

It would be most informative to collect larger samples of suicide notes, varying in age and sex, in order that comparisons could be made with other samples of suicide notes available from Western nations.

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Appendix: Chinese Suicide Notes from Individuals Aged 16 to 28 Years

1: Male, 25, teacher, poison

My, dear, you'll probably never see me again, but I don't really want to leave you. You are my wife in the eyes of everyone.

2: Female, 23, student, jumping

The old me is dead, the new me has jumped to its death.

3: Male, 24, student, jumped in front of train

Too much pain!

4: Female, 20, student, overdose

There are two goals in this life: a career and love.

5: Female, 28, postgraduate, poison

I resented it that I couldn't follow my mother in death.

6: Male, 23, college student, jumped in front of train

I lack willpower in whatever I try to do. I have lost my confidence and find no pleasure in life.

7: Male, 26, postgraduate, electrocution

Thinking made life worthwhile, but thinking also led me to death. I shan't be remembered either with reverence or as a devil. All my life I've had to suppress my desires.

8: Male, 22, student, hanging

I live only for a single goal - love.

9: Female, 16, student, poison

Whenever I came home from school in the dusk, i always saw farmers with ragged clothes laboring very hard in the fields. Why were they so poverty-stricken? I hated hypocrisy, and I despised people who lied and were afraid of telling the truth. However, I was warned by my elders many times in the past that, "There is no reward for telling the truth." All friends and friendships are false. Some advised mc that I should not trust others and should not be truthful. I never paid attention. I believed firmly that my straightforwardness and honesty would never change except to become more straightforward and true. I would rather suffer than sacrifice my humanity.

My teacher acted lewdly toward me a couple of times. I felt so disgusted and anxious. The dull atmosphere in school, the cold relationships between people, the blossoming of love too early, all this oppressed my heart. I felt suffocated. I couldn't live like this. I was not interested in school. I really wanted to leave this disturbing world and escape reality. Let the nearby river, the hazy mountain, and the drizzling rain stay poetic.

People, oh people! Tricky, superficial, slimy, dirty and odd people! You are all superficial and disgusting.

You're not willing to leave this dirty world - a voice said. But I am too weak, and I do not have enough Courage. Please rescue me! Help me! Let me be free and liberated!

10: Male, 24, student, hanging

(1) Suicide note to parents

Dad and Mom:

I am going. This is probably my last cry to you. You devoted yourselves entirely to my sister and me. From childhood to adulthood, from poverty to comfort, you have provided us with affection. Why do I choose this alternative? I cannot explain it clearly, but here are some possible reasons. (i) Ever since I was little, I never developed any competitive ability. I don't joke around. I prefer to be quiet rather than athletic. And I dislike arguing. (ii) I don't like to socialize with people, and I can't tell right from wrong. (iii) I concentrated only on learning and excelled in school, and I didn't nurture other abilities. All these factors led to my decision.

(2) Suicide note to friends

I was brought up in a family devoted to academic achievement. I was raised to listen to the elderly and to teachers. I was not allowed to develop my own thoughts. Prudence is a virtue that you want your children to have,

along with education. However, so far, I have become a person who is useless to society. is the value of my existence?

(3) Suicide note to girlfriend

Society is a puzzle to me! Even though I have lived for twenty-four years, I understand very little about society. Now I think that one should decide what to do even when you are little, how to differentiate right from wrong. One should learn to become independent. All these are beneficial for life.

11: Female, 17, student, drowning

Dear Mom, Brother, and Sister:

I am going, probably forever. I have lived too long. Seventeen years. How painful? How much worry? How much fear? Seventeen humiliating years!

Yes, you have saved me three times - first in giving birth to me, secondly my disappearance in xxx, and thirdly you stopped me from killing myself. However, you only preserved a physical body, its soul was destroyed long ago.

I have never felt my family's warmth and laughter. All I got was discrimination and disdain from my parents, and beatings from my brother and sister. How could I forget? I am human after all. I am not a three-year-old. I have my dignity. (A summary of abuses and beatings followed.)

I am too cowardly. Don't I know how to resist? No, I am not afraid of you. What I'm afraid of is destiny.

Yes, I am dull, a worrywart, and I have no sense of humor. In this family, filled with verbal insults, such as "bastard" and "bitch," any carelessness led to abuse and scoldings. Can I ever be happy? This is why I do not come home for lunch. I would rather starve than stay a moment longer at home. I should have been happier at boarding school. On the contrary, my inferiority complex was so deeply rooted in my heart that it was hard to uproot. As I grew older, I gained more knowledge, and my thinking matured, but my problems caused me more pain. My psychological scars were never going to heal. At school I had a few close friends, but now I have nothing. I am filled with desolation and bitterness.

Life is like a dream. But I do miss something in life. I wrote a poem myself: "Life seems like a dream. After waking up from a dream, you realize everything is in vain. I lift my head and sigh at life. Hopefully it is not like the bell tolling from the Buddhist temple."

My feeling of desolation made me seek love. I used to hate young love. But I changed my mind. After all, I am flesh and blood. I want support.

I am not interested in studying. My life is boring. All day it is filled with loneliness, fear, and worry. Who knows how I feel? Who understands me, sympathizes with me, consoles me? I miss my childhood. The past is over, no lingering, no traces. The only thing left is regret. No warmth, no comfort. How many times have you pulled me abruptly from my bed, violently beating me? How much hair was pulled out? There were bruises all over my body from the beatings from my family. I suspected many times that I was not your biological child. Do you know? You are my enemies. Who would believe that a girl's enemies are her folks.

Dad, Mom, I am filled with conflict over you in my heart. You should have been a support for me. But what have you given me? Please remember that I am the result of your love. After I die, make sure you spread my ashes on the river. I could not be happy. I want to flow vibrantly with the water.

12: Male, 19, student, poison

To Parents, Brothers and Sisters,

I feel very sorry for you. My parents raised me, but I will be gone before I've had the chance to pay them back. You will be astonished by my action. Actually, I just learned the truth myself a day before my suicide. It is sudden indeed.

Last year I failed the specialty exam. I was not upset by it. I started studying and devoted myself more than before. I was hoping to devour books so as to fill my young and innocent mind. As time passed, I gradually learned more and more. I was happy and cheerful. Nonetheless, it was too early for me to be happy. On one occasion by chance, I read "The Heart of a Young Maiden," "Compassionate and Compatible," "A Quiet Night," "First Love," etc. - pornographic novels. Ever since then, my world has changed. I have changed. My interest in reading focused more on embracing, kissing, lovemaking, etc. in order to arouse me sexually. Once I got excited, I could not resist. I found myself slipping away uncontrollably and my self-control vanished.

I knew I was sinking. I regretted it. Oh, God! I cannot do this. I used to have ideals. I tried to help myself. It distressed me. I felt mad. I even wanted to cut off my fingers to pledge my determination or blind myself, or burn all the books. However, how could I burn off the poisonous thoughts? I regretted reading so many bad books, learning so much about it. Even

though I close my eyes, the words from those books are vivid in front of me. I behaved sinfully and committed crimes for which I could be accused in the court. How horrid! Rather than sin, I choose to die early. I have no alternative. I can only burn the present me and leave you the past me. How horrid? I am afraid of death. I don't want to die. However, what is the point of living? Unfortunately, I am only nineteen.

Brother, Sister, I am going to die soon. I hope that you learn better how to serve the people and not become bewitched by pornography.

Yesterday I met xxx. She is pregnant because of me and that is the reason for my death. If she wants to kill herself, you have to save her.

Dear Father, Mom, Brother, and Sister: Farewell. I hope you remember me as one of this family.

13: Male, 23, student, hanging

In my brief twenty-three years, I've had ups and downs and been wounded all over my body. However, I don't complain about life because of that. I continued to face life honestly. I want to start over and begin a new life. However, I don't know why there are so many constraints in life. I thought about it a lot but got nowhere. When you stumble, others say you are incompetent. If you stop for a while, others blame you for not going further. If you improve a bit, others are sarcastic, butter you up or let you show off.

I had innocent dreams. I've had happiness. I pursued the clouds, the birds, and the flowing stream.

In September 1976, when I entered middle school, my dream was crushed. One mischievous classmate wrote a note to a girl, and the teacher thought it was me and asked me to confess. I was forced to confess and became a "target" in school.

I discovered for the first time that people's hearts can be so black and their souls so dirty. The world is not as nice as we imagine. My morals and my integrity were impugned.

I've thought about death before, yet I did not die. I wanted revenge against those people who stabbed me in the back, who gave me no love but only hatred. The only hope I had was to grow up quickly.

I've sat calmly and thought seriously. I hoped that I would be able to become something in the future. However, why is life so disturbing and tumultuous? I've tried very hard to control myself, hoping that I would be

able to sail through life without sinking, but I do not know how long I can hold on. I feel I have hardly any strength left.

I am wandering. I do not know why this is the case. The person who wants so dearly to live is often the one who cannot do it. The person who tries very hard to achieve is the one who gets endless pain. I can't understand it. There are many people who are doing nothing at all, but they are coping quite well. I don't understand what the relationship should be between the individual and society. I feel pain and I am lost.

14: Female, 28, physician, overdose

Life has not been fair to me. The pain in the past few years has been unbearable. I love my reputation more than my life. Now that I am physically hurt, and my reputation is also ruined, what is the point of living? I think about death. But I see my two innocent kids. What will my death do to them? I cannot stand the thought. I can see the family breaking down. My heart is hurting as if it had been knifed. Am I really an immoral person? How I hate this! I hate my weakness and naivete. I hate those people who look human, put on the mask of kindness, but behave despicably.

15: Female, 21, employed, drowning

I discovered accidentally that he'd written this in his diary: "In the last two years, I've been tortured by my feelings. It has made me very unhappy all the time. When can I be relieved from the shackles of love? My future is lost."

I realized then that he has been in deep pain and unable to help himself. He offers me now sympathy and pity, but he has never suggested a separation. I am a young woman, no longer a virgin, and I'm not willing to even mention separation. He pities me, and I appreciate it, but I am not willing to accept pity as a substitute for love. I left my hometown for his future and happiness. I leave him too for the same reasons. I want to escape from this loveless life. In this foreign place with so many strange people, I think about suicide.

At last, I have to come back to the reality of this life without love. But, tomorrow, how am I supposed to go forward? I am lost, lost, lost.

16: Female, 19, student, poison

With his silver tongue and sweet talk, I gave him my virginity. Now he already has a new love.

I am so hurt that I want to destroy him. But I am a very proud person. People do not know anything about us. If I destroy him, the whole thing will be exposed which would be the same as destroying myself. I'd really like to die together with him.

What I have lost is lost forever. My heart is hurting as if it has been stabbed.

17: Female, 22, student, hanging

I begin to think that the world has turned upside down. The world is so depressing that it has created a sense of fear in me. Falseness. Falseness seems to be everywhere.

The world was once full of color, but it is now off-white. I can hardly recognize it.

I hate this falseness. However, sometimes I have to do things unwillingly - to praise what the government has accomplished, to put on a smiling face to get by. I really don't know what to do, I feel like resisting, but I would be alone in this. I want to follow the herd, but I am not willing to betray myself. I want to escape, but that would be a retreat. I give in too easily to my whims, too sentimental. I can't control myself emotionally, and this impedes my studies. It pains me a great deal. I am thinking of death, but I hesitate. Where should I go?

BIRTHDAYS AND DEATHDAYS OF FAMOUS SUICIDES

David Lester

Abstract: In a small sample of 72 famous suicides, there was tentative evidence for a seasonal uneven distribution of birthdays, with a peak in the summer, and a trend for suicides to occur within 3 weeks of their birthdays.

There has been research on the timing of the birthdays and the deathdays of suicides. Are suicides born more often than expected in some months? Is the timing of their suicides affected by their birthdays? The present paper examines these phenomena in a sample of 72 famous suicides. Let us first look at earlier research.

Birthdays

Kettle, et al. (1997) found that Alaskan Native suicides were more often born in the summer than in other seasons, a phenomenon not found in other Alaskans or in three other states examined.

In a small sample of 44 suicides, Pokorny (1980) found an excess of suicides born in July. Lester (1970) examined 285 suicides in Erie County (NY) and found no significant variation by month, although there was a tendency to have fewer in July than other months.

Deathdays

Barraclough and Shepherd (1976) found that elderly suicides, but not younger suicides, were more likely to die by suicide in the 60 days surrounding their birthdays. Kunz (1978) that suicides were more common in the three months after a birthday than in the three months before the birthday. Shaffer (1975) found that children who died by suicide were more likely to do so within two weeks of their birthday than expected.

No association between birthday and deathday for completed suicides was found by Hagnell and Rorsman (1980), Lester (1986, 1987, 1988) and Sanborn and

Sanborn (1974), Wasserman and Stack (1994) for elderly suicides in Ohio, Panser, et al. (1995) for a small sample of suicides in Minnesota, Chuang and Huang (1996) for suicides in Taiwan, Lester (1997c) for a sample of famous suicides (different from the present sample), and Nakamura, et al. (1994) for adolescent attempted suicides in Hawaii.

The Present Study

Lester has published many biographies of suicides who were sufficiently famous to have biographies written about them (www.drdauidlester.net). Seventy-two of these have been used previously in studies of suicides (Lester & Gunn, 2022; Zhang, et al., 2013). They are shown in the Appendix. The same sample is used here and, therefore, they were not selected with the aim of this study in mind.

Months of the Year

The sample is small, and only 6 birthdays and deathdays are expected in each month. The distribution is shown in Table 1.

Table 1: Birthdays and Deathdays by Month

	Birthdays	Deathdays
January	6	6
February	5	5
March	4	5
April	3	9
May	2	7
June	9	3
July	8	6
August	8	11
September	5	4
October	9	4
November	8	5
December	5	7

Two of the studies cited above (Kettle, et al., 1997; Pokorny, 1960) found an excess of birthdays in summer months. This was found here, although not statistically significant. There was also a secondary peak in October and November, but this was also not statistically significant. However, there does

appear to be an excess of birthdays in the summer (June, July, August) compared to the Spring (March, April, May) ($X^2 = 8.26$, $p < .001$).

The deathdays do not appear to cluster in the same way as the birthdays.

Are Birthdays and Deathdays Close Together?

Is the deathday close to the birthday? Charles Boyer's suicide was only 2 days from his birthday. Thirteen were within 21 days, and 27 within 60 days. Here it is difficult to work out the expected value. The birthday and deathday could be anywhere from 1 to 26 weeks apart. With 72 suicides, the expected number within 3 weeks would be 8.3, and so 13 is more than expected. For 60 days, the expected number is 23.5 and 27 is a little higher than expected.

It is surprising that so few of the suicides are elderly. Only 8 of the suicides are over the age of 65. The number of days between the birthday and the deathday was less than one week for one (Charles Boyer) and another within 30 days (Elizabeth Cody Stanton).

Regarding the finding of Kunz (1978) that suicides were more common in the three months after a birthday than in the three months before the birthday, in this sample, there were 18 suicides in the three months before the birthday and 20 in the three months after the birthday, so Kunz's finding was not replicated.

Conclusion

The limitation of this sample is its small sample size, and the disparate nature of the suicides in terms of country and era. However, the results do provide tentative support for an uneven distribution of birthdays over the seasons and for suicides to take place within 21 days of birthdays.

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Appendix: Birthdays and deathdays of 72 famous suicides

	Birthday	Deathday
1. Diane Arbus	March 14, 1923	July 16, 1971
2. Reinaldo Arenas	July 16, 1943	December 7, 1990
3. Edwin Armstrong	December 18, 1890	February 1, 1954
4. Walter Benjamin	July 15, 1892	September 26, 1940
5. John Berryman	October 25, 1914	January 7, 1972
6. Bruno Bettelheim	August 28, 1903	March 13 1990
7. Charles Boyer	August 28, 1899	August 26, 1978
8. Henry Broughton	September 10, 1883	December 5, 1942
9. Dora Carrington	March 29, 1893	March 11, 1932
10. Viscount Castlereagh	June 18, 1769	August 12, 1822
11. Paul Celan	November 23, 1920	April 20, 1970
12. Thomas Catterton	November 20, 1752	August 24, 1770
13. Robert Clive	September 29, 1725	November 22, 1774
14. Kurt Cobain	February 20, 1967	April 5, 1994
15. Hart Crane	July 21, 1899	April 27, 1932
16. Sergei Esenin	October 3, 1895	December 28, 1925
17. James Forrestal	February 15, 1892	May 22, 1949
18. Sigmund Freud	May 6, 1856	September 23, 1939
19. Konoë Fumimaro	October 12, 1891	December 16, 1945
20. Judy Garland	June 10, 1922	June 22, 1969
21. Mark Gertler	December 9, 1891	June 23, 1939
22. Charlotte Perkins Gilman	July 3, 1860	August 17, 1935
23. Joseph Goebbels	October 29, 1897	May 1, 1945
24. Arshile Gorky	April 15, 1904	July 21, 1948
25. Kenneth Halliwell	June 23, 1926	August 9, 1967
26. Tom Heggen	December 23, 1918	May 19, 1949
27. Ernest Hemingway	July 21, 1899	July 2, 1961
28. Ludvik Hoch	June 10, 1923	Noember 5, 1991
29. Abbie Hoffman	November 30, 1936	April 12, 1989
30. Robin Hyde	January 19, 1906	August 23, 1939
31. Paul Kammerer	August 17, 1880	September 23, 1926
32. Weldon Kees	February 24, 1914	circa July 19, 1955
33. Jerzy Kosinsky	June 14, 1933	May 3, 1991
34. Vladimir Kovalovskii	August 2, 1842	April 15, 1883
35. Alan Ladd	September 3, 1913	January 29, 1964

36. Robert La Follette	February 6, 1895	February 24, 1953
37. Primo Levi	July 31, 1919	April 11, 1987
38. Vachel Lindsay	November 10, 1879	December 5, 1931
39. Georg List	August 6, 1789	November 30, 1846
40. Ross Lockridge	April 25, 1914	March 6, 1948
41. Jack London	January 12, 1876	November 22, 1916
42. Eleanor Marx	January 15, 1855	March 31, 1898
43. Vladimir Mayakovsky	July 19, 1893	April 14, 1930
44. Aimee McPherson	October 9, 1890	September 27, 1944
45. Hugh Miller	October 10, 1802	December 24, 1856
46. Yukio Mishima	January 14, 1925	November 25, 1970
47. Marilyn Monroe	June 1, 1926	August 4, 1962
48. Gerard de Nerval	May 22, 1808	January 26, 1855
49. Phil Ochs	December 19, 1940	April 9, 1976
50. Cesare Pavese	September 9, 1908	August 27, 1960
51. Sylvia Plath	October 27, 1932	February 11, 1963
52. Freddie Prinze	June 22, 1954	January 29, 1977
53. Lewis Puller	August 18, 1945	May 11, 1994
54. Mark Rothko	September 29, 1903	February 25, 1970
55. Crown Prince Rudolph	August 21, 1858	January 30, 1889
56. Anne Sexton	November 9, 1928	October 4, 1974
57. Elizabeth Cody Stanton	November 12, 1815	October 26, 1902
58. Victor Tausk	March 12 1879	July 3, 1919
59. Sara Teasdale	August 8, 1884	January 29, 1933
60. Ernst Toller	December 1, 1893	May 22, 1939
61. Marina Tsvetaeva	October 8, 1892	August 31, 1941
62. Kurt Tucholsky	January 9, 1890	December 21, 1935
63. Alan Turing	June 23, 1912	June 7, 1954
64. Randy Turpin	June 7, 1928	May 17, 1966
65. Vincent van Gogh	March 30, 1853	July 29, 1890
66. Stephen Ward	October 19, 1912	August 3, 1963
67. Simone Weil	February 3, 1909	August 24, 1943
68. Otto Weininger	April 3, 1880	October 4, 1903
69. Dolly Wilde	July 11, 1895	April 10, 1941
70. Virginia Woolf	January 25, 1882	March 28, 1941
71. Gig Young	November 4, 1913	October 19, 1978
72. Stephen Zweig	November 28, 1881	February 22, 1942

A REVIEW OF RESEARCH ON SUICIDE IN 2002

David Lester
Stockton University

From 1897 (the date of the publication of Durkheim's book on suicide) until 1997, I read every article in English on suicidal behavior. I had many boxes of 3x5 index cards, one for each article, chapter and book. I used every abstracting service available to locate these scholarly works. I reviewed the research in four books called *Why People Kill Themselves*, published by Charles Thomas.²

At that point, the volume of scholarly work on suicidal behavior was too great. Locating and reviewing the articles was taking up too much of my time (I did have a full-time job as a professor), and so I stopped. One hundred years seemed like a great achievement.

No-one took up this task. Of course, reviews of selected topics appeared, but no comprehensive review. I am now retired, and hence this is an attempt to do a reasonably thorough review, although it will not be comprehensive. I do not have access to all the abstracting services that existed in the 20th century. Furthermore, articles in the predatory journals (those that developed to help scholars publish their work for a fee) are not typically included in the abstracting services. Therefore, many, possibly important, ideas are difficult to locate.

My goal is to see whether there have been important research and theoretical findings in the more recent literature. I have not included reviews of the literature in this essay but, of course, those reviews of the literature on specific topics may be valuable to researchers. (I have started to mention reviews of physiological research because the articles typically have no meaning for me.) I have also not cited qualitative reports. These may throw light on suicides in certain people or in specific instances, but qualitative reports are difficult to incorporate into an essay such as the present one.³

² I keep this standard Introduction so that each review can stand as an independent article.

³ My positive opinion of qualitative essays is illustrated by the essays I have written on more than 75 famous suicides (www.drdauidlester.net).

The reviews of scholarly research published in 1998-2001 are published (Lester, 2014b, 2024c, 2024d, 2024e). This is the review for 2002. To indicate where I searched, here is a list of abstracting services used.

Source	1998	1999	2000	2001	2002
Sociological Abstracts	93 items	106	55	56	67
Criminology Abstracts	78 items	94	80	98	67
Psychological Abstracts	401 items	460	388	425	441

Studies of Suicide Rates and Suicidality

Methodological Issues

Fernquist (2002a) studied suicide rates, suicide+homicide rates, suicide/(suicide+homicide) rates, and homicide rates in 21 developed countries. Fernquist found that the lethal violence rate (suicide+homicide rate) was strongly correlated with the suicide rate, and the two variables had similar associations with socioeconomic variables. However, the ratio measure did have different correlates, and Fernquist concluded that it was a variable worth exploring further. For example, the suicide, homicide and lethal violence rates were all positively associated with income inequality. The ratio variable was negatively associated with the percentage of published books that were religious while the other rates were not.

Hakko, et al. (2002) discussed the statistical techniques typically used in studies of the seasonality of suicide and made recommendations.

Bilici, et al. (2002) documented that the official statistics in Turkey for completed and for attempted suicide were under-estimates.

Lester (2002b) found that national laws against suicide could be scaled using a Guttman Scale, making research possible.

Theory

Cohorts

Stockard and O'Brien (2002a) studied 5-year birth cohorts in the United States for the period 1930-1995. They found that cohorts with higher numbers and

cohorts with higher percentages of non-marital births had higher suicide rates throughout their life spans. Of course, the cohorts were not followed through until almost all had died.⁴

Stockard and O'Brien (2002b) found similar results in 15 other countries (with the United States as the 16th). They found that the results were affected by the support given by the governments for families and children and by rapid social change in the country.

Regional Studies

Eckersley and Dear (2002) correlated youth suicide rates and socioeconomic and cultural variables in 11 to 21 countries. Missing data sometimes limited the number of countries. For the socioeconomic variables, the only significant correlation was between female youth suicide rates and unemployment. For the cultural variables (22 were used), a factor analysis identified 2 factors, one of which was labeled individualism, and this was positively correlated with the male youth suicide rate but with the female youth suicide rate.

Jungeilges and Kirchgässner (2002) studied 30 countries and found that the suicide rates were associated with real income per capita, real income growth and civil liberty. Real income played a more important role for the middle age group, whereas economic growth was more important for the older people, especially women. The more liberty, the lower the suicide rates.

Pritchard (2002) compared elderly (>75) suicide rates with the general suicide rate in 35 countries. The ratio was higher in Catholic and Orthodox countries than in other countries, contrary to his expectations. Pritchard does not appear to have compared the actual suicide rates, although the data are in the paper for someone else to do. (Okay, I could not resist this – see Lester [2024f].)

Khan (2002) examined suicide in the Indian subcontinent. Khan noted the high use of organophosphate insecticides, larger numbers of married women, fewer elderly subjects, and interpersonal relationship problems and life events as important causative factors compared to data from Western countries.

⁴ When researchers transform data, introduce dummy variables, etc., I can no longer evaluate the soundness of the research. The more complex the analysis, the more I suspect that the more straightforward analysis did not give the predicted results.

In a sample of 15 countries, Lester (2002g) found that ratings of happiness were not associated with suicide rates.

Regions within a Country

Kunze and Anderson (2002) studied suicide rates across the states of America for the period of 1985-1995. They are highly critical of previous research and conclude that the only correlates of suicide rates are single-occupancy households and the percentage of the population aged 15-24. To achieve this odd result, they studied 50 states and DC, a city. Two of the states are non-continental – Alaska and Hawaii. I use only the 48 continental states for my ecological studies. Second, they combine ecological and time-series data, which confounds the issue. There is no reason why ecological correlates of suicide rates should match the time-series correlates. Third, to achieve their conclusion, they used three regression techniques, only one of which gave the results they wanted. Fourth, they transformed some of the variables. In my opinion, their study is flawed and their conclusion is nonsense.

Lester (2002i) found that a measure of collectivism was not associated with suicide rates over the states of America.

Baller and Richardson (2002) studied French Departments in the 1870s and American counties in 1990. Statistical tests showed clustering of suicide rates in both data sets, that is, if one region has a high suicide rate, neighboring regions will have high suicide rates. In the United States, the clustering was found only in some parts, such as the American west. Suicide rates in the regions of France with clustering were predicted by residential stability, marital stability and the ordained clergy rate, all negatively. Suicide rates in the western United states were predicted by residential stability, marital stability, and percent Catholic negatively and religious homogeneity positively. Baller and Richardson concluded that the results from western America supported Durkheim's explanation that clustering of suicide rates occurs because of the clustering of indices of social integration, whereas the results from France support Tarde's (1903) explanation that imitation is occurring. The logic of their conclusions is unclear to me. They simply make the assertion of imitation without (possibly from media publicity) any data for the French Departments.

Kondrichin and Lester (2002) found that the suicide rates of the provinces of the Ukraine were strongly associated with indices of social disintegration (such as divorce and illegitimacy rates), with the Western provinces incorporated in the USSR later than other Ukrainian territories having lower suicide rates and lower levels of social disintegration.

Bartlett, et al. (2002) studied regions in England covered by 95 English Health authorities. They used data from a national health survey for predictor variables. Suicide rates were associated with socio-economic deprivation and not scores on the General Health questionnaire or stress scores.

Zimmerman (2002) examined whether the expenditure by states on public welfare was associated with state suicide rates. There was no association for 1960 and 1970, but for 1980, 1985, 1990 and 1995 the association was negative: the more the state spent on public welfare, the lower the suicide rate. In multiple regressions, other variables washed out the impact of state public welfare spending. (A factor analysis of the variables to identify clusters of the predictors would have been a better methodology.) Modified multiple regressions confirmed a small but significant negative association.

Mayer and Ziaian (2002) found that the suicide rates in India by marital status mirror results from other countries, with the suicide rate highest for divorced people. Surprisingly, suicide rates for widowed women were low given that widows are often mistreated in India (Lester, 2015). Correlates over an unstated number of Indian states of suicide rates by marital status and socio-economic variables varied. Industrialization (measured by electricity consumption) and per capita income correlated positively with the suicide rate of divorced males, life expectancy correlated positively with the suicide rates of married and widowed men, while literacy correlated positively with the suicide rates of single, married and widowed men and for married women. The gender development index did not correlate with suicide rates.

Regions within a State or Province

Singh and Siapush (2002) examined the urban-rural differences in suicide rates in the United States. Male suicide rates were higher in rural areas than in urban areas, and this difference increased over time (1970-1997) even after controls for ethnicity and divorce. The urban-rural differences in suicide rates

declined over time in women, and the rural suicide rates were lower than the urban suicide rates.

In a review of suicide in China, Phillips et al. (2002b) reported higher suicides in rural areas than in urban areas for males and females and for all age groups.

In England and Wales, Shah, et al. (2002) found that elderly suicides by overdose by men were more common in the most deprived areas, but not so for women.

Kelleher, et al. (2002) looked at urban and rural suicide rates in Ireland and found that rural suicide rates for males were higher than urban suicide rates, but the differences for females were smaller and inconsistent. The effect varied a little with age.

Ostamo, et al. (2002) found that attempted suicide rates in the districts of Helsinki (Finland) were associated with socio-economic disadvantage.

Time-Series Studies

Morrell, et al. (2002) present a cohort study of suicide in New Zealand. The time period studied is impressive 1784-1998. Apparently, they studied whether some birth cohorts have higher suicide rates than other cohorts and, apparently, they found no evidence for that, but that is not clear from their obscurely presented paper. It is fine to write for experts in statistical analysis but, since statistical experts are few, it would be better to write for the average researcher (who often hires a statistical expert to collaborate on the paper). Another cohort issue is, if a particular birth cohort has a high suicide rate at one point in its aging, will it have lower suicide rates at other ages (Lester, 1984). They do not appear to have studied that issue for I cannot see any statistics that pertain to that.

Snowdon and Hunt (2002) looked at cohorts in Australia born after 1919 and the patterns of suicide by age seem to be similar, except that the peaks do change from one cohort to the next. Snowdon and Hunt thought that changes were probably a result of external factors rather than factors internal to the cohorts themselves.

In the United States from 1929-1992, Webb, et al. (2002) found that the unemployment rate one year earlier was associated with the suicide rate. The gross national product and the urban consumer price index were not associated with the suicide rate. This paper has several problems. First, they did not present suicide data for every year in their table, raising the question of whether they used every year. Second, their time series starts in 1929 which is 4 years prior to the suicide rate being calculated for the whole United States (1933). Third, they do not use the suicide rate or the other variables each year but rather the change in the variables from year t to year $t-1$. My conclusion, therefore, is that this study is seriously methodologically flawed.

In a time-series study of suicide in Japan for 1978-1997, Lester and Saito (2002) found that the predictors depended on the method for suicide. For example, while measures of domestic social integration (marriage, birth and divorce rates) predicted the suicide rate for interpersonal reasons, only unemployment and divorce rates predicted the suicide rate for work-related reasons.

Lester (2002f) found that the suicide rate of murderers in England from 1901 to 1949 was associated with the suicide rate, and both had similar negative associations with birth and death rates.

Research on Distal Variables

The Sex Ratio

He and Lester (2002) documented that females die by suicide at a higher rate than males in Chuanzhou, China, with a male/female sex ratio of 0.40. The ratio is lower in the wealthier districts (measured by grain produced per capita).

Lester (2002c) documented that the percentage of women in suicides assisted by Jack Kevorkian and in the Heaven's Gate group suicide were more often female than in the general population (71% and 50%, respectively).

In a study of the impact of decriminalizing suicide and attempted suicide, Lester (2002d) found that suicide rates rose in seven countries after the decriminalization of suicide.

Day of Week

Weinberg, et al. (2002) found that Israeli men in compulsive service died by suicide significantly more often on Sundays (in Israel, the first day of the week). This was not found for females in compulsory service or for professional soldiers.

Climate & Latitude

Davis and Lowell (2002) examined the suicide rate and latitude of 20 developed countries and found no association, although they do not present a correlation coefficient. However, they found that the higher the latitude, the greater the variation in the country's suicide rate for the period 1960-1997.

Season

Räsänen, et al. (2002) looked at the seasonal variation in suicide in Finland by method of suicide. Hanging peaked in the Spring, traffic suicides were lowest in the winter, drowning peaked in the summer, while jumping and gassing peaked in the summer for males.

Voracek, et al. (2002) studied the seasonality of suicide by hanging in a county in Romania before and after the break-up of the Soviet Union. The seasonality in suicide persisted, but there were slight changes in the troughs and peaks.

In a small sample of suicides in Sweden, Brådvik and Berglund (2002b) found a spring peak (April-June) for suicides in alcoholic patients as opposed to an October-December peak in patients with severe depression and no seasonal distribution in other diagnostic groups.

For Norway, Morken, et al. (2002) found that admissions for depression and mania peaked in November for women and in April for men. Suicides peaked in the Spring (April and May) for both men and women.

In a sample of suicides in Italy, Rocchi and Perlini (2002) found no weekly and lunar patterns, but there were seasonal and intraseasonal cycles, with peaks in March and at the beginning of each season.

Disasters and Wars

Grubišić-Ilic, et al. (2002) studied the impact of the war in Croatia in 1991-1996. The suicide rate was lower during the war than pre or post war, but not significantly. For counties directly affected by the war, the suicide rate during the war was significantly lower than post-war. In other counties, the suicide rate seems higher during the war, but their reporting of this seem confused. In areas affected by the war, firearms and drowning were used more often while in other areas hanging and jumping in front of trains or cars were used more often.

Lester (2002h) found that, in Northern Ireland 1965 to 1997, the suicide rate and the number of deaths from the civil strife were negatively associated.

Death Row

Lester and Tartaro (2002) calculated that the suicide rate on death row was 113 per 100,000 per year for 1976-1999 in the United States, much higher than for the male population in general. The suicide rate declined during this time period and was predicted by the number of new death sentences (positively) and the population on death row (negatively) but not with the number of executions. Surprisingly, the suicide rate on death row was correlated with measures of social integration in the country at large (marriage, birth and divorce rates).

Occupation

Marzuk, et al. (2002) studied suicide in New York City police officers. The men had a lower rate than males in the general population, while the females had a higher rate than women in the general population (although the number of female suicides was small – only 7).

Kaufman and Baer (2002) discussed the apparently high rate of suicide among female poets.

Koskinen, et al. (2002) studied male suicides in four occupations in one area of Finland: farmers, forest workers, construction workers and indoor workers. Farmers were significantly older at the time of suicide, and farmers used more violent methods. Farmers had a significant peak in the Spring, while forest workers had a trough in the winter. Indoor workers had a peak in the summer.

In Australia, Page and Fragar (2002) documented higher suicide rates than expected in farmworkers. There was a negative correlation over the period 1988 to

1997 between male farm manager suicide rates and terms of trade (the ratio of the index of prices received by farmers to the index of prices paid by farmers).

Anti-Discrimination Laws

Jesdale and Zierler (2002) studied the suicide rate of non-Hispanic white adolescent boys in American states where antidiscrimination laws against sexual orientation were passed. Their Figures appear to demonstrate a reduction in suicide rates in the states that passed such laws during the 1990s whereas there was no reduction in other states. However, they do not present data on suicide rates in the 1980s and suicide rates in the 1990s so that we can see the changes.

Legalized Gambling

McCleary, et al. (2002) studied 148 American metropolitan regions for suicides before and after gambling was legalized. The suicide rate was associated positively with the presence of a casino, the accidental death rate and the homicide rate, and the proportion over the age of 65, and negatively with the percentage of black residents and the unemployment rate. Suicide rates did not appear to change consistently from before to after the presence of a casino.

Other Distal Variables

Fernquist (2002b) found that suicide rates did not change as a result of the 1994-1995 baseball and hockey strikes (whereas homicide rates were higher during the period of the strikes).

Page et al. (2002) studied the impact of the political views of the government on suicide rates in Australia which has a two-party system: social democrats and conservatives. At the state level for the period 1901-1998, Page, et al. found that, when both the governments at the Federal level and in New South Wales (one of the provinces of Australia) were conservative, the relative risks of suicide for men and for women in New South Wales were higher than when both governments were social democrats.

Using the accidental death rate from firearms as a measure of firearm availability, Bridges (2002) found that, in a time-series study in Canada, the higher the accidental death rate from firearms, the greater the percentage of firearms used for suicide except for suicides over the age of 55.

Luoma and Pearson (2002) studied whether widowed was a risk factor for suicide in the United States. There was an increase of 17-fold increase among young widowed White men [aged 20-34 years), a 9-fold increase among young widowed African American men, and lesser increases among young widowed White women compared with their married counterparts.

Krysińska and Lester (2002) found a high rate of suicide (and attempted suicide) in the Łódź ghetto (Poland) during World War Two, 1941-1944. Surprisingly because of the appalling conditions in the ghetto, there was a Spring peak.

Hjern and Allebeck (2002) studied Swedish suicides and found that second-generation immigrants had a higher suicide rate than first-generation immigrants compared to the majority population in all six minority groups studied. The Finnish minority had the highest and the Middle Easterners the lowest suicide rates in both generations of immigrants. Intercountry adoptees also had a high suicide rate.

Leung, et al. (2002) noted the increase in the use of charcoal burning indoors for suicide in Hong Kong, rising to 10% of all suicides in 1999 from 0% in 1996. Suicides by jumping and hanging declined. Suicide pacts were common and mental illness uncommon. Suicides using charcoal peaked in the winter months, and the suicides were younger than those using other methods.

Cutright and Fernquist (2002) documented that female suicide rates by age varied from country to country and vary over time.

In a study of 52 suicides by drowning in Dallas (Texas), comprising 0.85% of all suicides in the region, Wirthwein, et al. (2002) present simple but interesting data on where people drown in their acts of suicide. Drowning is less common inland, and 46% of the drowning suicides were female, a high proportion. For place, 56% occurred in lakes or ponds, 17% in pools, 12% in bathtubs and 10% in rivers. Six drownings were witnessed.

Discussion

Most of the variables studied by these researchers in 2002 have been studied in the past. However, I think that more studies of birth cohorts might be profitable. Do some cohorts have higher suicide rates than others and, if a cohort has a high

suicide rate at one age, will it have a lower suicide rate at other ages? At the present time, longer periods of time have available yearly data on suicide so that following a cohort has become easier.

Studies of Suicides

Methodological Issue

Caon, et al. (2002) tried three methods to predict which members of a sample of attempted suicides died by suicide. They decided that the Neural Network statistical procedure was more successful in predicting the suicides from a battery of variables than were logistic regression and discriminatory analysis.

Theories of Suicide

Willis, et al. (2002) proposed a theory of the high rate of suicide among adolescent African American males. They noted that, “Postmodern society is typified by: (1) institutional deconstruction; (2) decreased collectivism; (3) increased normlessness and helplessness; and (4) exacerbated personal risk for stress” (p. 907). Young African American males are especially vulnerable because they typically live in low-income areas with poor resources and are more exposed to stressors.

Joiner’s Theory: Part 1

Joiner, et al. (2002a) published one of the first statements of his theory of suicide. Joiner (2005) proposed a three-part theory of suicide: thwarted belongingness, perceived burdensomeness and the acquired capacity for self-harm. The acquired capacity for self-harm later incorporated the variable of the fear of death. This theory has produced a great deal of research and a great deal of criticism that continues today. First the good parts.

First, Joiner’s theory introduced the variable of perceived burdensomeness, a variable that had been neglected in the past. Certainly, some suicides show evidence of this in their communications to loved ones and in their suicide notes.

Second, the capacity for self-harm brought together several variables that had seemed to be different, such as experiences of abuse in childhood and adolescence, prior attempts at suicide, and warfare experiences. Such variables

have exposed the individuals to pain, and they can remember their reactions to the pain and forecast how they will respond to any pain involved in suicide.

What about the problems with the theory? Joiner argued that his theory applied to all suicides. First, as Lester (2024) has pointed out, it does not apply to all suicides. Lester and Gunn (2022) examined the lives of 72 suicides by people famous enough to have a biography written about them, biographies that make a psychological autopsy possible. They found that perceived burdensomeness was found in 15.3% of the suicides, thwarted belongingness in 90.3% and the acquired capacity for self-harm in 66.7%. All three variables were found in only 5.6%.

Second, as a result of this, Lester (2024a) argued that the theory was not a theory, but rather one type of suicide and fitted into typologies of suicide as one possible type.

Third, as Hjelmeland and Knizek (2020) noted, Joiner has served as editor of *Suicide & Life-Threatening Behavior* for many years. In 2017, 37% of the articles in *Suicide & Life-Threatening Behavior* were on Joiner's theory compared to only 13% in the *Archives of Suicide Research* and 7% in *Crisis*. This is unbalanced. Researchers possibly think that they have a better chance of a publication if they work on Joiner's theory and submit the article to *Suicide & Life-Threatening Behavior*.

Fourth, the theory has rarely been tested on suicides. The research is conducted on samples of college students and clinical patients, some of whom have suicidal ideation or who have attempted suicide. Interestingly, this is the first time in my reviews for 1998, 1999, 2000, 2001 and now 2002 that research papers have appeared on Joiner's type of suicide.⁵

Is there a conclusion here? The variables proposed by Joiner are an important contribution to suicidology. However, the proposal of this type of suicide has attracted a disproportionate amount of suicide research that has not advanced our knowledge of suicide. As Hjelmeland and Knizek (2020) noted, a review by Joiner's team of researchers on the theory by Chu, et al. (2017) found 375 reports published relevant enough to be reviewed. In my first review of suicide research in 1998 (Lester, 2024b), I criticized researchers for studying the same

⁵ See Paniagua, et al. (2010) for another critique of the theory and the difficulties they had getting their book published.

variables year after year. I noted that research on the connection between childhood experiences of sexual abuse first appeared in 1986 and was still being researched and published in 2023. Three hundred and seventy-five studies on one, not very common, type of suicidal individual fails to advance our knowledge of suicide.

One final comment. I began this series of reviews for 1998, and this is 2002. The research has been very bad, mere repetitions of research on variables that were studied years earlier, and no new theories have appeared. Nothing interesting has appeared, and Joiner's theory breaks this boredom. Joiner proposed a new theory, and it has stimulated a great deal of research and criticism. That is noteworthy and a welcome change.

Joiner's Theory: Part 2

Joiner (2002) also suggested a way of combining many of the factors found to impact suicide. Joiner noted that the serotonergic system appears to function differently in suicides. Although this is true, I would add that since only a few suicides are studied physiologically, we do not know how common this is.

Joiner noted that prenatal influences may exist. Research finding that the month of birth is tied to suicides suggests the possibility of prenatal influences such as weather and infections from influenza and other seasonal diseases. Occasional studies of this have appeared in these yearly reviews of mine.

Suicidal behavior and depressive episodes early in life will obviously have an impact on adult suicidal behavior, and Joiner noted that multiple attempters appear to form a distinct group of suicidal individuals.

Finally, Joiner suggested two psychological processes that may be relevant to suicide. Cognitive sensitization refers to the fact that initial suicidality may "increase the activity and accessibility of suicide-related cognitive structures, which in turn increase the chances of future suicidal behavior (p. 37). This suggests that sound research on cognition in suicidal individuals is needed and, since this would have to be done on living attempted suicides, the suggestion by Lester, et al. (1975) that samples of attempted suicides be divided into groups on the basis of intent or lethality, so that extrapolations can be made to the most lethal attempters – suicides, should be followed.

The second process suggested by Joiner may be labelled the *opponent process hypothesis*. “With repetition, the effects of a provocative stimulus diminish...and the opposite effect, or opponent process, becomes amplified and strengthened. As applied to suicidal behavior, the fear and pain inducing qualities of suicidality may diminish with repetition, whereas opponent processes (e.g., calming and pain-relieving effects) may intensify (p. 37). This pre-dates the formal proposal by Joiner of the acquired capacity for self-harm.

This attempt to bring together very disparate lines of research not only is the type of thinking that improves our understanding of suicide, but also suggests lines of research that are needed.

Physiological Research and Medical Issues⁶

Brain

Dwivedi, et al. (2002a) found that, compared to control brains, the mRNA and protein expression of selective alpha subunits of G proteins were abnormal in the prefrontal cortex of suicides. Dwivedi, et al. (2002b) found that: “The number (B_{max}) of [³H]cAMP binding sites to protein kinase A was significantly lower in the suicide victims without any changes in affinity in either the membrane or cytosol fractions of the prefrontal cortex. Further, significantly less protein kinase A activity, both in the presence and the absence of cAMP, was seen in the membrane and cytosol fractions of the prefrontal cortex of suicide victims; however, the difference in total protein kinase A activity was much more pronounced” (p. 66).

Sundman-Eriksson and Allard (2002) did not find differences between the suicides and the controls with regard to the number of [³H]tiagabine binding sites (B_{max}) or apparent affinity (K_d).

Pandey, et al. (2002) studied the brains of adolescent suicides and controls dying from other causes. They found higher [¹²⁵I]LSD binding in the prefrontal cortex and greater protein expression and mRNA levels in the prefrontal cortex and hippocampus but not in the nucleus accumbens of the suicides. Greater protein expression was localized on pyramidal cells in cortical layer V but not in other cortical layers or in the surrounding neuropil of the prefrontal cortex of the teenage

⁶ I have sometimes simply reprinted the Abstract of some of the physiological studies because the content has no meaning for me, a psychologist.

suicides. Pandey, et al. proposed that these results indicated higher expression of the serotonin 5-HT_{2A} receptors in suicides.

González-Maeso, et al. (2002) found that “the alpha(2A)-adrenoceptor-mediated stimulation of [³⁵S]GTPyS binding with the agonist UK14304 displayed a 4.6-fold greater sensitivity in suicide victims than in controls, without changes in the maximal stimulation. No significant differences were found in parameters of 5-HT_{1A} serotonin receptor and other receptor-mediated [³⁵S]GTPyS binding stimulations. The receptor-independent activation of G-proteins was similar in both groups. Immunoreactive densities of G proteins did not differ between suicide victims and controls” (p. 755).

Ono, et al. (2002) found no differences in tryptophan hydroxylase immunoreactivity or 5HT_{2A} receptor density between suicides and controls.

For individuals over the age of 60, Hamilton and McMahon (2002) found no differences in brain weight between suicides and those dying accidentally and of natural causes. The brains of the suicides using hanging was higher than those using overdoses.

Balažic and Marušič (2002) found no differences in brain weight between suicides and those dying of other causes. However, excluding those dying by suicide outdoors (where it was cold), the suicides had higher brain weights.

Genes

Du, et al. (2002) compared depressed suicides with people dying of others causes and found differences in MAO-A gene polymorphism in males but not in females. The researchers, therefore, did not control for depression, and so the difference may be a result of depression and not suicide.

Other

Lester (2002a) reviewed research on serum cholesterol levels and suicide and found that those with lower cholesterol levels do have a tiny but statistically significant increased risk of completing suicide. Individuals who have attempted suicide in the past have lower cholesterol levels, especially if they used violent methods for suicide. Cholesterol *lowering* studies, however, did not lead to a significant increase in completed suicide

Joiner, et al. (2002e) found that subjects with a family history of completed suicide or multiple attempts were more likely to have the short variant of the polymorphism in the transcriptional control region (5HTTLPR) – the serotonin transporter gene - than control subjects.

Bonnier, et al. (2002) found a higher frequency of the A allele of the 5-HT2A–1438A/G genetic polymorphism in patients with affective disorders compared to healthy controls, especially in patients with no history of attempted suicide.

Black, et al. (2002) gave the dexamethasone suppression test to mood disorder patients and followed them up to identify the suicides. Suppressors and non-suppressors did not differ in suicidal ideation at the time of testing nor in the later suicides. Suppressors did more often attempt suicide prior to testing and after testing.

Suicide Notes

Joiner, et al. (2002a) first compared suicide notes written by completed suicides and attempted suicides. The notes from completed suicides more often had content that their loved ones would be better off if they were gone (burdensomeness) but did not differ in suicide as a way of controlling feelings, suicide as a way of regulating interpersonal relationships, the presence of emotional pain and hopelessness (or age and sex). In a second study of 40 suicide notes from Germany, the notes from people using highly lethal means more often had content that their loved ones would be better off if they were gone (burdensomeness).

Pettit, et al. (2002) studied a sample of suicide notes from China. Ratings of burdensomeness toward loved ones was negatively correlated with the lethality of suicide method. In addition, males were more likely than females to employ more lethal means of suicide.

Canetto and Lester (2002) studied the suicide notes of adults. The notes from women and men did not differ in the presence of love themes or achievement themes,

Salib and Maximous (2002) compared elderly (>60) suicides in England who left suicide notes with suicides who did not. Those who left suicide notes had not received psychiatric services, and they used different methods for suicide (e.g., overdose and car exhaust, plastic bags and electrocution). They did not differ in gender, marital status, history of attempted suicide, social isolation, mental or physical morbidity.

Salib, et al. (2002) studied the elderly (>60) suicides in one region of England. Those who left suicide notes were less often known to services of various kinds, to use a violent method for suicide, to have made a previous attempt and to have a history of recent psychiatric treatment. Sex, marital status, living alone, found at home and having children were not significantly different between note writers and those who did not leave a suicide note. The content of the notes was not related to sex or age, but the sample was small.

Lester (2002e) studied the diary of a woman who died by suicide and found that the use of dark shading (which on the Rorschach Inkblot Test indicates acting out) was less common in the later poems, contrary to expectations. An analysis of poems by Sylvia Plath (Lester, 1989) found that dark shading was more common in the poems written prior to her suicide.

Youth Suicides

Agerbo, et al. (2002) compared adolescent suicides in Denmark with healthy controls, which as I have pointed out is poor methodology. The parents of the suicides, compared to parents of the controls, more often were suicides (both by the mother and the father), were admitted for mental illness, were unemployed, of low income and poor schooling, and divorced. The siblings of the suicides also more often had mental illness as did the suicides themselves, a result of the choice of the control group.

In Utah, Gray, et al. (2002) studied youth (13-21) suicides without a comparison group and found that 63% had had contact with the juvenile justice system.

Adult Suicides

Salib (2002) studied a sample of suicides in one region of England and found that more suicides were born in May than those dying from natural causes.

The peak month varied with method of suicide, with those dying from violent means born more often in the summer and those by hanging born in July and September. Salib suggested that seasonal variations in CSF 5-HIAA might be responsible for his results although this would not explain the variation by method of suicide.

Cooper, et al. (2002) compared suicides under the age of 35 in England with living controls using informants for both groups, which is a better methodology. In the prior 3 months, the suicides had more often experienced interpersonal problems and legal problems and less often work and educational events. The suicides with and without a mental illness did not differ in these events, but those without a mental illness more often had a life event in the week prior to the suicide.

Qin, et al. (2002) compared suicides aged 9-45 with healthy controls, a poor methodology. The suicides more often had a family history of psychiatric illness (only in those without a personal history of psychiatric illness) and a family history of completed suicide even after allowing for socioeconomic variables and the psychiatric history.

Niméus, et al. (2002) followed-up attempted suicides for 4.5 years and compared those who died by suicide with those who did not. The suicides scored higher on a Suicide Intent Scale (SIS) on admission. Suicide was predicted by mood disorder, age > 55 and SIS score > 19.

Hawton, et al. (2002b) compared nurses who died by suicide with living nurses, a methodologically unsound approach. The suicides were more often psychiatrically disturbed and with personality disorder and previous “self-harm.” The suicides more often were smokers and abused alcohol. The suicides were more often not married, without children, living alone, with no confidant and had more often worked only 1-5 years.⁷

In a 14-year follow-up of nurses in the United States, Feskanich, et al. (2002) found that suicides more often had reported moderate or severe home stress and work stress and also, to a lesser extent, minimal home and work stress, a U-shaped function. The suicides also reported more diazepam use at baseline.

⁷ The British of the terms self-harm and parasuicide are very confusing. Self-harm includes many behaviors that are not attempted suicide, such as cutting oneself or bruising oneself. The use of these terms, especially self-harm, leaves the reader confused as to what behavior is being referred to.

In a study of Swedish suicides, Chotai and Renberg (2002) found that those born during February to April preferred hanging for their suicide in the group with no psychiatric contacts but not in the group with psychiatric contacts. For those born October to January, the suicides without any psychiatric contacts preferred poisoning and petrol gases, but not the group with psychiatric contacts. Those with a history of psychiatric contacts were more likely to have been born February to April and less likely October to January. This result was significant for the whole group, for those with schizophrenia and for those with depressive neuroses. Chotai and Renberg hypothesized that the association of season of birth with method for suicide suggested a “suicidality trait independently of specific major psychiatric disorders. Monoamine neurotransmitters, particularly serotonin, are likely to underlie such a trait” (p. 69).

In China, Phillips, et al. (2002a) conducted psychological autopsies on suicide and a sample of those dying of injuries (not natural deaths). Suicide was predicted by a high depression symptom score, previous suicide attempt, acute stress at time of death, low quality of life, high chronic stress, severe interpersonal conflict in the 2 days before death, a blood relative with previous suicidal behavior, and a friend or associate with previous suicidal behavior.

Kreyenbuhl, et al. (2002) compared suicides with and without the diagnosis of schizophrenia from the Maryland collection of brains. The two groups did not differ on variables such as age, sex etc. The schizophrenic suicides more often had lifetime depression, had more prior suicidal behavior (attempts or threats), and had shown more violence toward others or property. The schizophrenic suicides used jumping from a height more often and guns less often, and there was a tendency for them to use less planning for the act,

Brådvik (2002) followed up a sample of patients with severe depression, some of whom died by suicide. There was a peak for suicide in October/November for men, and a peak on Sundays for men and women. The sample, however, was small (n=114).

Hjern, et al. (2002) studied Swedish suicides nationally for those born in Sweden, immigrants to Sweden and intercountry adoptees. The intercountry adoptees had the highest suicide and attempted suicide rates, but the siblings in their homes did not.

Mathy (2002a) surveyed homosexuals, bisexuals and heterosexuals in five continents (Asia, Australia, Europe, North America and South America) using an Internet survey. Homosexuals and bisexuals more often reported suicide attempts in every continent except Europe and Australia and for females only in North America. The results for suicidal ideation were similar.

Staal and Hughes (2002) found that only psychiatric illness predicted suicide in United States Air Force personnel contrary to earlier research.

In a poorly designed study, Overholser, et al. (2002) compared small samples of suicides with those dying of natural deaths, both depressed and non-depressed, and with attempted suicides. The attempters were interviewed personally rather than using informants. On personality disorder traits, the attempters scored higher on paranoid, schizotypal borderline, histrionic, avoidant and dependent. The suicides were higher on these traits than the natural deaths except for dependent, and they did score higher for narcissistic, a sounder comparison since the data from all of the deceased subjects were based on informants.

Chotai, et al. (2002) explored choice of method for suicide in a region of Sweden. Firearms were preferred by males and in rural areas. Poisoning and drowning were preferred by females, non-married people and in urban areas. Drowning was preferred in summer and by the older group. Petrol gases were preferred by younger persons, males, married in urban areas. Those born during the season January to April were more likely to prefer hanging rather than poisoning or petrol gases. Preference for method probably depends both on availability and acceptability.

In an exploratory study of suicides in China compared to community controls matched for age and sex, Zhang, et al. (2002) found that the suicides were less educated, less often married, more often living alone and less physically healthy.

Elderly Suicides

Conwell, et al. (2002) compared elderly (>50) suicides with community controls. The suicides more often had a handgun in the home, loaded and not stored, even after controlling for psychiatric illness. The effect was stronger in men

than in women. The methodology in their study was good. For the living controls, Conwell, et al. interviewed an informant just as they had to for the suicides.

De Leo, et al. (2002a) followed up elderly (>60) attempted suicides in Europe for one year. Some had died by suicide, and others had made another suicide attempt. Compared to the non-repeaters, the suicides more often had a father's death during their childhood, had parents with financial problems, made frequent consultations with their GPs and, at the index suicide attempt, had relationship problems, psychiatric disorder and wanted to show their hopelessness. The repeat attempters also had their fathers die during their childhood and judged their mental health to be worse at the follow-up.

Beautrais (2002) compared a sample of suicides and attempted suicides with living controls drawn from the general population, all over the age of 53. The suicidal group was characterized by current mood disorders, psychiatric hospital admission within the previous year, a limited social network, poor parental care and more recent stressors.

Gunnell, et al. (2002) looked at those taking a General Health Questionnaire (GHQ) at age 45-64. In the next 20 years, suicide was predicted for men (but not for women) by having a minor mental disorder as detected by the GHQ at baseline, independently of social class, marital status and smoking.

Quan, et al. (2002) compared Canadian elderly (>55) suicides with those dying in motor accidents. The suicides more often had cancer, prostatic disorder, chronic pulmonary disease among the married, depression and other psychiatric illnesses after controlling for demographic variables. They did not differ in cerebrovascular disease or diabetes mellitus.

Turvey, et al. (2002b) studied an American sample of elderly, some of whom died by suicide during a 6-year follow-up. The suicides differed from normal controls on many variables. The suicides less often had a spouse, less often attended religious services at least monthly, had more chronic illnesses and a fracture after age 50, had more depressive symptoms and poorer sleep quality, and less often felt close to friends and relatives. The researchers did not carry out a multiple regression on the variables, and the use of healthy controls is not ideal.

In a methodologically unsound study, Waern, et al. (2002a) compared elderly Swedish suicides with living controls from the community and,

furthermore, they did not use informants for the living controls Not surprisingly, the suicides were more often psychiatrically disturbed for most psychiatric diagnoses!⁸ Waern, et al. (2002c), in a study apparently of the same samples, found that the suicides more often had visual impairment, neurological disorders and malignant diseases. Serious physical illness in any organ category was also an independent risk factor for suicide in a multivariate regression. These associations were not found for women. In a multiple regression, suicide was predicted by interpersonal conflicts and major depression in addition to the medical conditions.

De Leo, et al. (2002b) compared male Australian suicides who used hanging, firearms and non-domestic gas. Compared to those who used firearms or gas, those who used hanging were younger, less likely to leave a suicide note, and more likely to have been diagnosed with a psychotic disorder. Compared with those who used firearms, those using hanging more often had prior suicide attempts, and to have had no physical illness. Compared with those using non-domestic gas, those who used hanging were more likely to have lived with others, have had prior legal trouble, and have died by suicide at their residence.

Coryell, et al. (2002) followed up patients with affective disorders and compared those died by suicide with those who did not. The suicides had a tendency to more often have delusions while they were inpatients, had more suicidal behavior prior to inpatient care and more suicidal behavior after inpatient care.

Jenkins, et al. (2002) followed up a sample of attempted suicides in England for 22 years. The suicide rate stayed reasonably constant over that time period, from 5.9 per 1,000 per year for the first five years and 6.8 for the final three years.

People with Psychopathology

Marušič, et al. (2002) compared suicides occurring in hospitalized inpatients with suicides in the general population. The inpatient suicides were more often female and used jumping and drowning but did not differ in marital status from suicides in the general population.

⁸ Let me be blunt here. The journals and their editors and reviewers are as much to blame for such studies as are the authors.

Gaertner, et al. (2002) compared suicides with controls matched for diagnosis and found that the suicides had more often made multiple prior attempts (not just one)

Lambert (2002) compared patients presenting at a hospital for suicidal threats in order to get admitted and those who were seriously suicidal. In a 7-year follow-up, suicide occurred only in the serious group. Major depression was also more common in the serious group.

Pirkis, et al. (2002) compared suicides known to a psychiatric database with controls from the same data source known to be alive. The suicides and the controls did not differ on the majority of patient characteristics. The suicides were more often male, more likely to be in the labor force (employed or unemployed), and more likely to have recent contact with inpatient and community services.

Speißl, et al. (2002) compared suicides and attempted suicides among inpatients with nonsuicidal inpatients. “The risk of hospital suicide increases for patients with schizophrenia, higher cumulative length of stay, previous suicide attempt, part-time employment and training/retraining. Predictors of suicide attempt during hospitalization are suicide attempt on admission, personality disorder, suicidal thoughts on admission, schizophrenia and affective disorder” (p. 134). However, it appears that the suicidal patients (suicides and attempters) differed from the controls on all psychiatric diagnoses, and so one wonders what psychiatric disorders the controls had.

Affective Disorders

Tsai, et al. (2002) followed up Taiwanese patients with bipolar 1 disorder for 10 years. Suicide was associated with mood-congruent psychotic features (negatively), and positively with suicide in a first-degree family member, and having attempted suicide during the illness. There was no association with serum cholesterol or blood sugar levels.

Brådvik and Berglund (2002a) followed up patients with depressive disorders for 15-28 years and compared the suicides with the living patients. More of the suicides had attempted suicide in the past than the controls, but the attempts of the two groups did not differ in characteristics (e.g., severity or violent method). Suicide re-attempts in the suicides were related to the number of episodes of mood disorder, presumably during the follow-up, while suicide re-attempts in the controls occurred after a stressful life event. Suicide attempts were more frequent

in the suicides than in the controls, but here Brådvik and Berglund are not clear when these suicide attempts occurred. (They do not use the word *re-attempt* here). Overall, the presentation of the results is poor and difficult to comprehend.

Suominen, et al. (2002) compared suicides that occurred in general hospitals with all other suicides in Finland. Although the suicides that occurred while in the general hospital used more violent methods, more often had a major depression, less often abused alcohol and less often had a personality disorder, the multiple regression report found that on age and major depression predicted the general hospital suicides.

Maser, et al. (2002) followed a large sample of patients with affective disorders for 14 years and compared the suicides (within 12 months and after 12 months), the attempted suicides and the non-suicidal patients. They had an enormous number of variables on the patients. They summarized their findings as follows. Suicide within 12 months was predicted by clinical variables and not personality variables. Later suicide was predicted by temperament variables (impulsivity and assertiveness) and not clinical variables. Suicides and attempters shared the risk factors of previous attempts, impulsivity, substance abuse, psychic turmoil, within a cycling/mixed bipolar disorder.

Alcoholism and Drug Abuse

Garlow (2002) studied suicides who abused cocaine or ethanol. Suicides with cocaine at autopsy were younger, more often African American (except for suicides < 20 years of age when whites were the majority), and more often male. Those with cocaine and alcohol at autopsy were similar to the cocaine suicides. The suicides with alcohol on autopsy were more often white. Cocaine and alcohol use were not associated with choice of method for suicide.

Prisoners

Fruehwald, et al. (2002) studied the impact of prison reform in Austria which was meant to improve the conditions in prison, including lesser sentences and reducing overcrowding. In contrast to expectations, the prisoner male suicide rate (but not the prisoner female rate) rose after the passage of legislation.

Serin, et al. (2002) presented a detailed examination of completed and attempted suicides in Canada for male and female prisoners. They report many

differences between suicidal and non-suicidal prisoners. Compared to the attempters, the suicides were more often Aboriginal inmates and in maximum security. The suicides were more often diagnosed as schizophrenic, paranoid or depressed; the attempters as anti-social personality disorder. At intake, the suicides were rated as less impulsive but with poorer coping skills. The above is a mere smattering of Serin, et al.'s findings.

Epilepsy

Nilsson, et al. (2002) compared patients with epilepsy who died by suicide with those who did not do so. The presence of mental illness was more common in the suicides, of course. The suicides more often had onset of epilepsy before the age of 18. The suicides also had a tendency to have a high seizure frequency and antiepileptics polytherapy. There was no association with type of epilepsy or localization or lateralization of epileptogenic focus on EEG.

Blumer, et al. (2002) reported on five suicides with epilepsy, and all had longstanding complex partial seizures and dysphoric disorder a short time after full control of the seizures was achieved.

Indigenous Groups

May, et al. (2002) studied suicides in the Navajo, Pueblo and Apache groups in New Mexico. The use of alcohol prior to the suicide was less common in the Navaho (62% versus 81% and 78% for the Apache and Pueblo, respectively), but, overall, the use of alcohol was more common than in the general population. Alcohol use prior to suicide was associated with male sex and negatively with use of overdose as method of suicide. Alcohol use was not associated with age, place of residence, place of occurrence of the suicidal act or the use of other drugs.

Parker and Ben-Tovim (2002) compared suicides by Aboriginals and other ethnicities in the major part of the Northwest Territories of Australia. The Aboriginal suicides were younger, used hanging more often and gases less often, and had self-harmed previously more often. The two groups did not differ in depression, prior suicidal communications or alcohol abuse, but the Aboriginal groups had higher levels of blood alcohol at the time of the suicide.

Lee, et al. (2002) studied suicides in two indigenous groups in Taiwan, the Atayal and the Ami and living controls, using informants for both groups. Suicide

was more common for the Atayal with low assimilation into mainstream Taiwanese culture and for the males even after controls for depressive disorder.

Mass Suicide

Mancinelli, et al. (2002) suggested two types of mass suicide: (1) hetero-induced as in defeated and colonized groups who try to escape from their reality, and (2) self-induced by those with a distorted evaluation of reality. Examples of the first type are slave uprisings, those by groups expective pillage, rape and torture by the invaders, and those by persecuted religious groups. An example of the second type is the mass suicide of the members of the Heaven's Gate cult in 1997 in the United States.

Discussion

Too many of these studies used living normal controls, and they often did not use informants for the living controls. Instead, they talked to the controls personally. Thus, their research is, to be blunt, useless. Some studies with sounder methodology have appeared, and this is encouraging. Let us hope this continues in later years.

Joiner's theoretical contributions are extremely welcome.

Studies of Attempted Suicides

Methodological Considerations

Keeley, et al. (2002) evaluated the suicidal intent of a sample of attempted suicides and found that clinical evaluations and Beck's Suicide Intent Scale scores had very poor agreement.

Physiological Research

In a sample of depressed patients, Brunner, et al. (2002) found no differences between attempted suicides and non-suicidal patients for CSF and plasma concentrations of AVP, serotonin (5-HT), 5-hydroxyindoleacetic acid (5-HIAA), homovanillic acid (HVA), and cortisol, or for response to the combined dexamethasone/corticotropin-releasing hormone (Dex/CRH) test.

Corrêa, et al. (2002) examined the lower prolactin response to fenfluramine in schizophrenics who had attempted suicide and those who had not. Those who had attempted suicide had a lower response suggesting a dysfunction in serotonergic function.

Bergquist, et al. (2002) studied the presence of immunoglobulin G (DA-IgG) with affinity for the monoamine dopamine (DA) in cerebrospinal fluid (CSF) in inpatient attempted suicides versus controls having neurological evaluations and, therefore, not matched for psychiatric disorder. In the CSF from 49 suicide attempters the titer of DA-IgG was significantly higher ($P,0.001$) than in the CSF obtained from the control subjects, implicating autoimmune mechanisms in the dopaminergic neurotransmitter system.

Baca-García, et al. (2002) compared attempted suicides with healthy controls. They found that female attempted suicides were more often *S* individuals (s/s or s/l) with low expression of the serotonin transporter than female controls or male attempted suicides, especially female attempters making attempts of low lethality.

Atmaca, et al. (2002) compared attempted suicides with healthy controls and found that the attempters had lower serum cholesterol and leptin levels than the controls.

In a Korean sample of attempted suicides and both psychiatric and healthy controls, Kim, et al. (2002) found that the attempters had had lower serum cholesterol levels. This held true for patients with major depression and borderline personality disorder but not for patients with schizophrenia or bipolar disorders. Cholesterol level and the severity of the attempt were negatively associated.

Tripodianakis, et al. (2002) compared attempted suicides with healthy controls. They reported that “Urinary MHPG was found significantly higher in all diagnostic groups compared to controls. No difference was found concerning the excretion of HVA and 5-HIAA. Serum total cholesterol was found significantly lower both in violent and non-violent attempters compared to controls after correcting for age. No difference in serum cholesterol or MHPG was found between violent and non-violent attempts” (p. 38).

Gmitrowicz and Kołodziej-Maciejewska (2002) compared adolescents attempting suicide with overdoses and adolescents accidentally taking overdoses. The

attempters had higher levels of cortisol after the dexamethasone suppression test. Differences in serum cholesterol levels were found, but only in females. The higher cortisol levels in the attempters were related to depressive disorders, the presence of psychosocial and environmental problems, and elevated risk of repeated suicide attempt.

Youths

In a sample of high school students, Watt and Sharp (2002) found that the strains impacting attempted suicide varied by race and sex. For white males, attempting suicide was predicted by mother on welfare, college unlikely, feeling socially unaccepted and wanting to leave home. Attempted suicide in white females was predicted by poor grades, downward mobility, feeling unaccepted, family and friends don't care, and not hanging out with friends in the past week. Attempted suicide in black males was predicted by poor grades and father and adults don't care. Attempted suicide in black females was predicted by wanting to leave home and father and family members don't care. With a large number of predictors, a factor analysis of variables would have been useful, as would total scores for status strains and for relational strains.

Nock and Kazdin (2002) studied suicidal behavior in adolescent psychiatric inpatients. The adolescents who had suicidal ideation or who had attempted suicide scored higher for hopelessness, depressed mood and negative automatic thoughts. The attempters differed from the ideators on anhedonia and previous attempts.

Osman, et al. (2002) developed a single scale (PANSI) to measure risk factors (e.g., felt like a failure) and protective factors (e.g., felt hopeful) for suicide. In adolescent inpatients, they found that this scale differentiated those who had attempted suicide and those with suicidal ideation.

Farbstein, et al. (2002) compared attempted suicide aged 13-17 with normal controls for their later Israeli military service performance. As expected, the attempters had worse military performance. For the men, the attempters more often had psychiatric illness diagnosed on pre-induction screening, more occurrences of premature discharge from military service, and shorter military service. Their physical and mental health fitness rating during their service was also lowered more often. For the women, the attempters had lower performance prediction scores, more often had psychiatric illness diagnosed on pre-induction screening,

more often received jail sentences, and more often had medical hospitalizations. These results are not surprising given the normal control group.

Turner, et al. (2002) studied a small sample of adolescent Latinas, some of whom had attempted suicide. The attempters did not differ from non-attempters in demographic variables, depression, family type, acculturation, or self-esteem. The mutuality between girls and their mothers was lower among the attempters. Maladaptive coping skills of withdrawal and wishful thinking were more often used by attempters, while non-attempters more often used emotional regulation and problem-solving.

Wichstrøm and Rossow (2002) studied a sample of Norwegian adolescents and followed them up two years later. The girls had attempted suicide more often than boys before the study and more often during the follow-up, but depressed mood, disordered eating, poor self-concept and more frequent involvement in romantic relationships seemed to account for the difference.

In a study of English teenagers (14-18), Flouri and Buchanan (2002) found that suicide attempters were more likely to have been in trouble with the police, to report lower levels of parental interest and academic motivation, and to report suicidal ideation and using alcohol or an illegal drug when they feel stressed. They were also less likely to reside with both parents. The results were similar for boys and girls.

McNeill, et al. (2002) studied adolescents attending their GP in Scotland. Those who attempted suicide at age 15 had made more visits in the prior year, significantly so for >5 visits, especially for headaches, abdominal pains, and mental health problems.

Vermeiren, et al. (2002) surveyed Belgium adolescents (aged 12). Both moderate and severe victimization with violence increased the presence of suicidal ideation and attempted suicide for both boys and girls, even after adjusting for depression and aggressive antisocial behavior.

Bennett, et al. (2002) studied adolescents and young adults (aged 15-24) presenting at a hospital after attempting suicide. Attempts involving alcohol occurred more often on weekends, and more often involved cutting and piercing, not living with family and being employed. The younger attempters more often had family conflict, while the older attempters had relationship conflict.

In a community survey, Johnson, et al. (2002) found that maladaptive parenting and childhood abuse predicted attempted suicide in late adolescence and early adulthood (<22 years of age) even after controlling for age sex, and adolescent and parent psychiatric symptoms.

Hesketh, et al. (2002) surveyed adolescents aged 13-17 in China and found that past attempted suicide and suicidal ideation was associated only with poor academic performance and not with rural residence, being an only child, low mother's and father's education, low household income or living with one or no parents.

In a sample of adolescent drug abusers (aged 14-25) and normal controls, Bolognini, et al. (2002) administered the MINI, the MMPI-2, the Sensation Seeking Scale and the Interpersonal Dependency Inventory. Several MMPI scales differentiated the drug users from the normal subjects. On the other scales, multiple regression identified the significant factor explaining suicide attempts in drug users was emotional reliance for males and experience seeking for females.

Lau, et al. (2002) studied Asian American adolescent outpatients. Suicidal ideation and attempts were predicted by age, depression, internalizing symptoms (e.g., withdrawing from others), externalizing symptoms (cruel to others) and parent-child conflict positively, and negatively by acculturation.

Kidd and Kral (2002) in a qualitative study of attempted suicide in homeless youths noted that assault during prostituted sex appeared to be an experience that increased the risk of suicidal behavior and merited further research.

In a sample of Canadian adolescents seen for suicidal behavior (attempts or ideation), Pinhas, et al. (2002) found gender role conflict in 27% of the girls and 3% of the boys, suggesting an important variable for future research.

Perez-Smith, et al. (2002) studied adolescent suicide attempters and measured neighborhood factors such as social networks (e.g., adult to child and male to female ratios) and neighborhood impoverishment (e.g., % vacant housing and % unemployed). Living in an area with poor social networks was associated with greater hopelessness in the adolescents. This study is hampered by the poor operational definition of social networks.

In a study of Swedish junior high school students, Ivarsson, et al. (2002) found that suicidal ideation was predicted by gender (female) and the anxious/depressed and delinquency syndrome scales. Lifetime suicide attempt was predicted by withdrawal (low scores) and self-destructive/identity problems.

In a study of American teenagers, Valentiner, et al. (2002) found that suicidal ideation and suicidal behavior were not associated with a variety of measures of anxiety or with depression. Partial correlations controlling for depression and suicidal ideation gave one or two significant correlations, but the researchers did not control for multiple tests. Panic measures were positively associated with suicidal ideation, while social phobia measures predicted lesser suicidal behavior.

In a large sample of American teenagers, Perkins and Hartless (2002) found that suicidal ideation and attempted suicide were both predicted by age, hopelessness, family support, physical abuse, sexual abuse, alcohol use, hard drug use and school climate.

Kelly, et al. (2002) compared adolescent attempted suicides with non-attempters, and found that bipolar disorder, cocaine use disorders, and conduct disorder were found more often in the attempted suicides. Comorbidities involving bipolar disorder, drug and alcohol use disorders and conduct disorder were found to predict attempted suicide.

Adults

In a multi-country study (European countries) of attempted suicides, Hjelmeland, et al. (2002b) found that the reasons given for the attempt were reasonably consistent across countries, and the intentions did not vary much by sex or age.

In a national survey of American adults, Simon, et al. (2002) found that suicidal ideation or behavior was most common in those who were victims of physical assault, especially if injured and if assaulted by a relative or intimate partner. Even those who were not injured and those assaulted by a stranger reported more suicidality than non-victims.

In a study of a large sample of male twin pairs, Fu, et al. (2002) found that lifetime suicidal ideation was predicted by the co-twin's suicidality, being white,

unemployment, being other than married, moderate Vietnam combat exposure and psychiatric disorders. Attempted suicide lifetime was predicted by the co-twin's suicidality, unemployment, marital disruption, low education attainment and psychiatric disorders (except childhood conduct disorder). Monozygosity increased the concordance for suicidal ideation but not for attempted suicide.

In a sample of Kuwaiti college students, Abdel-Khalek and Lester (2002b) found that scores on a measure of obsessive-compulsiveness were associated with suicide ideation, as well as depression scores. Only depression scores were associated with prior attempted suicide.

In a survey of college students, Brown and Blanton (2002) found that participation in sports was associated with less suicidal behavior (attempts plus ideation) for both men and women. Men reporting no physical activity appeared to report more suicidal behavior, and low activity was associated with the least suicidality. For women, the reverse was true, with those reporting no activity having the least suicidality.

Crosby and Sacks (2002) surveyed Americans for their knowing a suicide in the past year. Those who answered yes (6.5%) were more likely to report suicidal ideation, planning and attempts in the past year. After controls for age, sex and marital status, the associations were in the same direction but no longer statistically significant.

Eynan, et al. (2002) studied Canadian adult homeless people and found that suicidal ideation and attempts were common and predicted by being homeless without family members for at least a week in childhood, being homeless for more than 6 months (only for ideators). Other variables that were associated with ideation and attempts were mood disorder, psychotic disorder and being female.

Bhugra (2002) reported higher rates of attempted suicide in South Asian women in London, especially among the younger ones (16-24).

For reasons for attempting suicide, Hjelmeland, et al. (2002a) found no sex differences for 12 of the reasons, but women more often endorsed making others feel guilty and punishing them. Suicidal intent had similar correlates with reasons for men and women (positive with exit and negative with temporary escape). Of ten stressors, women checked rejection by a lover more often. On the whole, therefore, men and women had similar reasons and stressors.

Dieserud, et al. (2002) compared attempted suicides admitted to a general hospital with normal controls from the community. However, some of the attempters were dropped from the study because of psychiatric diagnoses (psychosis, mental retardation and drug addiction). In childhood, the attempters had more often experienced parental loss, parental abuse, and parental mental illness. As adults, they obtained higher scores for depression and hopelessness and lower scores for self-esteem and problem-solving. The attempters also more often had alcohol problems and previous suicide attempts. The predictors differed slightly for men and women, but the sample of attempters was small (n=50).

In a study of economically disadvantaged, young (19-22), urban African Americans, Ialongo, et al. (2002) found that those reporting suicidal ideation or past attempts more often had a psychiatric diagnosis: major depression, antisocial personality, conduct disorder, ADHD, alcohol abuse, and substance abuse.

In a sample of attempted suicides, Hawton, et al. (2002a) found that those with a family history of suicidal behavior had higher state anger scores, but did not differ in impulsivity, self-esteem, mental illness, depression or hopelessness.

Leslie, et al. (2002) found that attempted suicide in male runaway youths was predicted by being gay, emotional distress, fewer conduct problems, avoidant reasons for drug and the influence of suicidal friends. For females, the predictors of suicidality were lower age, lower self-esteem, the influence of suicidal friends, and life events on the streets including assault.

Milnes, et al. (2002) asked attempted suicides about their problems and whether the problems were viewed as insoluble. The most common insoluble problems reported concerned relationships. Those reporting insoluble problems had higher scores for hopelessness and suicidal intent, and these scores increased with the number of insoluble problems.

Ullman and Brecklin (2002) studied a national sample of sample of women aged 15-54 reporting sexual assault in childhood or in adulthood or both. Suicidal ideation was predicted by the number of lifetime stressful events, depression, PTSD, and alcohol dependence symptoms. Attempted suicide was predicted by depression and traumatic life events and by sexual assault in both childhood and adulthood as compared to sexual assault in only one period in life.

In a sample of African American women, Meadows and Kaslow (2002) found that attempted suicides scores higher on hopelessness and had had more experience of childhood abuse and neglect. Meadows and Kaslow proposed that hopelessness mediates the link between childhood maltreatment and suicidality. The same group of researchers (Anderson, et al., 2002) studied low-income African American women and found that attempted suicide was associated with childhood abuse, emotion, physical and sexual. If they had experienced all three types of abuse, the risk of attempting suicide was highest. Again by the same group of researchers, in a sample of abused African American women, Thompson, et al. (2002a) compared attempted suicides presenting at a hospital with non-suicidal patients presenting at the hospital for non-emergency problems. The attempters scored lower on a self-efficacy scale for battered women, received less support from family and friends, and scored lower for perceived effectiveness of obtaining resources. The attempters were more depressed, but the researchers did not include this variable, and they do not tell us whether all the participants were abused. (The numbers in their table are not explained.) Apparently using the same sample, Thompson, et al. (2002b), this time, found that the attempters had high levels of depressive symptoms, higher scores for hopelessness, and more often reported drug abuse and childhood abuse and neglect. Yet again by the same group of researchers, Kaslow, et al. (2002) found that attempted suicide by abused African American women was predicted by negative life events, childhood maltreatment, psychological distress, depression, hopelessness, and alcohol and drug problems. Protective factors were hopefulness, self-efficacy, coping skills, social support, and effectiveness in obtaining material resources.

Hawton (2002) explored early data in England after legislation reduced the number of acetaminophen and salicylates in packages sold. Based on a small sample, the number of tablets of acetaminophen sold did not change, but the number of tablets of salicylates sold declined. The number of attempts using acetaminophen declined, and attempted suicides used fewer tablets. Admissions for liver damage and mortality from acetaminophen declined.

In a sample of attempted suicides and suicidal ideators, Joiner and Rudd (2002) found that suicidal ideation was not associated with 10 of the 11 personality scales of the MCMI, with exception of a positive association with passive-aggressive personality scores.

In small samples of Hindus and Muslims in London (England). Kamal and Loewenthal (2002) found no differences in suicidal ideation or attempted suicide, despite differences in the attitudes toward suicide in the two religions.

Ragin, et al. (2002) studied women admitted to a shelter for domestic violence victims and compared those who had attempted suicide with those who had not done so. On a multiple regression, attempting suicide was predicted by the father using drugs (as well as aunts using drugs and grandparents abusing alcohol), and domestic violence against the mother and aunts.

LGBTQ?

Remafedi (2002) found that gay men (interviewed in a gay venues) who had attempted suicide had fewer years of education than non-attempters, were more often African American and more often from urban areas. In a multiple regression, only school enrolment predicted suicidal ideation (less likely for the attempters).

Mathy (2002b) found that transgender individuals more often reported suicide ideation and attempts than any heterosexual or homosexual group except homosexual females. Sexual orientation (heterosexual versus non-heterosexual) did not differentiate transgender ideators or attempters from non-ideators or non-attempters.

In a sample of lesbian, gay and bisexuals, McBee-Strayer and Rogers (2002) found that a history of abuse and struggles with self or other acceptance predicted current suicidal ideation and past suicide attempts. Substance abuse predicted suicidality only for males. The presentation of results in this paper is poor.

The Elderly

Osvath, et al. (2002) compared elderly attempted suicides (>65) in Hungary with the younger suicides. The elderly attempted suicides were more often female, used hard methods (especially the males), had a lower rate of repeaters, and a higher proportion of depressive and organic disorders.

Ron (2002a) studied elderly persons (mean age 87) in a nursing home. Those there for 2 months or less had attempted suicide more often in the past, and those there for one year or less often reported suicidal ideation.

Adults with Psychopathology

In psychiatric inpatients, Guillem, et al. (2002) found that attempted suicide (in the past or recently) was associated with lower serum cholesterol levels in women, but not in men. Scores for novelty seeking did not differentiate attempters from non-attempters and were not associated with serum cholesterol levels.

Eating Disorders

In a study of women with eating disorders, Corcos, et al. (2002) found that attempting suicide was associated with earlier onset of psychopathology, higher severity of depressive and general symptoms, and more impulsive disordered conduct, but not for the core symptoms or type of eating disorder. However, the attempters used laxatives and diuretics more often.

In a sample of bulimia patients, Anderson, et al. (2002a) compared those making serious suicide attempts, those making mild attempts and those making neither. The serious attempters had lower BMIs, more often reported sexual abuse and more often had alcohol dependence, obsessive-compulsive disorder, simple phobia, social phobia, panic disorder, and oppositional defiant disorder. The three groups differed on some subscales of the Eating Disorders Inventory and Temperament and Character Inventory.

Substance Abuse

Aharonovich, et al. (2002) studied patients with substance abuse. The presence of a major depression increased the rate of attempting suicide. Depression occurring before the substance abuse was associated with increased suicidal intent. Depression occurring during the substance abuse was associated with the number of attempts.

Koller, et al. (2002) studied detoxified alcoholics for their history of attempted suicide. Those who had attempted suicide scored higher for impulsivity and for aggressive behavior (especially those making violent suicide attempts) and had a higher rate of depressive disorders.

Preuss, et al. (2002a) studied alcoholics who had attempted suicide, comparing those with mood disorders and those with alcohol-induced depression. Those with a mood disorder made a greater number of suicide attempts, were less

likely to have been drinking during their most severe attempt and were more likely to have panic disorder.

In a larger sample of alcohol-dependent subjects, Preuss et al (2002b) found that the attempted suicides had a more severe course of alcohol dependence and a higher prevalence of both independent and substance-induced psychiatric disorders and other substance dependence. The first-degree relatives of the attempters also had a higher rate of suicide attempts.

Lekka, et al. (2002) studied psychiatric patients without a history of illegal substance abuse who consumed benzodiazepines regularly in doses higher than those recommended. Compared to psychiatric patients who were non-users, the BZD patients had more often attempted suicide in the past. They also more often had a comorbid personality disorder.

Brodniak, et al. (2002) compared alcoholics with a history of attempted suicide, those without such a history and normal controls. The attempters had more marked depressive symptoms, a longer history of alcohol abuse and more hospitalizations for alcohol problems, more often unemployment or low status in the workplace, less social support, more negative life events, and more family problems and loneliness.

Gamblers

Petry and Kiluk (2002) studied suicidal ideation and attempted suicide in pathological gamblers seeking treatment. The suicidal pathological gamblers had more psychiatric symptoms, were less satisfied with their living situations, and experienced more days of conflict in the prior month. They had spent more money gambling in the prior month, reported greater cravings for gambling, and had higher South Oaks Gambling Screen scores.

Affective Disorders

Janowky, et al. (2002) gave the Myer-Briggs Type Indicator to psychiatric inpatients with affective disorders who had suicidal ideation or who had attempted suicide and control inpatients. The suicidal patients scored higher for introversion and perceiving but did not differ for sensing/intuiting or thinking/feeling. The researchers do not appear to have classified the patients into the 8 possible types on the Myers Briggs.

Brent, et al. (2002) obtained a sample of inpatient depressed attempted suicides and non-attempters. The attempters were more often non-Catholic, had PTSD and had a Cluster B Axis II disorder. They then studied the offspring of the patients. The offspring had an average age of 20. The offspring who had already attempted suicide more often had a parent who had attempted suicide and who had been sexually abused. The attempters themselves were more often female, white, with a mood disorder, alcohol or substance abuse, and Cluster B disorder, more often had been sexually abused, and scored higher on impulsivity and on aggression. Overall, the offspring of attempters had a six-fold increased risk of attempted suicide than the offspring of non-attempters.

Pezawas, et al. (2002) compared patients with recurrent brief depressive disorder, major depressive disorder and those who had both (combined). The combined group had higher scores on measures of suicidal behavior and impulsiveness, and they had the highest-ranking risk factors for future suicide attempts. They had also more often attempted suicide. Those who had attempted suicide obtained higher impulsiveness scores and borderline personality scores but did not have higher depression scores.

Daskalopoulou, et al. (2002) studied bipolar and unipolar psychiatric patients. Self-esteem and social adjustment were associated with suicidality (ideation or attempt) in the bipolar patients but not in the unipolar recurrent depression patients.

Lykouras, et al. (2002) compared elderly depressed inpatients with and without psychotic symptoms and found no differences in attempted suicide.

Oquendo, et al. (2002) followed up psychiatric patients with major depression for 2 years. Attempted suicide in the follow-up period was more common in those who still had a major depression after two years and a high number of lifetime suicide attempts.

Schizophrenia

Nordentoft, et al. (2002) followed up patients admitted with first-episode schizophrenia spectrum disorder for one year. Attempted suicide was associated with female gender, hopelessness, hallucinations and suicide attempt reported at baseline.

Borderline Personality Disorder

In a sample of women with borderline personality disorder, Brown, et al. (2002) compared those attempting suicide with those making suicidal gestures. (self-harm). Those self-harming more often were expressing anger, punishing themselves, trying to generate normal feelings, and distracting themselves. The attempters more often hoped to make others better off. Both groups were also trying to relieve negative emotions.

Soloff, et al. (2002) found that childhood sexual abuse, but not physical abuse, predicted later attempted suicide in a sample of patients with borderline personality disorder (BPD) and, in addition, antisocial traits, the severity of the BPD, hopelessness and comorbid major depression.

Prisoners Etc.

Kobylinska and Taylor (2002) compared Australian inmates in a maximum security prison who made serious attempts at suicide with those making less lethal attempts. Those making the lethal attempts cited their legal situation as a precipitating event and less often their placement in the correctional center.

Eidhin, et al. (2002) compared past attempted suicides, current suicidal ideators and nonsuicidal Irish prisoners. The suicidal prisoners preferred privacy and wanted less social stimulation. On problem solving, they produced more passive means and fewer active means on the Means-End Problem-Solving Test.

Blaauw, et al. (2002) compared prison inmates with a history of attempted suicide with those without such a history. The attempters had more stressful life events in childhood, later life and prison, including sexual abuse, physical maltreatment, emotional maltreatment and abandonment, and suicide attempts by significant others.

In a study of suicidal ideation and attempts in juvenile delinquents, Esposito and Clum (2002a) found that suicidality was associated with childhood physical and sexual abuse, lack of social support and lack of problem-solving confidence.

In a sample of men in court for domestic violence, Conner, et al. (2002) found that those men who had more prior suicidal behavior were more violent abusers and more likely to be charged with criminal acts rather than violations.

In a sample of Finnish offenders with borderline personality disorder, Repo-Tiihonen, et al. (2002) found no association between a history of attempted suicide and total serum cholesterol levels.

Goss, et al. (2002) compared attempted suicides in a jail who were under observation with attempters who were not under observation. Those under observation more often had chronic psychiatric problems, had made previous attempts, had been in jail more than 30 days, and more often used strangulation and less often an overdose.

Medical Patients

Barak and Aizenberg (2002) studied patients admitted with dementia to a mental health center. Patients with Alzheimer's admitted after a suicide attempt were compared with non-attempters. The attempters obtained lower dementia scores and had made more previous attempts. The groups did not differ in lifetime psychopathology or cortical atrophy.

Simpson and Tate (2002) studied suicidal behavior in patients with brain trauma. Suicidal ideation was predicted by hopelessness and post-injury emotional/psychiatric disturbance. Attempting suicide was predicted by suicidal ideation and post-injury emotional/psychiatric disturbance.

Studies of Suicidal Ideation

Methodological Issues

In a study of suicidal ideation in adolescents, Dhossche, et al. (2002) found that 4.5% reported having had suicidal ideation, but that few of the parents reported suicidal ideation in these adolescents. Parent reports are, therefore, unreliable.

Physiological Studies

In a sample of depressed cancer patients, Uchitomi, et al. (2002) found no significant differences in 5-HT-induced platelet calcium response between those with and without suicidal ideation. 5-HT-induced platelet calcium response was not significantly associated with the severity of suicidal ideation.

Children

Viñas, et al. (2002) studied 9-year-olds in Spain and found that suicidal ideation was associated with depression and hopelessness (but not self-esteem) and, for boys, a controlling family environment (but not cohesion, conflict or expressiveness).

Youths

Joiner, et al. (2002b; 2002c) studied people aged 15-24 visiting a general practitioner. Those presenting with psychological problems were compared with those presenting with physical problems. It is not clear which subjects were compared, but it seems that only the patients with suicidal ideation in each group were compared. The suicide patients presenting with physical problems tended to be more often female, younger, with lower depression and general distress scores, \

Breton, et al. (2002) studied Canadian community adolescents aged 12-14. Suicidal ideation was predicted by internalizing symptoms, externalizing symptoms, father's death, smoking tobacco, mother's autonomy-promoting attitudes, poor father's caring behaviors, parental depression and parents' punitive behavior.

Dhossche, et al. (2002) studied a sample of adolescents and followed them up 8 years later. Dhossche, et al. report that suicidal ideation reported at baseline did not predict suicidal ideation or psychiatric problems at follow-up, but their tables show that it did predict *any psychiatric disorder*. For the males, suicidal ideation was followed by *specific phobia* at follow-up (an intense, irrational fear of something that poses little or no actual danger). The adolescents reporting suicidal ideation at baseline scored higher for internalizing and externalizing problems. Suicidal ideation at the follow-up was associated with psychiatric problems.

Greening and Stoppelbein (2002) asked a community sample of adolescents to rate the likelihood that they would die by suicide. They found that orthodoxy (the acceptance of traditional beliefs and doctrines) was associated with suicide

risk along with depression and hopelessness (positively) and family support and attributional style (negatively). In a multiple regression, only orthodoxy, ethnicity and depression predicted suicidal risk.

In samples of 15-24-year-olds in Australia and the United States, Joiner, et al. (2002d) found that those born in Australia in September-November showed the highest suicidal and depressive symptoms as did those born in the United States in March–May. They speculated that this result may be a result of mothers getting flu during the second trimester.

Rutter and Soucar (2002) studied a sample of 17-19-year-olds and found that sexual orientation was not related to suicidality while social support was negatively associated with suicidality for the total sample.

In Norwegian 8th grade students, Roland (2002) found that suicidal ideation was associated with bullying, both as victim and bully, and with depression.

In a sample of high school students, Chang (2002) found that suicidal ideation was associated with recent stressful life events, poor social problem-solving skills, and prior suicide attempts.

In analyses of the high school Youth Risk Behavior Surveys administered before and after the mass shooting at Columbine High School in the United States in 1999, Brener, et al. (2002) found that students reported less suicidal ideation in the surveys taken after Columbine than before.

Wong, et al. (2002) surveyed adolescents in China and found that suicidal ideation was negatively associated with both maternal warmth and paternal warmth. The associations with maternal and paternal control were not significant.

Esposito and Clum (2002b) studied a sample of emotionally disturbed high school students. Suicide ideation was predicted by the severity of psychiatric symptoms associated with mood disorders. Disruptive behavior, drug use disorder and anxiety did not add to the prediction of suicidal ideation although, looking at their tables of results, it appears to me that they do.

Adults

Abdel-Khalek and Lester (2002a) studied Kuwait and America college students and found that the two groups did not differ in suicidal ideation. Suicidal ideation in the Kuwaiti students was predicted by pessimism, death obsession and anxiety. Suicidal ideation in the American students was predicted by the same variables plus sex.

In a sample of female college students, Nilsen and Conner (2002) found that suicidal ideation was associated with childhood emotional and physical abuse (but not sexual abuse) and partner violence in adulthood (but not forced sex in adulthood).

Fekete (2002) compared posts on the Internet from suicidal and non-suicidal individuals. A content analysis showed that the suicidal posts had more negatives and dichotomous structures which Fekete thought that may reflect the important role of denial and dichotomous thinking suicidal individuals.

In a sample of college students, Burge, et al. (2002) found that preference for heavy metal and rock music was associated with suicidal ideation (but only in males) while preference for rap/country/pop music was not associated with suicidal ideation.

Turvey, et al. (2002a). surveyed a random sample of people living in one rural county in Iowa. Suicidal ideation in the past year was associated with age <65, lower income, psychiatric symptoms (especially depression), work impairment, debt, legal problems, and social isolation.

de Man and Gutiérrez (2002) found that depression and low self-esteem were associated with suicidal ideation in college students. They calculated the standard deviation of the five subscales of the self-esteem inventory and called this instability of self-esteem. This variable was not associated with suicidal ideation.

In a small sample of college students, Garcia, et al. (2002) found that female lesbians/bisexuals more often reported suicidal ideation than heterosexual women, but the difference for the males was not statistically significant. Despite the title of the article, they did not explore the association between a history of abuse and suicidal ideation.

In a national survey of Swedish women, Waern, et al. (2002b) found that suicidal ideation was associated with lifetime depressive disorder and also in the

prior year. Anxiety disorder and alcohol dependence/abuse were not associated with suicidal ideation.

Among the Inuit in Greenland, Bjerregaard, et al. (2002) found that suicidal ideation was more common in women, those living in the capital, those who were born in Denmark and moved to Greenland, and in young people.

The Elderly

In a survey of elderly Italians, Scocco and De Leo (2002) found that suicidal ideation was associated with scores for depression, interpersonal sensitivity, paranoid ideation, and psychoticism, but not with scores for anxiety, somatization, obsession-compulsion, hostility or phobic anxiety.

Heisel, et al. (2002) studied suicidal ideation in seniors (>65) from various settings. Suicidal ideation scores on scales were positively associated with scores for depression and hopelessness and negatively with scores on the Mini-Mental State Exam (indicating impaired cognitive functioning).

Cook, et al. (2002) studied suicidal ideation in elderly (>55) African Americans. Suicidal ideation was associated with anxiety, social dysfunction, somatic symptoms, low social support, lack of a confidant, and low religiosity. Correlates differed for active and passive suicidal ideation. For active suicidal ideation, correlated with a history of mental health treatment, and no instrumental support. Correlates of passive ideation (wishing you were dead and life not worth living) were older, and had lower levels of education, elevated depressive symptoms, and poorer cognitive functioning. The samples of ideators were, however, small.

In a sample of Israeli elderly living in the community, Ron (2002b) found that suicidal ideation was associated with being female, widowed, very religious (orthodox), , previous suicide attempt, hopelessness, depression and not being a Holocaust survivor, but not age or education.

Patients with Psychopathology

Yen, et al. (2002) followed up schizophrenic patients released in remission and followed them up for a year. Suicidality was not predicted by duration of

illness, number of hospitalizations, age, level of education, or insight into their disorder. Females reported more suicidality.

Pinninti, et al. (2002) found that patients diagnosed with schizoaffective and bipolar depression patients scored higher on Beck's suicidal ideation scale than patients diagnosed with paranoid schizophrenia and bipolar mania.

Bartels, et al. (2002) studied primary care patients with depression, anxiety or alcohol misuse disorders. Suicidal ideation was found more often in patients with comorbid depression and anxiety disorder and least often in those with alcohol misuse. Suicidal ideation was most common in Asian American and least common in African Americans. Suicidal ideation was associated with having fewer social supports and more severe symptoms.

Medical Patients

Nakao, et al. (2002) studied patients in a clinic for patients with psychosomatic problems. Suicidal ideation was predicted by the number of psychosomatic symptoms after controlling for sex, education, marital status, and depression scores. However, the ideators were a little younger than the non-ideators, were more often female, less educated, less often married, less often employed, and on the POMS were more depressed, tense-anxious, angry-hostile, and confused and had less vigor and more fatigue.

Cohen, et al. (2002) interviewed patients who discontinued dialysis. Only 12% thought that discontinuing dialysis was suicidal, and this thought was not associated with the level of depression. Those discontinuing dialysis had a tendency to have more often attempted suicide in the past. The prevalence of major depression was between 5% and 25%. Cohen, et al. concluded that "Most patients who decide to stop dialysis do not seem to be influenced by major depression or ordinary suicidal ideation" (p. 889).

Goodwin and Olfson (2002) studied medical patients visiting their doctors. In an apparent multiple regression, suicidal ideation was more frequent in patients who were female, had panic attacks, major depression and alcohol misuse, and a perception of poor physical health (the focus of their study).

Heckman, et al. (2002) studied HIV-infected persons living in rural communities. Suicide ideation was predicted by having more depressive

symptoms, less coping self-efficacy, more frequently worried about transmitting their HIV infection to others, and experiencing more stress associated with AIDS-related stigma.

In a sample of patients with MS, Feinstein (2002) found that suicidal ideation was associated with living alone, have a family history of mental illness, more social stress, and having lifetime diagnoses of major depression, anxiety disorder, comorbid depression–anxiety disorder, and alcohol abuse disorder. In a multiple regression, the predictors of suicidal ideation were the severity of major depression, alcohol abuse, and living alone.

Sharhabani-Arzy, et al. (2002) studied a sample of Israeli bettered women. The significance levels in their table do not make sense (e.g., the F value is labeled as significant, but the beta coefficient is not), but they say that suicidal risk was predicted by PTSD symptoms (hyperarousal) and self-criticism, but not the intensity and type of violence.

Criminals

Cororan and Graham (2002) found that incarcerated juvenile delinquents more often had suicidal ideation than those sentenced to community service. Suicidal ideation in both groups was associated with depression, external scores (e.g., acting-out, aggression) and internal scores (e.g., emotional withdrawal, somatic complaints) and ratings of general health status.

Attitudes toward Suicide

Ganzini, et al. (2002) asked caregivers about the desire for assisted suicide in the people with ALS patients they were caring for. Interest in assisted suicide in the month before death was predicted by interest in assisted suicide at the first interview (see Ganzini, et al. (1998), distress at being a burden to others, insomnia and pain.

Stack (2002), in a national survey in the United States found that opera fans were more accepting of suicide for dishonoring one's family. Only religiosity and education were stronger predictors.

Physician-Assisted Suicide (PAS)

Joslyn and Haider-Markel (2002) surveyed the public on their attitudes toward PAS. Opposition was associated positively with being non-white, religiosity and ideology, and negatively with individualism, but not with age, sex or education.

Dickinson, et al. (2002) asked intensive care and geriatric physicians in England about PAS. Geriatricians were more opposed to PAS (80%) than intensive care physicians (52%). Sex and age were not associated with this attitude.

Domino (2002) apparently found that support for PAS was lower in Poland than in the United States, although Domino does not give total scores for the scale he used, but only scores for individual items.

In a sample of American college students, Butt, et al. (2002) found that support for PAS was predicted by younger age, non-minority status and greater hopelessness.

Curry, et al. (2002) surveyed American physicians on whether they favor PAS even if palliative care was available. The most important factors impacting their opinion were religious affiliation, how deeply religious they were and medical specialty (with psychiatrists and neurologists more in favor of PAS).

Discussion

Personal Comments

This is the fifth review of research into suicidal behavior that I have done, for the period 1998-2002. My level of irritation with the research has been growing with each review, and I am adding critical comments to the research more often. The statistics are often quite poor and inadequate, and the variables studied continue to be the same. Several papers appear every year on childhood abuse and suicide, suicide in LGBTQ people, etc, etc. I doubt that the same repetition of studies on what is already well-documented appears in the natural sciences. The comparison of suicides and attempted suicides to normal or healthy controls continues to appear, and this makes psychiatric symptoms and disorders the overwhelming distinguishing variable.

The situation has arisen where journals have proliferated and desperately need articles, and researchers, typically faculty, need papers in order to get hired,

tenured and promoted or justify and renew their research grant. Readers of this might be tempted to comment that I, David Lester, am an example of this, except that I had tenure and promotion to Full Professor early (at age 33), and my many, many publications were often done for fun.

What Have We Learned About Suicide?

At last, we have witnessed the first major contribution to suicidology: Joiner's Interpersonal Theory of Suicide. Despite criticisms of the theory (see above), its appearance was a major stimulation for research into suicidal behavior and is, therefore, to be welcomed. Joiner also proposed a trajectory for suicide which is very thought-provoking.

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SUICIDE AND AN INDEX OF HAPPINESS IN ARAB COUNTRIES

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Abstract: Happiness scores were obtained from samples of university students in 15 Arab countries. The suicide rates (total and for men and women separately) were not associated with the happiness scores for the countries, but the happier countries did have relatively higher male suicide rates as compared to female suicide rates.

Yang and Lester (1992) conducted a time series analysis for the period of 1939 to 1986 in the United States of the misery index (which is a combination measure of unemployment and inflation) and the suicide rate. They found that the misery index was strongly associated with the suicide rate over this period.¹⁰

Abdel-Khalek, et al. (in press) has obtained a measure of happiness from university students in 15 Arab countries and the present study sought to explore whether average scores on this scale were associated with the suicide rates of those countries.¹¹ Data on suicide for majority Muslim countries are available from Lew, et al. (2022). The present note explored whether the happiness scores for the 15 Arab countries were associated with the suicide rates of those countries.

¹⁰ Their paper was entitled *The misery index and an index of misery!*

¹¹ Abdel-Khalek, et al. also obtained data for Palestinian students, but data on suicide for this group were not available.

One problem with national suicide rates is that sources have turned to estimating suicide rates for those countries that do not collect mortality statistics. For example, it is easy to find suicide rates, total and for men and women separately, estimated for countries such as Libya, Sudan and Yemen, countries that have civil wars ongoing.

Lew, et al. (2022) provided data for the total suicide rate, the male/female ratio of suicide rates, the percentage of Muslims and the Human Development Index (HDI) for the countries. The descriptive data are shown in Table 1 and the results of the correlational analysis are shown in Table 2. The happiness scores for the men and women in the 15 countries were strongly associated ($r = 0.95$).

Table 1: Descriptive statistics

	Mean	SD
Happiness male	50.25	4.67
Happiness female	49.00	5.22
% Muslim	89.51	12.80
HDI	0.73	0.11
Suicide rate	4.38	1.80
Male/Female rates	3.06	1.32

Table 2: Correlations between variables based on Lew, et al. (2022) suicide rates

	Suicide rate	Male/Female rates
Happiness male	+0.10	+0.45*
Happiness female	+0.22	+0.53**
% Muslim	+0.11	-0.38
HDI	-0.21	+0.65***

* < .10

** < .05

*** < .01

It can be seen that the suicide rate of the 15 Arab countries was not associated with any of the predictor variables. However, happiness and the HDI were associated with the male/female ratio of suicide rates. The happier countries

and those with a higher HDI had a higher proportion of male suicides compared to female suicides.

To check on these results, we used crude suicide rates, total and by sex, from the WHO and from Wikipedia for 2019.¹² The suicide rates from Lew, et al., WHO and Wikipedia were strongly associated ($r = 0.90, 0.92$ and 0.99) and the male/female ratios also strongly associated ($r = 0.99, 0.99$ and 1.00).

The results using the WHO data source are shown in Table 3.

Table 3: Correlations between variables based on WHO suicide rates

	Suicide rate				
	Total	male	female	m/f	m-f
Happiness m	+0.32	+0.32	-0.20	+0.52**	+0.46*
Happiness f	+0.42	+0.41	-0.17	+0.61**	+0.55**
% Muslim	-0.08	-0.09	+0.38	-0.43	-0.29
HDI	+0.16	+0.24	-0.61**	+0.69***	+0.58**

* < .10

** < .05

*** < .01

The results (shown in Table 3) match those using the data from Lew, et al. (2022). By sex, the only addition is that female suicide rates (but not male suicide rates) were lower in the more developed countries. The ratio of male to female suicide rates matched the results in Table 2. In addition, a different measure of the sex difference in suicides (male minus female suicide rates) gave the same results. The happier countries have relatively higher male suicide rates as compared to female suicide rates. This may be a result, in part, of the differential roles of men and women in Muslim societies where men are the primary (if not only) source of income for families.

Note that these results, although interesting, are based on estimated suicide rates and not on actual suicide rates. For future research, the present study should be replicated using samples from developed countries (where, it should be noted,

¹² [www.who.int/data/gho/data/indicators/indicator-details/GHO/age-standardized-suicide-rates-\(per-100-000-population\)](http://www.who.int/data/gho/data/indicators/indicator-details/GHO/age-standardized-suicide-rates-(per-100-000-population)); en.wikipedia.org/wiki/List_of_countries_by_suicide_rate

the suicide rates are actual rates and not estimated rates) and, in addition, the relationship between the misery index and an index of misery conducted by Yang and Lester (1992) should be replicated using Arab countries.

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A STUDY OF CORRELATES OF THE AVERAGE AGE OF SUICIDES IN EUROPEAN COUNTRIES

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Abstract: In a sample of European countries, the median age of suicides had few correlates. However, when the curve for the suicide rates of men by age was upward sloping, then the suicides were older, the suicide rate was lower, and the Human Development Index was higher as compared to a convex age distribution (with suicide rates highest in middle age).

A variable in sociological studies of suicide that has not received much attention is the mean or median age of suicides. Da Veiga and Saraiva (2003) reported the median age at death of suicides in 36 European countries, but they did not investigate correlates of this variable.

In a time-series study in the United States for 1968 to 1996, Lester and McIntosh (2003) found that the mean age of suicides was associated with lower suicide rates for those aged 15-35 and higher suicide rates for those aged 45+. Thus, the mean age of suicides is a way of summarizing the variation in suicide rates by age. Lester and McIntosh found that the mean age of suicides was associated positively with the birth rate, negatively with the divorce rate and not associated with the marriage rate. The mean age of the suicides was not associated with the mean age of the population.

The present study was designed to explore correlates of the average age of suicides using the data provided by Da Veiga and Saraiva (2003) for 36 European nations. Da Veiga and Saraiva provided data for the median age of suicides for 1987-1989 and for 1995-1998.

It is a problem these days in obtaining data by country, especially from earlier years. Whereas, in past times, printed volumes of data appeared in reference libraries and stayed there permanently, these days the data are online and not easily accessible on the online sites. The websites used for the data used in the present

study are shown in an Appendix. The variables used were suicide rates, the Human Development, the unemployment rate and life expectancies separately for men and women, all for the year 2000.

In the data from Da Veiga and Saraiva the median age of suicides was consistent from 1987-1989 and 1995-1998. The Pearson r for men was 0.88 (one-tailed $p < .001$) and for women 0.93 ($p < .001$). The correlation between the mean ages of male and female suicides in 1995-1998 was 0.80 ($p < .001$).

Descriptive statistics are shown in Table 1 and correlations in Table 2.

Table 1: Descriptive statistics for the variables

	Mean	SD
Median age: men	50.30	5.72
Median age: women	55.92	5.96
Suicide rate	15.50	11.51
Life expectancy: men	70.66	5.21
Life expectancy: women	78.02	3.65
HDI	0.791	0.083

Table 2: Correlates of the median age of suicides

	Median age women	Median age men
suicide rate	-0.09	-0.36*
life expectancy: women	-0.04	+0.23
life expectancy: men	-0.05	+0.24
HDI	-0.06	+0.06

* $< .05$

It can be seen in Table 1 that the median age of suicides had few correlates using these variables. The only significant correlation was between the median age of male suicides and the suicide rate. a negative association. The higher the median age of male suicides, the lower the suicide rate for the general population.

Patterns of Suicide by Age

In Da Veiga and Saraiva's data, the two most common patterns for men by age were upward sloping (53%) and convex (33%). Four were uniform and one was downward sloping. For women, almost all were upward sloping (81%), five were convex, one was uniform and one was downward sloping. Therefore, the only meaningful comparison is for men comparing upward sloping and convex curves with age. The results are shown in Table 3.

Table 3: A comparison of upward sloping and convex age patterns for men

	Upward sloping	Convex	t (df=29)
Suicide rate	10.88 (6.24)	25.06 (14.26)	3.82**
Mean age of suicides	54.73 (3.37)	46.83 (1.37)	7.70**
Life expectancy	72.73 (3.58)	65.48 (4.23)	5.12**
HDI	0.806 (0.075)	0.748 (0.080)	2.11*

* <.05

** <.001

If the suicide rate of men was higher at older ages (an upward sloping curve with age), then the suicides were older (which makes sense), the suicide rate was lower, and the life expectancy of men and the Human Development Index was higher as compared to a convex age distribution (with suicide rates highest in middle age). Interestingly, Using a more diverse sample of countries, Girard (1993) hypothesized that a convex pattern of suicide rates by age is more likely if a country is at a very high level of development. Girard's hypothesis is not confirmed by the present sample since the opposite effect is found.

This results of this study were obtained using a sample of almost all European countries, and so the results may not be valid for a more diverse set of countries. However, the results do suggest that a study of the average age of suicides and the pattern of the curves for suicide rates by age may be worthy of further study.

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Appendix: Sources of data

Suicide rates for the year 2000 were obtained from Wikipedia (https://en.wikipedia.org/wiki/List_of_countries_by_suicide_rate),

The Human Development Index for 2000
<https://countryeconomy.com/hdi?year=2000>

Unemployment rates in 2000 were obtained from
https://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__20-ME__3-MELF/40_en_MEUnRateY_r.px/table/tableViewLayout1/

Life expectancies for men and for women in 2000 were obtained from
https://px.web.ined.fr/GGP/pxweb/en/1%20Demography/1%20Demography/1.6_LEB.px/table/tableViewLayout2/

THE PUZZLE OF SEX DIFFERENCES IN SUICIDE RATES

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Abstract: Two measures of sex differences in the suicide rates of the American states were examined and found to have different socio-economic correlates. The puzzle is which of the two measures to use in order to understand the sex difference in regional suicide rates.

The first question to be asked is: Why do sex differences in suicide rates present a puzzle? In a study of the regional variation of suicide rates in the United States in 1980, Lester (1994) identified seven factors of socio-economic variables that characterized the states: urban/wealth, social disintegration, age structure, Southernness, labor force participation, unemployment and Roman Catholicism. He found that the suicide rate of the states was associated (positively) only with the factor score for social disintegration which, of course, is consistent with Durkheim's (1897) theory of suicide.

Lester also found that both the male and female rates were associated positively with the same factor score, that for social disintegration. In addition, the male suicide rate was associated negatively with factor score for age structure. The male/female ratio of suicide rates was also associated with the factor score for social disintegration, negatively, and negatively also with the factor score for urban/wealth.

The puzzle arises from an interesting issue raised by Cutright and Fernquist (2003) who studied the difference in male and female suicide rates in 20 developed countries rather than the male/female suicide rate ratio. They proposed that the difference in rates was a more meaningful measure of sex differences than the ratio of male to female rates. They studied countries rather than American states, and they did not compare the correlates of the two possible measures.

The present paper aimed to compare the two measures of sex differences in suicide rates over the 48 continental states of America. This raises new problems.

For a paper being written in 2024, old data sets are of less interest than more current data sets. The year 2000 was chosen for the present study. This raised problems. In the age of the Internet, fewer data sets and data points are available. For example, female suicide rates for some states are not calculated for published data sets because there are too few female suicides in those states. For the present paper, the actual number of females suicides was found and rates calculated.

A second problem is that in the year 2000, six states no longer reported divorce rates to the federal government. Marriage rates are confounded by the fact that so many people go to Nevada to marry each other that Nevada becomes an outlier. These and other issues limited the availability of data sets for the present study.

For the 48 continental states of America, data for the year 200 were obtained for birth rates, unemployment rates, per capita income and percentage of black residents, a limited but diverse set of variables. The data were obtained from Yang and Lester (2016) and several online sources of data (listed below).

The linear regressions predicting the suicide rate variables are shown in Table 1.

Table 1: Predicting suicide rates (beta coefficients shown)

	Female suicide rate	Male suicide rate	female-male rates	female/male ratio
Birth rate	+0.45***	+0.13	-0.02	+0.47***
Unemployment rate	+0.06	+0.04	-0.03	+0.03
Per capita income	-0.32*	-0.56***	+0.55***	+0.28*
% black population	-0.26*	-0.36**	+0.36**	+0.08
R ²	0.375	0.452	0.453	0.277

The choice of describing the male and female relative rates can be seen to be critical. The ratio (in this case female/male) was positively associated with the birth rate and per capita income in the states. The difference in the female and male suicide rates was positively associated with per capita income and the percentage of the black population. Also of interest is that, while the female suicide rate was positively associated with the birth rate (as was the female/male ratio), the female-minus male suicide rate was not.

Which is the best method for examining the sex differences in the suicide rate? I leave that to the reader.

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Data Sources

Suicide rates and numbers

<https://www.kff.org/other/state-indicator/suicide-rate-by-sex/?dataView=1¤tTimeframe=22&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

https://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50_15.pdf

Population

<https://www2.census.gov/library/publications/decennial/2000/briefs/c2kbr01-09.pdf>

Birth rates

https://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50_05.pdf

SUICIDE IN ADOPTEES

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Abstract: Research on suicidal behavior in adopted individuals compared to non-adopted individuals is reviewed. It is concluded that the research is sufficiently inadequate that a conclusion cannot be drawn. It seems that adoption *per se* may be a risk factor for suicidal behavior, but much more rigorous research is needed before a firm conclusion can be drawn.

The present essay reviews research on whether being adopted has an impact on the adoptee's suicidal behavior.

The United States

In a poorly presented study, Murray, et al. (2022) compared adopted and non-adopted children interviewed at age 4 and followed up until age 18, apparently all known to Child Welfare Services. Adopted children more often reported past suicidal ideation and attempted suicide. However, suicidal ideation at late adolescence was predicted only by internalizing symptoms and scores on the Trauma Symptom Checklist for Children and not by adoption status. Attempted suicide was predicted also by the score on the Trauma Symptom Checklist for Children and not by adoption status.

In a national sample of adolescents, Feigelman (2001) compared adolescents who were adoptees with biological children, all living in two-parent families. Adoptees showed behavior patterns much like those raised in biological families, except for three differences: they were more likely to run away from home, to get counseling help and to show less desire to attend college. They did not differ in suicidal ideation and suicide attempts in the prior year. It should be noted that no statistical tests of significance were reported by Feigelman, and the female adoptees more often reported suicidal ideation and attempts than the female biological children.

Feigelman (2005) studied a national sample of adolescents, comparing adoptees in the United States along with controls, who were interviewed in 1995, 1996 and 2001-2002. They were asked about suicidal ideation and attempted suicide in the prior year. However, only in the 2001-2002 interviews was a distinction made between being adopted by biological relatives versus strangers. Feigelman found no significant differences in prior attempted suicide at all three interviews, findings which supported his earlier report.

Feigelman found a marginal difference at baseline for female adoptees to more often report suicidal ideation and for male adoptees to less often report suicidal ideation, but these differences were no longer statistically significant at the second and third interviews.

One problem with the data set is that the survey over-sampled some groups, including the disabled, twins and Black middle-class groups. Therefore, Feigelman applied *weights* to correct for this. He noted that an earlier study of this data set (Slap, et al., 2001) did not apply weights and did not distinguish adoptions by blood relatives versus those by strangers to the child. Slap, et al. did find an excess of suicide attempts among the more limited sample that they studied. Feigelman found that, before adding the weights, adoptees did report more prior suicide attempts but not when the weights were used.

Feigelman's discussion raises the issue of intervening variables for which a regression analysis is crucial and which was not used. These issues include, for example, adopted children living with biological children or not, the age at adoption, and the stability of the marriages of the adopting parents.

The conclusion of these three studies must be that the data set was far from ideal and that the statistical analyses reported ignored important variables.

Festinger and Jaccard (2012) studied a national sample of high school students who were interviewed 6 and 12 years later. The statistical presentation of the results is poor, with no statistical tests of significance. It appears that those adopted by kin had higher rates of suicidal ideation after 12 years compared to biological children. Those adopted by non-kin may have had higher rates of suicidal ideation after 6 years. Those adopted after the age of 4 had higher rates of suicidal ideation at baseline and after 6 years, but not after 12 years as compared to those adopted before age 4.

Keyes, et al. (2013) studied a sample of adopted children (adopted before age 2, and now aged 11-21) living with one sibling not related biologically to the adopted adolescent and compared them with biological children. The majority of the adoptees were female (60%) and from outside America (74%) most often from South Korea. Both male and female adoptees more often had attempted suicide than the non-adoptees. Overall, the adoptees had shown more disruptive behaviors, had more discord in their parents, and more academic disengagement. Both adoption status and the sum of risk factors for suicide predicted attempting suicide.

Canada

Ligier, et al. (2022) compared completed suicides in Quebec, Canada by adopted and non-adopted individuals. The two groups did not differ in psychiatric diagnosis except for an excess of attention deficit disorder in the year prior to the suicide, an excess of comorbidity and an excess of Cluster C personality disorder. Negative childhood behaviors and experiences were similar in both groups, but clinicians rated the adoptee suicides as having experienced a great adversity burden prior to the age of 15 than the non-adopted suicides.

Denmark

The advantage of research on this issue in Scandinavian countries is the availability of national registers for mortality and mental and physical health. Data for large samples, and sometimes, data on the total population, can be obtained and analyzed.

Petersen, et al. (2014) studied a random sample of 1,933 non-familial adoptees of Danish children. They compared families with biologically related adoptees who grew up in different families with families two unrelated adopted children where one adopted individual attempted suicide before the age of 60. The rate of attempted suicide in biological siblings of adoptees who attempted suicide was higher than in biological siblings of adoptees who had not attempted suicide, but this difference was only marginally significant. The adopted sibling of adoptees did not show an increased risk of attempted suicide. This study, therefore, was more focused on the biological component of attempted suicide rather than on suicidal behavior as a function of adoption.

Sweden

von Borczyskowski, et al. (2006) studied international adoptees in Sweden and compared them with Swedish adoptees and non-adopted subjects and followed them up for roughly 30 years. International adoptees had an increased risk for suicide attempt and suicide after adjustments for sex, age and socio-economic factors, and this increase was greater for females. National adoptees had lower risks than international adoptees, but an increased risk compared to non-adoptees for attempted suicide and suicide. The increase in suicidal behavior for the Swedish adoptees appeared to be explained in part by their biological parents' psychiatric problems (parental substance abuse, suicidal behavior and psychiatric illness).

The same team (Hjern, et al., 2002) reported on international adoptees and found that, after adjustment for major sociodemographic confounders, international adoptees were more likely than other Swedish-born children to die from suicide, attempt suicide and have other psychiatric problems. Siblings in the adoptive homes had less risk of suicidal behavior than did adoptees, whereas adoptees and immigrant children had much the same risk. For the adoptees, adoption at 4–6 years and a birthplace in Latin America were associated with mental health problems and social maladjustment, but Hjern, et al. did not specifically mention suicidal behavior as a function of age at adoption. Living with white collar adoptive parents was also a risk factor for social maladjustment in this group.

von Borczyskowski, et al. (2011) compared Swedish adoptees and Swedish born children followed up for 20-55 years. Both male and female adoptees had higher suicide rates than the biological children. For both groups, the occurrence of suicide was predicted by the parents' socio-economic status and psychiatric problems (e.g., single-parent households and suicide and affective disorder in the parents). The biological parents' psychiatric status (e.g., suicide, affective disorder and alcohol abuse) was reported to be a risk factor for suicide in the non-adopted group only, but inspection of their tables indicates to me that suicide and psychiatric disorder in the biological parents of the adoptees was also statistically significant.

Wilcox, et al. (2012) compared psychiatric admissions of adoptees for suicidal behavior and those admitted for non-suicidal reasons. They found that suicidal behavior among adoptive mothers did not place adoptees at greater risk for suicide attempt hospitalizations, but adoptive mothers' psychiatric hospitalization

while the adoptee was younger than 18 years old did increase the risk for an adoptee's suicide attempt.

Discussion

This review has identified several problems with research on whether adopted individuals have a higher (or lower) risk of suicidal behavior.

The age at adoption: Some research did look at the impact of adoption after the age of 4, but common sense would say that the critical difference is adoption at birth versus adoption later. This has not been studied. In a large sample, the age at adoption could be included in a multiple regression analysis.

Outside of Scandinavia, it is not possible to know the psychiatric status of the parents giving up their child for adoption. The data from Scandinavia suggests that this is an important factor.

The psychiatric status of the parents adopting a child is also of importance, and the study of Wilcox, et al. (2012) documented the importance of this factor for the adoptee's suicidal behavior. In addition, the marital stability of the adoptive parents may be an important factor.

Adoption by a relative of the biological parents versus a stranger must also be of importance. In this case, the adoptee most likely knows about and may even be in contact with his or her biological parent.

The research from Sweden showed that immigrant children were at increased risk of suicide. Since many adopted children are often also immigrants, this is a confounding variable.

The conclusion of this review is that, hitherto, the research has been much too simplistic. Not enough adoption-related variables have been taken into account and, furthermore, the statistical presentation of the results in the research reviewed is either absent or inadequate. In the one good study, von Borczyskowski, et al. (2011) found a higher suicide rate in Swedish adoptees than in non-adoptees, but the biological parents' psychiatric problems played a role in the appearance of suicidal behavior

In conclusion, it may be that adoption *per se* is a risk factor for suicidal behavior, but better research is needed on this topic.

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IS SUICIDE A MENTAL HEALTH, PUBLIC HEALTH OR SOCIETAL PROBLEM? COMMENT ON GOEL, ET AL. (2023)

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Goel, et al. (2023) have argued that suicidology has been dominated by a biomedical approach, and suicide needs to be viewed more as a societal problem rather than a psychiatric problem. In strong language, they criticize the framing of suicide as a mental health problem, resulting in studies of risk assessment and psychiatric treatment. They also criticize framing suicide as a public health problem, resulting in programs to eradicate suicide in the same manner as efforts to eradicate polio.

How Many Suicides Have a Psychiatric Disorder?

They criticize the claims that 90% of suicides have a psychiatric disorder. They claim that the majority of suicides do not merit a psychiatric diagnosis (in their words: “some who die by suicide have a diagnosable mental health disorder, a much larger proportion do not” (p. 353). They are correct to criticize the 90% claim, but, let us be honest, there are no data to support their claim that most suicides do not have a psychiatric disorder.

Goel, et al. argue that no methodologically sound research on this issue has never been conducted. That is correct. A methodologically sound psychological study of suicides for the presence of psychiatric disorder would require a sample of suicides and a sample of comparison subjects, perhaps those dying from accidental causes. The data acquired from informants for the two samples should be collected in identical formats and then made anonymous. Those rating the information should be unaware of the cause of death and even the focus of the study. This has never been done. In published research, those making the judgments know the cause of death for the suicides. It should be noted that the use of living controls for the suicides, which is common, is even worse methodology.

Lester (2014) has criticized the scientific basis of psychiatry, noting that psychiatric diagnosis is based on symptoms not on causes. He has argued that, if

you go to a doctor complaining of a fever and headache, you are not diagnosed as having a fever/headache disorder. Instead, the doctor endeavors to find the cause of the fever - influenza or West Nile virus, etc.

However, the critical question is not whether or how many suicides do have a psychiatric problem. The fact is that some suicides do have a psychiatric problem, however defined, and changes in the society will not address their mental pain. The psychologist or psychiatrist has to do something, and that *something* will have to be medication and psychotherapy or counseling.

An analogy here is the usefulness of suicide prevention centers in preventing suicide. Beginning in the 1950s, suicide prevention centers were established, usually with telephone access and occasionally with walk-in clinics. In the early days, efforts were made to explore whether a suicide prevention telephone service did have an impact on suicide in the town in which it was established. In a review of 14 studies, Lester (1997) found that seven studies provided some support for a preventive effect, one study found an increase in the suicide rate, and six studies failed to find any impact. Since that time, there seem to have been no evaluations of the effectiveness of suicide prevention centers. After the effort and expense put into establishing and maintaining suicide prevention centers, therefore, there is not good evidence that they help prevent suicide. Does that mean that we should not bother to have them?

Suicide hotlines provide needed crisis counseling for communities, and this is testified by the volume of calls that such hotlines receive. Despite the fact that the hotlines have not been shown conclusively to prevent suicide, they serve a needed function and should be supported.

Public Health Approaches

Goel, et al. also criticize the public health approach. Preventing or restricting access to the means for suicide is one public health approach. Efforts to reduce the use of firearms from murder, suicide and accidental deaths in the United States have proven to be difficult in the face of opposition from the National Rifle Association, as well as individuals who wish to own firearms. It is worth noting that efforts to restrict firearms in the United States is motivated more by preventing homicides than by preventing suicides. One public health approach has been to encourage tactics such as safe storage of firearms in the home and not leaving firearms loaded.

In countries where farming is carried out more by individuals rather than large corporations, the use of pesticides and insecticides are commonly used, of course, and are a popular method for suicide. It has long been recommended that those using pesticides and insecticides keep them locked up since they are a popular method suicide in some countries. A review of research on this tactic by Reifels, et al. (2019) found only one methodologically sound study on this topic and it found no impact on the suicide rate (Pearson, et al., 2017).

In the study by Pearson, et al. (2017) in Sri Lanka, farmers in 90 villages were given lockable containers for storing pesticides while farmers in another group of 90 villages were not. Posters and 6-month reminders were provided for the farmers in the intervention group. The sample sizes were 114,168 and 109,693 individuals respectively. There were no significant differences in suicide attempts, both fatal and non-fatal, using pesticides (the rates were 293.3 per 100,000 per year and 318.0, respectively).

Does this mean that governments should abandon such efforts? Of course not. Efforts to restrict access to the methods used for suicide, such as fencing in bridges from where people jump and keeping methods for suicide locked up, are sound, and they sometimes work. Hawton, et al. (2001) studied the impact of reducing the number of paracetamol pills in the packs that are sold and enclosing the pills in plastic blisters (making it time-consuming to obtain the pills) in England and Wales reduced their use for suicidal behavior. In the year following this move, deaths from suicide using paracetamol decreased by 21%, liver transplants after overdosing with paracetamol decreased by 66%, and the number of non-fatal suicide attempts using paracetamol decreased by 11%.

The Socio-Economic Roots of Suicide

Goel, et al. stress the role of socio-economic factors on suicide, and there is sound evidence for this (assuming that we can trust the validity of official suicide rates). For example, they note the stress on farmers in some countries of the world and on potential university students in India. There is sound evidence that societal factors such as unemployment and divorce rates impact societal suicide rates. Goel, et al., therefore, urge viewing suicide through a *societal prism*. (p. 358).

They say that they are being blunt. Let us be blunt in reply. Governments do not really care about suicide, and so a societal prism will not have much impact.

Suicide became more difficult in countries such as England and Wales when toxic coal gas for domestic use was replaced by less toxic natural gas. This change was not carried out to prevent suicide. It was to prevent pollution, and it was probably cost-effective. However, the suicide rate in England and Wales dropped when people could no longer use domestic gas for suicide. Emission controls were not placed on cars to prevent suicide. The change was to reduce pollution, not suicide. As mentioned above, efforts to restrict firearm ownership in the United States are to prevent homicide, not suicides.

That is not say that governments should not try to reduce unemployment, provide social services to communities in those regions where poverty is common or rural regions where access to care of any kind is difficult, or reduce discrimination and hate crimes against religious or ethnic groups.

And, again, let us be blunt. A look for suicide research in *Sociological Abstracts* and for research on socio-economic variables in the abstracts provided by *PsycINFO* shows that the field is strong. The societal prism is thriving.

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TESTING ARTIFICIAL INTELLIGENCE ON SUICIDE

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Lester (2023) tested artificial intelligence using ChatGPT with questions about suicide for which the answers are not well known. For a simple question about preventing suicide, ChatGPT gave a good conventional answer. On more difficult questions, it failed.

In the play *Oedipus Rex* by Sophocles, it is clear that Jocasta realized very quickly that she has married her son. She is content to live with that as long as Oedipus stops questioning what happened in his life, namely that he murdered his father and married his mother as prophesized. Jocasta cannot face the shame which she would feel if the truth became public. When Oedipus refuses to stop searching for the truth, Jocasta chooses to die by suicide. Lester (2002) has written an article on Jocasta's suicide which describes her motivations. At first, ChatGPT did not know that.

First Test: 2023

My question:

In the play *Oedipus Rex*, written by Sophocles, why did Jocasta die by suicide?

ChatGPT answered:

In the play "Oedipus Rex" written by Sophocles, Jocasta, the wife of Oedipus and mother of his children, kills herself out of shock and despair upon realizing that Oedipus is her son and that she had unknowingly married and had children with her own son. The revelation is so devastating to her that she chooses to end her life rather than continue living with the knowledge and shame of her actions.

This was the conventional response which indicates that ChatGPT had not read my scholarly article!

Second Test: Early 2024

My question:

Why did Jocasta die by suicide?

ChatGPT answered

In Greek mythology, Jocasta is a character best known for her role in the tragic story of Oedipus. The details of Jocasta's death vary in different versions of the myth, and it's important to note that the story itself is a work of fiction.

The most well-known version of the story is found in Sophocles' play "Oedipus Rex." In this version, Oedipus discovers that he has unwittingly fulfilled a prophecy that foretold he would kill his father and marry his mother. When Oedipus realizes the truth, he blinds himself, and Jocasta, horrified by the revelation and the tragic fate of her family, hangs herself.

The reasons for Jocasta's suicide are complex and involve a combination of shame, guilt, and horror at the fulfillment of the prophecy. The Oedipus myth explores themes of fate, free will, and the consequences of trying to avoid destiny, making it a powerful and enduring tragedy in Greek literature.

ChatGPT is getting more knowledgeable.

Third Test: September 21, 2024

My question:

Why did Jocasta die by suicide in Sophocles play Oedipus Rex?

ChatGPT answered:

In **Sophocles' play "Oedipus Rex"**, **Jocasta** dies by suicide because of the unbearable guilt and horror she feels upon realizing the truth of her life. Jocasta is both the wife and mother of Oedipus, though neither of them initially knows it. Here's a breakdown of the key reasons behind her suicide:

Realization of the Truth: Jocasta slowly uncovers the truth that Oedipus, her husband, is also her son. Many years earlier, she and her husband Laius (Oedipus' biological father) had received a prophecy that their son would kill Laius and marry her. To avoid this fate, they abandoned Oedipus as a baby. However, the prophecy comes true despite their efforts to prevent it.

Incest and Patricide: The discovery that she unknowingly married her own son and that Oedipus had killed his father, Laius, leads Jocasta into deep despair. The shame of incest, the violation of social and moral norms, and the realization that the gods' prophecies were inescapable drive her to extreme grief.

Inescapable Fate: Jocasta, like Oedipus, had tried to defy the prophecy given by the oracle, believing that they could outmaneuver fate. Her suicide reflects her final recognition that fate is unchangeable and that her family is doomed by the will of the gods.

Overwhelmed by this horrifying truth, Jocasta chooses to end her life by hanging herself in her bedroom. Her death symbolizes her ultimate escape from the agony of facing her role in the tragic events that have unfolded.

ChatGPT is getting better. It still does not quite understand that, when Jocasta realizes that she has married her son, she does not necessarily feel horror and shame. Rather, it seems that she is content to continue as Oedipus's wife (and presumably lover). It is the public knowledge of this that horrifies her.

Comment

It is unlikely that many other people, if any, have asked ChatGPT about Jocasta's suicide. Therefore, it is impressive that the answers given get better, more complex and closer to the truth. Maybe I should get ChatGPT to contribute articles to *Suicide Studies*?

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A REVIEW OF RESEARCH ON SUICIDE IN 2003

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From 1897 (the date of the publication of Durkheim's book on suicide) until 1997, I read every article in English on suicidal behavior. I had many boxes of 3x5 index cards, one for each article, chapter and book. I used every abstracting service available to locate these scholarly works. I reviewed the research in four books called *Why People Kill Themselves*, published by Charles Thomas.¹³

At that point, the volume of scholarly work on suicidal behavior was too great. Locating and reviewing the articles was taking up too much of my time (I did have a full-time job as a professor), and so I stopped. One hundred years seemed like a great achievement.

No-one took up this task. Of course, reviews of selected topics appeared, but no comprehensive review. I am now retired, and hence this is an attempt to do a reasonably thorough review, although it will not be comprehensive. I do not have access to all the abstracting services that existed in the 20th century. Furthermore, articles in the predatory journals (those that developed to help scholars publish their work for a fee) are not typically included in the abstracting services. Therefore, many, possibly important, ideas are difficult to locate.

My goal is to see whether there have been important research and theoretical findings in the more recent literature. I have not included reviews of the literature in this essay but, of course, those reviews of the literature on specific topics may be valuable to researchers. (I have started to mention reviews of physiological research because the articles typically have no meaning for me.) I have also not cited qualitative reports. These may throw light on suicides in certain people or in specific instances, but qualitative reports are difficult to incorporate into an essay such as the present one.¹⁴

¹³ I keep this standard Introduction so that each review can stand as an independent article.

¹⁴ My positive opinion of qualitative essays is illustrated by the essays I have written on more than 75 famous suicides (www.drdauidlester.net).

The reviews of scholarly research published in 1998-2002 are published in earlier issues of *Suicide Studies* (Lester, 2014b, 2024c, 2024d, 2024e, 2024g). This is the review for 2003. To indicate where I searched, here is a list of abstracting services used.

Source	1998	1999	2000	2001	2002	2003
Sociological Abstracts	93 items	106	55	56	67	62
Criminology Abstracts	78 items	94	80	98	67	73
Psychological Abstracts	401 items	460	388	425	441	510

Studies of Suicide Rates and Suicidality

Theory

Goldney (2003) proposed that there is a base rate of suicide in each society that differs for each society created by biological factors and by psycho-social factors. Later, Yang and Lester (2004) developed this idea into a proposal for a natural rate of suicide for each country and provided empirical data for the theory.

Regional Studies

For a sample of 34 European countries, Voracek et al. (2003a) found that male and female suicide rates were positively correlated with latitude and longitude. They felt that their results were consistent with a Finno-Ugrian association with suicide rates, but they did not include this variable in their analyses.

For a sample of 68 countries, Neumayer (2003a) found that male and female suicide rates were predicted by several socio-economic variables, as usual with no surprises, including birth, marriage and divorce rates as well as GDP per capita and alcohol consumption for the male suicide rate, and birth and divorce rates and female labor force participation for the female suicide rate.

Neumayer (2003b) used samples of 62 and 79 countries over a 20-year period (thereby confounding place and year and, furthermore, his sample sizes do not make sense) and found that suicide rates were predicted by GDP/capita, birth rate and alcohol consumption, but not by female labor force participation. Autocracy, urbanization, divorce and marriage rates, household size and population may also have played a role depending on the statistical technique used.

For a sample of 72 countries in 1970 and 1980, Lester (2003d) found that estimates of national IQ scores were positively associated with suicide rates in 1970 and 1980 and negatively with homicide rates. Controls for GDP/capita eliminated the significant differences in 1980 but not in 1970.

Lester (2003e) found that national estimates of European-ness in 1970 in 23 European countries was not associated with suicide rates or with homicide rates. For a sample of 27 countries, Lester (2003h) found that individualism ratings were not associated with suicide or homicide rates after controls for GDP/capita. In a sample of 36 countries, Lester (2003i) found that suicide rates were associated with a drug abuse index but not with the violent crime, property crime, or alcohol abuse indices. All four indices combined accounted for only 25.5% of the variance in the suicide rates.

Cutright and Fernquist (2003) studied the difference in male and female suicide rates in 20 developed countries rather than the male/female suicide rate ratio. As usual, they manipulated their measures by *residualizing* them and lagging them, etc., a process that I thoroughly disapprove of. They studied two separate time periods, and the results difference by time period. For 1955-1974, only societal disapproval of suicide was associated with the gender gap. For 1975-1994, the gender gap was predicted by social disapproval of suicide, residual female labor force participation, lagged female enrolment in tertiary education, and income inequality. 1955-1994.

Fernquist (2003a) studied divorce rates and religiosity (religious books published) in 21 developed countries for the period 1955-1994. Apparently both variables were associated with the suicide rates, but the analysis appears to confound country and year (i.e., ecological and time-series analyses).

In a sample of 33 countries, Rudmin, et al. (2003) correlated suicide rates by age and sex with national levels of Hofstede's personality traits. In a poorly analyzed study, they seem to have found that *Individualism* was positively correlated with suicide rates, while *Power-Distance*, *Uncertainty Avoidance* and *Masculinity* were negatively associated with suicide rates.

Bridges and Williamson (2003) found that suicide rates and mortality from cancer were positively associated in a sample of 37 countries.

He, et al. (2003) studied suicide and homicide in 64 countries. Suicide plus homicide was predicted by unemployment and divorce rates, while the suicide/homicide ratio was predicted by income inequality and economic development.

Fernquist (2003b) studied 12 countries and four years (giving 48 data points) for sex-by-age groups. He found that *perceived* income inequality was positively associated with suicide rates for most groups while marital integration was negatively associated with suicide rates. Religious book production was associated with female suicide rates (negatively) while GDP/capita was not associated with suicide rates. The male minus female suicide rate was unrelated to the predictor variables.

Regions within a Country

For the 121 voting districts in Austria, Voracek, et al. (2003b) found that the suicide rate preceding an election was associated with gains and losses of some of the political parties, along with many socio-economic variables. They concluded: “The 1999-to-1995 electoral gains/losses of two opposition parties, together with the population variation caused by migration balance and by births/deaths balance, accounted for a substantial part (30%) of the variability in preceding district-level suicide rates. Various other social indices failed to contribute further substantial increments to this model” (p. 257).

Moksony (2003) studied place of birth in Hungary and place of current residence. He compared suicides in Budapest with living controls. Both region of birth (dichotomized as the south-east region versus the rest) and migration to Budapest distinguished the two groups. Moksony concluded that, if you are born in a region with a high suicide rate, it will increase the risk of suicide later in life, even if you migrate.

Bridges (2003) found no association over the provinces of Canada between suicide rates and membership in voluntary associations and groups.

In a study of urban-rural trends in suicide in England and Wales and their association with socio-economic variables, Middleton, et al. (2003) managed to not report any actual suicide rates nor correlations with urban-rural variables and socioeconomic variables, let alone any multiple regressions. However, they concluded that: “Over the years studied, the most unfavourable trends in suicide in

15–44-year olds generally occurred in areas remote from the main centres of population; this effect was most marked in 15–24-year-old females. Observed patterns were not explained by changes in age- and sex-specific unemployment, socio-economic deprivation or social fragmentation” (p. 1183).

For the 20 regions of Hungary each year from 1985 to 1998, Zonda (2003) found sometimes positive, sometimes negative and sometimes no significant correlations between the suicide rate and the rate of newly diagnosed depressed patients or the rate of GPs and suicide rates.

In a poorly designed and presented study of 14 of India’s 24 states, Steen and Mayer (2003a) claimed that human development and economic factors failed to clearly predict age-by-gender suicide rates. The only results presented in tables indicate that female literacy positively predicted male suicide rates (for those aged 30-59) while birth rate negatively predicted female suicide rates (for those aged 15-44).

In a study of 16 Indian states, Mayer (2003) found that equality in education for men and women was positively associate with both male and female suicide rates, while sex equality in health was associated only with male suicide rates. Gender equality in income was not associated with the suicide rates.

Chandler, et al. (2003) studied North American indigenous tribes and found that those that had actions in place to preserve cultural values and customs had lower suicide rates.

Lester (2003a) found that the regional correlates of suicides across the provinces in Canada change over time. For example, in the 1970s, birth rates were negatively associated with suicide rates, while in the 1980s birth rates were positively associated with suicide rates. Divorce rates were more consistently associated (positively) with suicide rates.

Fong and Yip (2003) looked at correlates of suicide rates over the 18 districts of Hong Kong. A factor analysis identified 5 factors for the socio-economic variables. The youth suicide rate was predicted by the environmental setting (dense, elderly, retired). The suicide rate of adults was predicted by financial status, environmental setting, self-independence and homemakers. The elderly suicide rate was predicted by financial status, self-independence and

homemakers. The factor for non-Cantonese dialects was not in any of the three regressions.¹⁵

Time-Series Studies

Gunnell, et al. (2003a) examined trends in suicide rates in England and Wales for 1962-1996. The results differed by age (25-34 and 60+) and sex. (They did not study suicide rates for those aged 35-64.) The results also differed for the total suicide rate and for suicide by methods other than gas and overdose. The predictors for the increasing suicide rate for those aged 25-34 were the divorce rate for male and female suicide rates and marriage rates for the men. For the elderly suicides, the declining suicide rate was associated with alcohol consumption and female labor force participation for both sexes and with male unemployment and cirrhosis of the liver mortality for men.

Nemtsov (2003) found that the suicide rate in Russia from 1965-1999 was associated with alcohol consumption, but he did not present his time-series analysis in a conventional manner.

De Leo et al. (2003) noted a change in the methods used for suicide in Australia from 1975 to 1998, with hanging becoming more popular and firearms less popular, leaving the suicide rate unchanged.

Taylor (2003) looked at male suicide rates and unemployment rates over time in 20 countries. Twelve of the countries showed a positive association and one (Switzerland) a negative association. This association varied with age, being strongest in those aged 15-34. The associations for unemployment rates for the different age groups and labor force participation by age group were often significant but inconsistent in direction.

In England and Wales from 1977-1996, Lester (2003g) found that the suicide rate of murderers was positively associated with the male suicide rate in the general population, and both of these rates were positively associated with the unemployment rate.

¹⁵ This type of statistical analysis is, in my opinion, ideal: factor analysis of the variables and the use of factor scores.

Värnik, et al. (2003) looked at suicide rates in Estonia, Latvia and Lithuania for the periods 1970-1984 (stagnation) and 1985 to 1998 (a period of reform and stabilization). Suicide and homicide rates rose dramatically during the latter period, eventually falling somewhat. The suicide rate and homicide rate rose and fell in parallel, not in opposite ways as would be predicted by Durkheim and by Henry and Short. No time-series statistical analyses were presented.

Cohorts

Gunnell, et al. (2003b) studied the suicide rates of male birth cohorts in England and Wales born after 1940. Successive male birth cohorts as they aged had a greater risk of suicide than their predecessors although this effect was less for the 1975 and 1980 birth cohorts. There was less clear evidence of any increased risk of suicide in the female birth cohorts.

The Mean Age of Suicides

Da Veiga and Saraiva (2003) reported the median age at death of suicides in a sample of European countries. They did not, however, study correlates of this variable.

In a time-series study in the United States for 1968 to 1996, Lester and McIntosh (2003) found that the mean age of suicides was associated with lower suicide rates for those aged 15-35 and higher suicide rates for those aged 45+. Thus, the mean age of suicides is a way of summarizing the variation in suicide rates by age. Lester and McIntosh found that the mean age of suicides was associated positively with the birth rate, negatively with the divorce rate and not associated with the marriage rate. The mean age of the suicides was not associated with the mean age of the population.

Research on Distal Variables

Gun Control

Connor and Zhong (2003) found that American states with stricter gun control laws had fewer suicides using firearms and, using a bizarre measure, claimed that those states had lower suicide rates with no evidence of switching to other methods for suicide.

Leenaars, et al. (2003a) studied the impact of a stricter gun control law in Canada and found no significant immediate or short-term increase or decrease in the suicide rate after the introduction of the new law. There was some evidence for displacement of method, but only for males. A second time-series study found that the new law did decrease the percentage use of firearms for suicide, even after controlling for social variables (such as divorce and employment rates).

Climate

Deisenhammer, et al. (2003) studied suicides in one region of Austria and found that suicide occurred more often on days with high temperatures, low relative humidity or a thunderstorm and on days following a thunderstorm.

Gordon and Berk (2003) looked at geomagnetic storms and suicides in South Africa over a 13-year period. They eliminated December and January and reported that: “a significant correlation...was found between the mean total of suicides for the remaining ten months, and the mean average of storm activity during the same period” (p. 25). This was found for male and female suicides. However, nowhere in the paper do they mention the sample size for the correlations and, therefore, it is impossible to ascertain on what their correlations were based, perhaps mean scores for 10 months (n=10) or something else.

Season and Day of Week

Ajdacic-Gross, et al. (2003) studied the seasonality of suicides in Switzerland. The peak was in May and June and the trough in December. However, the peaks and troughs differed by method of suicide. Sometimes absent or weak and sometimes unique for that method. However, their data presentation was poor.

Simkin, et al. (2003) found no seasonal variation in suicides by farmers in England. (There were non-significant peaks in April and September.) Non-farmers had a significant variation by month, but peaks were not clear, although there were fewer in December and more in January than expected.

Lester (2003c) studied suicides from one bridge in America and found that suicides peaked in July and August and on Mondays.

Rock, et al. (2003) found that the seasonal variation of suicide in Australia became more pronounced over time for suicides as a whole, violent suicides and suicides by males, with a peak in November, the Australian Spring.

In Greenland, Leineweber and Arensman (2003) found no variation in suicides by month.

In Slovenia, Marušič, et al. (2003) found that the suicide rate peaked in April, May and June and also peaked on Mondays. There were no differences by age or sex.

McIntosh and Lester, D. (2003) found that both white and black suicides peaked on Mondays in the United States, but the Monday peak was less pronounced for black suicides.

Brädvik and Berglund (2003) found that alcoholics more often died by suicide on the day after the weekend or a national holiday, whereas depressed suicides more often died by suicide on Sundays and holidays.

Twins

Tomassini, et al. (2003) followed up Danish twins for 51 years and found that they had a lower suicide rate than expected.

The Werther Effect

Frei, et al. (2003) documented a rise in suicides helped by an organization called EXIT in Switzerland after a newspaper report of a assisted double suicide by a prominent couple.

Occupation

Loo (2003) reported a meta-analysis of studies on police suicide rates. The results varied by time frame, country and between federal, regional, and municipal police forces.

Blakely, et al. (2003) in New Zealand for one year found an association between being unemployed (and in the non-active labor force) and marital status

and suicide for male and female adults even after controlling for income, education, car access, economic deprivation and marital status.

Other Distal Variables

In a small sample of suicides by jumping in India, Lester (2003f) found no difference in the heights jumped by male and female suicides.

Thoresen, et al. (2003) found an increase in suicide among Norwegian peacekeepers, but controls for marital status eliminated this increase. The use of firearms and carbon monoxide for suicide was significantly more common in this group.

Dudley (2003) noted high rates of suicide amongst on-shore asylum seekers in Australia.

Clarke, et al. (2003) in a poorly designed paper found that suicide rates in Ireland were higher in males and in rural areas and showed no linear relationship with age. A survey of religiosity in the same year found that females were more religious than males and religiosity was higher in rural areas and among the elderly. They concluded that religiosity protects against suicide!!!

Tartaro (2003) studied whether American prisons had experienced a suicide in the prior year and found that having one or more suicides was predicted positively by inmate count and negatively by the percentage of the shift circulating in the living areas of the prison and the percentage of males, but not by the design of the jails (linear intermittent; podular, indirect supervision; podular, direct supervision).

Salib (2003) found that the number of suicides in England Wales was less in the month after 9/11 in the United States than in the same month (September) in the previous 22 years.

Shenassa, et al. (2003) in one American state (Illinois) looked at suicides and attempted suicides by method and found that firearms were the most lethal method.

Mäkinen and Wasserman (2003) found that immigrant Finns in Sweden had higher suicide rates than Swedes for both sexes. Naturalized Finns (who have

become Swedish citizens) compared to those who have remained Finnish citizens had lower rates for the males and higher rates for the females although this difference varied with age.

Kua, et al. (2003) documented a declining elderly suicide rate in Singapore from 1990 to 2000. This was most pronounced for elderly Chinese who had the highest rate and least in Malays who had the lowest rate. Indian suicide rates were in between these two groups.

Discussion

Two variables were introduced in these studies that had been largely ignored in the past: the mean age of a sample of suicides and the male-minus-the-female suicide rate rather than the ratio of the two rates.

Studies of Suicides

Theories of Suicide

Rogers (2003a) urged that suicidologists focus more on theories of suicide and suggested several: (1) the role of alcohol in producing a cognitive-social mechanism involving alcohol-induced myopia (i.e., tunnel vision), (2) social learning as in, for example, modeling (see Lester, 1987), (3) complexity theories, such as chaos theory and catastrophic modeling (see Lester, 2019), and (4) tying suicide more into the classic psychological theories of personality as well as Roger's existential-constructivist model.

In line with this suggestion, Weinreich (2003) presented an in-depth discussion of how Chaos Theory can be applied to suicide.

Mann (2003) presented his stress-diathesis model of suicide and, for the diathesis, he focuses on the involvement of the serotonergic and noradrenergic systems, and the ventromedial prefrontal cortex in producing psychiatric disorder.

Orbach (2003) speculated that bodily experiences and attitudes toward the body, such as rejection of the body, detachment, numbness, physical anhedonia, and lack of protection, facilitates suicidal behavior.

Leenaars (2003) restated his eight possible components of suicide: unbearable psychological pain, cognitive constriction, indirect expressions, inability to adjust, ego, interpersonal relationships, rejection-aggression and identification-egression.

Conner, et al. (2003d) proposed a theory of suicide based on reactive aggression. Aggression-prone individuals fall into two subtypes: (1) those displaying impulsive–reactive–hostile–affective; and (2) controlled– proactive–instrumental–predatory. Reactive aggression is characterized by impulsive anger in reaction to stress, accompanied by autonomic arousal and emotional dysregulation. When faced by rejection, reactive individuals are more prone to suicidal behavior, among other behaviors. Conner, et al. also connected their theory with the serotonergic system and to borderline personality disorder. This theory, therefore, may be a useful addition to typologies of suicide (see Lester, 2024a)

Methodology

Zhang, et al. (2003) tested the methodology of psychological autopsies by using living controls so that the responses of the targets and the informants could be compared. The results were good, with some exceptions.

Physiological Research and Medical Issues

Reviews

van Heeringen (2003) reviewed three physiological theories of suicide: (1) hyperactivity of the hypothalamo-pituitary-adrenal axis, (2) dysfunction of the serotonergic (5-HTergic) system, and (3) excessive activity of the noradrenergic system. Van Heeringen argued that (2) was a trait that impacted anxiety, impulsivity and aggression. In contrast, (1) and (3) may be involved in the response to stressful events.

Arango, et al. (2003), Anguelova, et al. (2003) and Breggin (2003) reviewed research on the role of the serotonergic system in suicidal behavior.

Lester (2003j) conducted a meta-analysis of studies of serum cholesterol levels in attempted suicides who were followed up and confirmed an association of lower levels with suicidality.

Brain

Pandey, et al. (2003) found no significant differences in mRNA and protein levels of myristoylated alanine-rich C kinase substrate (MARCKS) between suicides and controls. Protein levels of MARCKS were increased in the membrane but not in cytosol fraction of the pre-frontal cortex and hippocampus in depressed suicides compared to normal controls.

Valdizán, et al. (2003) compared the brains of depressed suicides and controls. The two groups did not differ in the levels of basal, forskolin-, and GTP γ S-stimulated activity, but there was a significantly lower response to β 1-adrenoceptors agonist-stimulated AC activity in the suicides.

Dwvedi, et al. (2003a) compared the pre-frontal cortex (Brodman area 9) and the hippocampus of suicides and non-psychiatric controls. “Messenger RNA levels of BDNF and trk B were significantly reduced, independently and as a ratio to neuron-specific enolase, in both prefrontal cortex and hippocampus in suicide subjects, as compared with those in control subjects. These reductions were associated with significant decreases in the protein levels of BDNF and of full-length trk B but not trk B's truncated isoform. These changes were present in all suicide subjects regardless of psychiatric diagnosis and were unrelated to postmortem interval, age, sex, or pH of the brain” (p. 804).

Dwvedi, et al. (2003b) compared the Brodman area 9 and hippocampus of suicides and controls. The suicides had a reduction in messenger RNA and protein levels of CREB, CRE-DNA binding activity, and basal and cyclic adenosine monophosphate-stimulated protein kinase A activity.

Blood And Genes

Many of the following studies compared suicides with living controls, a methodology that fails to control for psychiatric disorder.

Turecki, et al. (2003) compared suicides with normal living controls, They found no evidence for a major role of 5-HTR1B, 5-HTR1D α , 5-HTR1E, 5-HTR1F, 5-HTR2C, 5-HTR5A, or 5-HTR6 in suicide no difference in those using violent versus non-violent methods.

Sequeira, et al. (2003) found a higher frequency of the 611R/611R genotype (the Wolfram Syndrome) in suicides as compared to normal living controls. The suicides with this genotype had higher scores for impulsivity and novelty seeking and lower scores for persistence on a personality test completed by their informants, even after controls for age, sex and psychopathology.

Hranilovic, et al. (2003) found no significant differences in 5-HT-TLPR and intron 2-VNTR genotype- and allele- frequency distributions between suicides and healthy control subjects. There was a tendency toward an increase of 5-HTTLPR allele L and VNTR-allele 10 in the suicides. The suicides had an excess of haplotype L10.

Lemonde, et al. (2003) compared suicides with healthy living controls. There was an association of the C(-1019)G 5-HT1A promoter polymorphism with major depression in psychiatric patients and with suicides versus controls. It is unclear, therefore, whether this difference is relevant to suicide *per se* since they did not compare the suicides with depressed patients.

Austin, et al. (2003) compared depressed suicides with those dead from other causes (and not depressed). They found that “CRH-IR levels are specifically increased in norepinephrine- and serotonin-containing pontine nuclei of depressed suicide men, and thus they are consistent with the hypothesis that CRH neurotransmission is elevated in extra-hypothalamic brain regions of depressed subjects” (p. 324).¹⁶

Suicide Notes

Foster (2003) looked at a small sample of suicide notes from Northern Ireland and found differences in the themes. Foster found no differences between the suicides who left notes and those who did not in personal characteristics. The most common themes in the suicide notes were apology/shame, love for those left behind and life too much to bear. Notes from females more often mentioned gratitude and depression. Notes from those with previous attempts less often had apology/shame, while the elderly more often mentioned being a burden to others. Those with a major depression more often left instructions and said that they had nothing to live for.

¹⁶ CRH-immunoreactive (IR) axons.

Black and Lester (2003) found that suicide notes written by those using violent methods contained less joy, less love for others, less humor/irony, and less thanks, suggesting a greater amount of alienation from significant others. The notes written by women were found to show less intrapersonal hostility, gave fewer instructions concerning final affairs, accepted less personal responsibility, and used fewer absolute terms than those written by men. No significant differences were found by age save for a lone difference of more mention of ill-health in the suicide notes of the older suicides.

Leenaars, et al. (2003b) compared suicide notes from the United States and Australia for Leenaars's eight themes and identified no differences. Of the 35 protocol items, two were significant. The Australian notes more often had statements reflecting attachment to a lost or rejecting person or ideal and of wanting to escape as a result.

Lester, et al. (2003) analyzed of a large sample of suicide notes from 262 suicides in Australia and found that separated/divorced suicides and suicides who abused alcohol were more likely to give love/romance as a precipitant for suicide while those who used gas (natural or car exhaust) were more likely to give depression and guilt as a motive. Suicides who had a psychiatric disturbance were less likely to have love/romance as a precipitant.

Youth Suicides

Beautrais (2003) compared youth suicides, those making serious suicide attempts and non-suicidal healthy controls. The suicides differed from the controls in more often being male, and having poor education, a mood disorder, and recent stressful life event. The serious attempters differed from controls in more often having a poor education, a mood disorder and a recent stressful life event. The suicides compared to the serious attempters were more often male and using a highly lethal method and *less often* having a mood disorder.

Markowitz, et al. (2003) examined the impact of state policies on alcohol on youth suicide rates over a 24-year period, thereby confounding ecological and time-series associations (which often give different results). Increases in the excise tax on beer was associated with a lower rate of male suicides but not female suicides. The suicide rate by males ages 20-24 was positively related to the availability of alcohol and negatively related to the presence of a 0.08 blood

alcohol concentration law and a zero tolerance law for drunk driving. Female suicide rates were not impacted by the availability of alcohol.

Adult Suicides

Many of the following studies compared suicides with living controls, a methodology that fails to control for psychiatric disorder.

Qin, et al. (2003) compared Danish suicides with living controls! The suicides more often had a history of hospitalization for psychiatric disorder, cohabiting or single marital status, unemployment, low income, retirement, disability, sickness-related absence from work, born in Greenland, and a family history of suicide and psychiatric disorders. The significant predictors differed a little for men and women.

Using a sample of patients with suicidal ideation, Joiner, et al. (2003a) tried to predict subsequent suicide. They measured current suicidality and *worst point* suicidality using clusters of items from two suicidality scales that were factor-analyzed to identify subscales. They found that worst point suicidal plans and current suicidal desire predicted past suicide attempts, while worst point suicidal plans predicted future suicide.

Kung, et al. (2003) compared suicides (aged 15-64) in America with those dying from natural causes (who will, of course, differ in psychiatric disorders). The suicides differed in marijuana use, excessive alcohol consumption, and access to a firearm. For males, the presence of depressive symptoms was more common in suicides aged 45–64 and the proportion of mental health service use was higher among suicides who did not complete high school. For female suicides, depressive symptoms were more common, and the use of mental health service use was higher.

Willis, et al. (2003) used United States national mortality data to identify risk and protective factors for African American suicides as compared to white suicides. The African American suicides were more often aged < 35, southern and northeastern residence, cocaine use, firearm presence in home, and threatening others with violence. Protective factors were rural residence and educational attainment.

In England and Wales, Hunt, et al. (2003) found differences between suicides by ethnic minority and white suicides in the method of suicide, diagnosis, unemployment, a history of violence, living alone, drug misuse and whether this was their first attempt. There were also differences between the suicides of different ethnic minorities.

Pirkola, et al. (2003) compared Finnish suicides using different methods. Suicides using liquids or solids were more often female and had a history of both previous attempts and psychiatric treatment while suicides by shooting were the opposite. Suicides using vehicle exhaust gas were most frequently younger males who had experienced a recent interpersonal loss or other stressful event and died by suicide while intoxicated with alcohol.

In one town in England, Gairin, et al. (2003) found that 39% of the suicides had attended an emergency room in the previous year, including 15% for a suicide attempt. These prior attempts were at a median of 38 days prior to the suicide.

Kim, et al. (2003a) studied male Canadian suicides and identified three clusters (or types) based on comorbidity: a low co-morbidity group, a substance-dependent group and a group exhibiting childhood onset of psychopathology, with the latter two groups showing more impulsive-aggressive traits. They also compared the suicides with community controls, a poor methodology and, as expected, the living controls had fewer psychiatric diagnoses and fewer comorbidities.

Conner, et al. (2003c) followed up all patients admitted to hospitals for injuries in New Zealand in one year. Subsequent suicide (and self-injury hospitalizations) in the next year was higher for those with previous hospitalization for self-injury, injuries of undetermined causes, and assault.

Koivumaa-Honkanen, et al. (2003) followed a sample of Finnish people for 20 years and found that the suicides had rated themselves as less happy at baseline. At baseline, unhappiness was associated with older age, male, sickness, living alone, smoking, heavy alcohol consumption, physical activity and intermediate social class. At baseline, of course, unhappiness was associated with depression scores, and so depression scores also probably predicted suicide.

Owens, et al. (2003) compared suicides in England who were not in contact with psychiatric services with living controls. The predictors of suicide were

previous suicide attempts, social and interpersonal problems, both current and past mental illness, and previous contact with specialist services. One third (32%) of the suicides were judged to have no current mental disorder.

Runeson and Åsberg (2003) compared Swedish suicides with those dying of other causes and found that the suicides more often had a suicide in a family member and personal previous psychiatric care.

Elderly Suicides

In one region of England, Salib and El-Nimr (2003; Salib & Green) compared elderly suicides who had been to psychiatric services and those who had not. Those who had been to psychiatric services were more often female, less likely to be living alone, less likely to leave a suicide note, and less likely to have attempted suicide previously. The men were less likely to have visited psychiatric services and less often had prior suicide attempts. The men and women did not differ in physical or psychiatric problems. All suicides by ethnic minorities were male.

In Singapore, Kua and Hong (2003) found that elderly suicides (>65) more often had a diagnosis of depression and a physical illness and less often a relationship conflict.

In Sweden, Waern, et al. (2003) compared elderly suicides aged 65-74 versus 75+ with community living controls. Comparing the suicides in the two age groups would have been useful and the data are in the paper, but the statistics are only for suicides versus living controls. Compared to living controls, loneliness, interpersonal conflict, major depression and serious physical illness predicted suicide in the 75+ group, while loneliness, interpersonal conflict and major depression predicted suicide in those aged 65-74.

Qin and Mortensen (2003) compared Danish suicides with living controls. Having no children, especially a young child, was more common in the suicides, and having a child in psychiatric care or deceased was also more common in the suicides.

Yen and Siegler (2003) followed up students given the MMPI and compared suicides with clinically depressed men and with men dead from medical causes on seven scales. They found that Blaming Self and Social Introversion scores were

higher for the suicides than in the deceased controls but not for the living depressed controls. v

People with Psychopathology

Psychiatric Patients in General

Ho (2003) found that the suicide rate of discharged psychiatric patients was highest in the first 28 days after discharge.

Krasser, et al. (2003) followed-up psychiatric patients and compared those who died by suicide or attempted suicide seriously or less lethally with non-suicidal patients. On a measure of auto-aggression, the suicidal patients scored higher on admission and more negative in their self-talk at the end of hospitalization. Patients who made less lethal attempts had higher depression and hopelessness scores and were more negative in their self-talk at the beginning of hospitalization.

Depressed Individuals

Brädvik (2003) reported on first-time suicide attempters with severe depression/melancholia who later died by suicide. The median survival time was 6.7 years, and the range was 1-33 years. Males diagnosed as retarded survived longer. The severity and method of the attempt and attempting suicide later did not impact survival time. Clinical variables also did not predict survival time.

Kessing (2003) followed up for five years Danish psychiatric inpatients with diagnoses of single depressive episodes with and without melancholic syndrome and with and without psychotic symptoms. The groups did not differ in dying by suicide during the follow-up. (Only 2 of the 3,455 patients died by suicide.)

In a 10-year follow-up on patients with major depression, Hansen, et al. (2003) found that comorbid personality disorder predicted subsequent suicide, and non-melancholic depressed patients had a higher risk of suicide than did melancholic depressed patients.

Addicts and Alcoholics

Waern (2003) studied elderly suicides and living community controls. Alcohol abuse was more common in the suicides than in the controls. The suicides with alcohol use disorders were younger and less likely to be suffering from severe physical illness than those without this disorder, more often had previous suicide attempts, used non-violent methods for their suicide, were more often intoxicated at the time of the suicide, and were less likely to have a somatic illness, but did not differ in stressful life events or Axis I disorders.

Conner, et al. (2003a) compared alcoholics who had died by suicide, made serious suicide attempts or were non-suicidal. "Mood disorders and financial difficulties were more frequent among medically serious attempters than controls. Completed suicides were older and were more likely to be male, to have mood disorders, partner-relationship difficulties and other interpersonal life events than were controls. Completed suicides were older and more likely to be male than were medically serious attempters" (p. 551). Conner et al. (2003b) found that higher age strengthened the association of mood disorder with suicide, while lower age strengthened the association of mood disorder with attempted suicide.

Psychosis and Schizophrenia

In a two-year follow-up of psychotic patients, Moran, et al. (2003) found that suicide and attempted suicide were more common if there was a comorbid personality disorder (and also more depression at baseline, drug use/misuse, prior self-harm, and age, sex and race).

In a study of hospitalized schizophrenic patients in Bosnia and Herzegovina, Maslov, et al. (2003) found that there was an increase in the number of suicides in 1992 during war events that were accompanied by displacement, inadequate accommodation and lack of food and medicines when the patients had to be moved to a safer region.

Prisoners and Those under Investigation

Winter (2003) looked at prisoner suicides in Wisconsin (USA) and found that the suicides were more often a single, white male who was under the influence of alcohol at admission, did not exhibit suicidal tendencies, and did not indicate a mental illness or physical/medical problems; He was not referred to mental health, was being detained for a violent/personal charge, and had a history of prior arrests.

Brophy (2033) documented suicides in men in Ireland under investigation for sexual offenses. The rate of suicide was higher for those accused of sex with minor.

Suicide Terrorists

Pedahzur, et al. (2003) compared a large sample of terrorists and compared the suicide terrorists with the rest. The suicide terrorists more often had a religious education, had a religious ideology motivating their attack, tended to be older, were more often unmarried, and came from a region with lower socio-economic status. They classified the suicide terrorists as fatalistic-altruistic.

Spouse Suicide

Agerbo (2003) looked at Danish spouses whose partner died by suicide or was admitted to a psychiatric hospital compared to community controls. The rate of suicide in these spouses was greater than expected. It should be noted that the numbers in this article do not make sense. The 9,011 suicides supposedly had 111,172 spouses. Even if this number includes children (this possibility is mentioned), then these Danish suicides each had an average of 11 children!

Medical Illness

Jones, et al. (2003) reviewed previous studies and found a higher proportion of deaths from suicide in patients with epilepsy, perhaps as much as ten times higher. In a sample of patients that they collected, they reported the incidence of suicidal ideation and attempted suicide but had no comparison group.

Fredrikson, et al. (2003) found a higher rate of suicide for patients with multiple sclerosis compared to the general population, especially among younger males and also in the first year after the initial admission.

Murder-Suicide

In Finland, Kivivouri and Lehti (2003) found that murder-suicide by was more common in the middle classes and lowest among the unemployed and working classes. Murder-suicide was more common in farmers and white-collar murderers, offenders over the age of 45, and males murdering a female intimate partner or relative,

Studies of Attempted Suicides

Theories of Suicide

O'Connor (2003) tested the *cry of pain theory of suicide* which is an elaboration of the defeat-escape theory of suicide: defeat, no escape and no rescue. Comparing attempted suicides with patients admitted for medical problems, O'Connor found that social support, defeat, and escape potential differentiated the groups, but apparently not hopelessness, depression, anxiety or stress, although O'Connor did not report the multiple regression in full.

Physiological Research

In a sample of attempted suicides who were given a scale to measure the likelihood of suicide, Westrin and Niméus (2003) found that cortisol non-suppressors on the dexamethasone test had the higher scores for suicide risk, as did those with low CSF-5-HIAA levels.

Baca-Garcia, et al. (2003a) studied the polymorphism of the serotonin transporter promoter area for which subjects can be classified as S individuals (s/s or s/l) or L individuals (l/l). In a sample of female attempted suicides, the proportion of L women in the menses phase (41 %, 7/17) was significantly higher than expected in the population (15.5 %) and tended to be higher than in S female attempters (22 %, 19/87). L females were also overrepresented in postmenopausal attempters.

In mood disorder patients, Yen, et al. (2003b) found no differences between those with a history of suicidal attempts and those with none in a variable-number tandem-repeat polymorphism in intron 2 of the serotonin transporter gene (5-HTTVNTR).

Clark (2003) studied adolescents with alcohol use disorders who had attempted suicide and those who had not, as well as community controls. The three groups did not differ in blood levels of the tryptophan ratio, but a lower tryptophan ratio level predicted subsequent attempted suicide along with the presence of a major depression disorder (in the Abstract, although Clark says that this predicted a shorter time to subsequent suicidal behavior in the text).

In a study of attempted suicides and healthy volunteers, Rujescu, et al. (2003a) found a nonsignificant higher frequency of the TPH intron 7 A218 allele. In a meta-analysis of other research, they found a weak increase in the frequency of the A218 allele and an over-representation of A-carriers in Caucasian in suicides and attempted suicides.

Hong, et al. (2003) found no association between suicidal history (undefined) and brain-derived neurotrophic-factor genetic polymorphism in a sample of depressed patients versus normal controls.

Rujescu, et al. (2003b) found no significant difference in the distribution of a polymorphism (G861C) in the serotonin 5-HT1B gene between attempted suicides and healthy controls (in allele or genotype frequency).

Gustavsson, et al. (2003) studied a small sample of male attempted suicides without any comparison group. They claimed that the attempters had lower levels of CSF testosterone, except for patient with depression NOS or dysthymia.

In a sample of schizophrenic patients, Bayle, et al. (2003) studied the functional polymorphism in the promoter of the serotonin transporter gene (5HTTLPR) and found that the genotypes containing the low activity “short” allele was significantly more frequent in violent suicide attempters than in non-violent suicide attempters.

In a sample of patients with major depressive disorder, Tsai, et al. (2003) found that attempted suicides did not differ from non-attempters in the genetic variants (*PvuII* and *XbaI* polymorphisms) of the estrogen receptor α gene (ER- α).

In a study of the serotonin transporter gene (5-HTTLPR), Courtet, et al. (2003) found that suicide attempters using non-violent methods did not differ in the frequencies of the S allele and the SS genotype from the controls (a sample of blood donors).

Pitchot, et al. (2003) studied the growth hormone (GH) response to both apomorphine, a dopaminergic agonist, and clonidine, an α 2-adrenergic agonist, according to the dexamethasone suppression test (DST) status in major depressed inpatients with a prior suicide attempt compared with non-attempters. Since hypercortisolemia as assessed by post-DST cortisol values did not inhibit GH response to apomorphine or clonidine, hypothalamo-pituitary-adrenal axis

overactivity did not explain the impaired GH response to apomorphine in major depressed patients who had attempted suicide.

Serum Cholesterol

In a sample of schizophrenics, Atmaca, et al. (2003) found that those who had attempted suicide had lower levels of total cholesterol and leptin. The levels were observed to be lower in violent attempters compared to non-violent attempters. Impulsivity and aggression scores were negatively correlated with both cholesterol and leptin levels in the total sample of patients.

Vevera, et al. (2003) found that female attempted suicides using violent methods had lower serum cholesterol levels than those using non-violent methods. Those using non-violent methods did not differ from community controls. The groups did not differ in hematocrit and red blood cell count.

Lee and Kim (2003) compared attempted suicides with non-suicidal psychiatric patients and healthy controls. The attempted suicides had lower total serum cholesterol and low density lipoprotein levels and, for the subjects with major depression, lower triglyceride concentrations. Serum cholesterol levels were negatively associated with risk-rescue scores for the attempters.

Youths

In a study of Finnish children in child welfare homes, Hukkanen, et al. (2003) found that suicidal ideation and attempts were associated with a low general functioning level, self-mutilating behavior and violence, as well as higher externalizing, internalizing, anxious-depressive and aggressive scores. The attempted suicides had a higher number of different types of traumatic experiences before the placement and higher somatization syndrome scores.

Spirito, et al. (2003b) compared adolescent suicide attempters who scored high on an alcohol use inventory with those scoring low. The high scorers scored higher on scales to measure hopelessness and reckless behavior, but did not differ in scores for depression, anger and suicidal intent.

Haavisto, et al. (2003) studied all adolescent psychiatric inpatients in Finland. Suicidal ideation was predicted by being affected by witnessing open adult sexual behavior, having a depression or a conduct disorder diagnosis, and

engaging in violent acts. Attempting suicide was predicted by engaging in violent acts, having a depression diagnosis, being affected by witnessing open adult sexual behavior, involuntary treatment, and being female.

Spirito, et al. (2003a) followed up a sample of adolescent suicide attempters (mostly female) for 3 months. The strongest predictor of suicidal ideation during the follow up was depression, and also family functioning (problem-solving), hopelessness and the ability to regulate affect and impulses, while depression and family functioning (general and communication) predicted a suicide attempt.

Zoroglu, et al. (2003) found that prior attempted suicide (and also self-mutilation) in Turkish high school students was associated with physical abuse, emotional abuse, sexual abuse and neglect and scores on a measure of dissociative experiences.

Vermeiren, et al. (2003) compared male high school students who had suicidal ideation or self-harm behavior, a violent only group, a suicidal and violent group and normal controls. The suicidal and violent groups had higher levels of internalizing problems, risk-taking behavior (substance use, diminished perception of risk, sensation seeking), and aggression. The suicidal-violent group had the highest levels of depression, somatization, overt and covert aggression, and risk-taking behavior. The violent-only group had less depression, anxiety, and covert aggression, but higher levels of overt aggression, sensation seeking, diminished perception of risk, and marijuana use than the suicidal only group.

Piquet and Wagner (2003) compared hospitalized adolescent suicide attempters with hospitalized non-attempters matched for diagnosis. In an interview schedule to assess coping skills, the attempters made fewer effortful-approach responses and more automatic-approach coping responses. They were judged to have coped less effectively. The higher the coping skills of the attempters, the lesser their suicidality for the next two years.

Stanton, et al. (2003) compared adolescent attempted suicides and community controls for risk-taking behaviors. The groups did not differ in their total score, nor on any risk behavior.

In a sample of high school students, Rohde, et al. (2003) found that a history of attempted suicide was predicted by current depression, susceptibility to peer

pressure, impulsivity, conduct problems, male sex, low family cohesion, current suicidal ideation and recent drug use.

In one region of South Africa, Madu and Matia (2003) found that attempting suicide by adolescents (aged 15-19) was not associated with religion, ethnicity or urban/rural region. Suicidal ideation was highest in those with no religious affiliation, in the Tswana ethnic group, and in urban areas.

In Polish adolescents and students (aged 14-21), Gmitrowitz, et al. (2003a, 2003b) found that suicidal students (ideation plus attempts) differed on many variables from non-suicidal subjects: living with both parents, substance use, running away and truancy (and, for boys, conflicts with the law), psychiatric treatment, parents with mental illness, substance abuse and domestic violence, and suicides among relatives and friends. There were some differences in these risk factors for boys and girls.

Enns, et al. (2003) re-tested at discharge adolescents hospitalized with suicidal ideation or attempts. Neuroticism was associated with posttreatment depression and suicidal ideation, but dependency, self-criticism, self-oriented perfectionism and socially prescribed perfectionism did not predict later suicidal ideation. Neuroticism also predicted readmission for suicidal behavior within a year.

Bolognini, et al. (2003) studied adolescents (and young adults) with drug misuse and abuse and eating disorders. The report is very confusing. The controls are not described, and the presence of a few eating disorder adolescents is inappropriate. The results seem to show that, in the clinical group, those who had attempted suicide more often had anxiety, social phobia, separation anxiety and depression. The attempters and non-attempters did not differ in sensation seeking or alexithymia, but did score higher on aspects of emotional dependency,

Light, et al. (2003) studied high school students and followed them up after 2 years. They found that alcohol use was associated with attempted suicide and suicidal ideation and that, at follow-up, suicidality at baseline leads to increased alcohol-related problems for females,¹⁷ while alcohol-related problems at baseline predict suicidality for males during the follow-up. (Marijuana use, risky behavior and ethnicity also played a role.)

¹⁷ If this is the case, then there is a misprint for the females in Table 3 of the paper.

In a sample of adolescent psychiatric inpatients, Apter, et al. (2003) found that the incidence of attempted suicide was lower in those with obsessive-compulsive disorder (OCD). The OCD patients had a negative association between suicidality and depression, whereas the other patients had a positive association.

O'Donnell, et al. (2003) studied urban 7th and 8th grade students and found that those reporting suicidal ideation perceived themselves as having less social support, while those reporting past attempted suicide also perceived themselves as having less social support, especially from their family. It is not clear whether the perceived social support was prior to the suicidality or afterwards.

Csorba, et al. (2003) compared depressed outpatient adolescents (13-17 years of age) who had suicide attempts or ideation in the past 6 months versus non-suicidal depressed adolescents. According to the parents, the suicidal adolescents were more hopeless, had lower self-esteem, were more violent (physical fighting) and more often self-harmed. According to the adolescents themselves, the suicidal adolescents were more violent and felt more sad/depressed .

Ostamo, et al. (2003) found higher rates of attempted suicide among adolescents and young adults in Helsinki (Finland) in districts with lower socio-economic conditions.

Esposito, et al. (2003) compared one-time attempters with multiple attempters. The multiple attempters more often had a mood disorder, reported more severe depressive symptoms and anger, had higher rates of disruptive behavior disorders and higher levels of affect dysregulation and serious self-mutilation and had higher scores for hopelessness.

Horesh, et al. (2003a) compared adolescent psychiatric inpatients with borderline personality disorder (BPD) or major depression who had attempted suicide or not done so. Overall, the attempters scored higher on hopelessness, depression and aggression. For the adolescents with BPD, attempting suicide was associated with anger, aggression and impulsiveness, but this was not the case for those with major depression. Horesh, et al. (2003b) compared adolescent attempted suicides with major depression (MDD) and borderline personality disorder and community controls. The attempted suicides reported more stressful life events in general and more physical abuse than community controls in the year before the suicide attempt. The MDD adolescents had more lifetime death-related life events

than the BPD and control groups, while the BPD adolescents reported more lifetime sex abuse-related life events than the other two groups.

In two samples of sexual-minority male youths (aged 13-25), Savin-Williams and Ream (2003) found that sexual orientation, behavior and identity did not predict attempted suicide. Attempters had higher levels of general life stress and gay-related stressors. They had lower self-esteem and more often were substance abusers and victimized. Attempters did have male sexual partners at an earlier age, had more partners, and were more lax in safe-sex procedures.

In a sample of Norwegian high school students, Wichstrøm and Hegna (2003) found that prior attempted suicide was associated with same sex behavior (but not homosexual identity or attraction), depression, self-worth, sexuality debut < 15 years of age, dissatisfaction with body parts, and suicidal ideation. Same-sex behavior also predicted future attempts in a 7-year follow-up period.

Zlotnick, et al. (2003) compared attempters and suicidal ideators aged 13-17 and 18-35. For the adolescents, the attempters scored higher for regulation of affect and impulses and self-mutilation (but not self-harm) but did not differ in trait anger (total, anger-in or anger-out). For the young adults, the attempters and ideators did not differ on any of the measures. For attempters, the adolescents scored higher than the young adults on regulation of affect and impulses, self-mutilation but not self-harm or anger-out. For ideators, the adolescents scored higher than the young adults only on anger-out.

Reith, et al. (2003) followed adolescents who had attempted suicide by self-poisoning for 5-10 years. Subsequent suicide was predicted by being male, with a non-affective psychosis and having had a psychiatric disorder in childhood.

In a sample of South African adolescents, Liang, et al. (2003) found that those who had attempted suicide differed from those who had suicidal ideation in being a perpetrator and victim of violence and exposure to risk of physical injury for female and, for males, with being a victim of violence. For both sexes, use of some drugs was associated with attempting suicide and, for females, smoking.

Adults

In Manitoba (Canada), Kraut and Walld (2003) found that unemployment, part-time work and being out of the labor force were associated with attempted

suicide. The fewer the weeks worked in 1985 the more likely a suicide attempt. In addition, aboriginal ethnicity, previous mental health care, and previous suicide attempts were associated with attempting suicide.

Carter, et al. (2003) compared a clinical group of attempters (by overdose) and a group of attempters in the community with community controls. The clinical group of attempters were more often female, with anxiety, affective or substance-use disorder, and had greater mental health related disability. The community attempters more often had anxiety or substance-use disorder and greater mental health disability and a tendency to more often have an affective disorder.

Mathy and Cooper (2003) studied the association of Internet use with suicidality. Those with a history of suicidal ideation and suicide attempts spent more hours per week online (and were younger), although the presentation of the results is poor and difficult to interpret. Mathy, et al. (2003b) found no association between suicidal ideation or attempt and the size of the community of origin (e.g., rural versus urban).

Sarfati, et al. (2003) tested attempted suicides by overdose on admission and eight days after discharge (at an average of 13.5 days later). At the follow-up, the patients scored lower on depression, hopelessness, and impulsivity, an apparent cathartic effect. Their scores on measures of quality of life did not change.

Prigerson, et al. (2003; Desai, et al. 2003) studied a large sample of mentally ill homeless people in the United States. Serious suicidal ideation and suicide attempts in the past 30 days were more common among the younger clients compared with the older clients. Suicidal behavior was not increased by co-morbid alcohol/drug abuse overall, but it was more often found associated in the older patients.

In a study of residents of Latvia, Rancāns, et al. (2003) found that females reported prior year suicidal ideation more than did males. Non-cohabitation status and lower level of education for males, but higher levels of education for females were also associated with suicidal ideation. Younger age, lower level of education, urban residency and Latvian ethnicity were more common in attempters for both sexes.

Fazaa and Page (2003) interviewed college students who had attempted suicide and assessed two traits: self-criticism and dependency. Self-critical

attempters had a greater intent to die and greater lethality in their attempts and attempted suicide in response to an intrapsychic stressor in order to escape. Dependent attempted suicides did so in response to an interpersonal stressor and were communicating unhappiness.

Garrouette, et al. (2003) studied American Indian tribal members. Commitment to cultural spirituality, as measured by an index of spiritual orientations (but not commitment to cultural spirituality, as measured by beliefs)¹⁸ predicted a lower rate of lifetime attempted suicide, as did *somewhat* importance of Christian beliefs (versus *not at all* and *very*).

In a sample of college students, Duane, et al. (2003) found that suicidal ideation (but not attempted suicide) was related to family discipline, including bribing the child, the child's disobedience and the child getting into trouble. In addition, family arguments, mental illness in the family and parental separation were associated with suicidal ideation. Family criminal behavior and spousal abuse were significantly correlated with prior attempted suicide, but there was also a *negative* association between alcohol use and attempted suicide.

In a sample of undergraduate students, Edwards and Holden (2003), in a poorly analyzed study, found that a sense of coherence and emotion-oriented coping (as well as hopelessness) predicted suicidal ideation and prior attempted suicide in females, and suicidal ideation in males.

Brent, et al. (2003) compared attempted suicides whose sibling also attempted suicide, suicide attempters whose sibling did not attempt suicide, and siblings neither of whom attempted suicide. The siblings concordant for attempted suicide were more impulsive and more hostile on personality tests. Brent et al. also studied the offspring. The offspring of the concordant siblings were more often diagnosed with anxiety disorders, social phobia and PTSD and had more often attempted suicide (and at a younger age).

Skogman and Öjehagen (2003a) asked attempted suicides their motives and found five clusters: punishment/manipulation, escape, seeking attention, communication/unclear, wanting to die, and making it easier for others. Escape

¹⁸ The authors explained that commitment to beliefs provides a measure of the cognitive aspect of faith; cultural spiritual orientations tap perceptions, experiences, knowledge, and actions that tribal members frequently associate with cultural spirituality.

motives were common, while interpersonal motives were rare. Attempters with substance abuse, anxiety, or personality disorders more often chose communicating motives and mentioned more motives than those with mood or adjustment disorders. Hopelessness was positively associated with the wish to die and with escape motives, and negatively correlated with communicating/unclear motives. Skogman and Öjehagen (2003b) found that, “most common problem was ‘feelings of loneliness,’ followed by ‘mental illness or psychiatric symptoms.’ Men more often experienced socio-economical problems, whereas women more often mentioned psychiatric problems and interpersonal relation difficulties. Patients diagnosed with adjustment disorder more often experienced recent/current problems in relationships than those with other disorders. High numbers of problems mentioned were related to being ‘never married/single,’ having a poor social network and many depressive symptoms. In addition to psychiatric problems, interpersonal problems were in focus to most patients” (p. 207).

Diaz, et al. (2003) studied the Suicidal Intent Scale in samples of attempted suicides and identified two factors: expected lethality and planning. Being male and depressed predicted higher scores on both factors, as was hospitalization after the attempt.

Sayar, et al. (2003) found no differences in alexithymia between attempted suicides and healthy controls. The attempters did score higher for depression and hopelessness. Suicidal intent was associated with alexithymia, but the lethality of the attempt was not associated with these variables.

Berg, et al. (2003) studied attempted suicide and suicidal ideation in Norwegian police. Serious suicidal ideation was predicted by marital status, subjective health complaints, the personality trait of reality weakness, anxiety and depression, and personal accomplishment. Attempted suicide was predicted by being female, divorced/separated, anxiety, and burnout regarding personal accomplishment.

Reviere, et al. (2003) studied inner city women who had attempted suicide. Traumatic and psychotic-spectrum symptoms (psychoticism and paranoid ideation), but not PTSD, were associated with suicidal intent.

Haw, et al. (2003) studied a sample of patients with deliberate self-harm (parasuicide)! Lethality was associated with intent, and both lethality and intent were higher in men. Suicidal intent but not lethality was correlated with the

presence of psychiatric disorder and depression, while intent was correlated with hopelessness. Repetition of attempted suicide during the follow-up period (12-20 months) was not related lethality or intent scores for the original attempt.

Osváth, et al. (2003a) studied suicide attempters in Hungary and Switzerland for visits to doctors prior to the act. In Bern (Switzerland), more patients visited their GPs throughout the year, whereas more attempters in Pecs (Hungary) visited a GP in the prior week. Almost the same proportion of the patients had suicidal ideation, but in Pecs more than a quarter of them and in Bern half of them talked about their suicidal thoughts.

Murase, et al. (2003) compared attempted suicides using violent methods and those using overdoses. Depressive disorders were common in both groups. Those using violent methods were more often male, less often borderline patients, less often had prior psychiatric contacts and more likely to complain of financial problems and to retain a definite wish to die after the attempt.

Baca-García, et al. (2003b) studied female attempted suicides and found an increase during menses, an association which was not influenced by lethality, attempt impulsivity, impulsivity traits, major depression, life events, or seasonality.

Fergusson, et al. (2003) followed up young people for 21 years. Suicidal ideation and attempts were predicted by depression, a family history of suicide, childhood sexual abuse, neuroticism, novelty seeking and deviant peer affiliations positively, and by self-esteem and school achievement negatively.

Repeat Attempts

Dieserud, et al. (2003) followed up attempted suicides for 18 months. The strongest predictor of a repeat attempt was low self-efficacy, and also low self-appraised problem-solving. Depression, hopelessness and self-esteem did not contribute to the prediction.

Öjehagen, et al. (2003) gave a 14-subscale personality test to patients after a suicide attempt and five years later. At baseline, personality test scores did not differ between repeaters and non-repeaters, but repeaters more often had a personality disorder, and their 24-hour urinary cortisol levels were lower. Repeaters had high anxiety and guilt levels at baseline and after 5 years.

Osváth, et al. (2003b) compared first-time suicide attempts with repeaters. Repeaters were more often divorced, unemployed or economically inactive, without higher education, with a mental disorder (especially personality disorder).

LGBTQ Individuals

Mathy and Schillace (2003) found that religiosity (or perception of their parents' religiosity) did not predict attempted suicide in a sample of lesbian and bisexual women. Mathy, et al. (2003a) found that a higher proportion of bisexual females and transgender individuals reported prior suicidal ideation and prior attempts than bisexual males.

Igartua, et al. (2003) studied LGB individuals, mostly from the community, and found that attempted suicide and suicidal ideation were not predicted by internalized homophobia after controls for depression. The period with the greatest risk for suicidality was the period of disclosure to their immediate family.

Adults with Psychopathology

Psychiatric Patients in General

In a sample of psychiatric outpatients, Gil (2003a) found that those who had attempted suicide had higher levels novelty seeking and harm avoidance, but not reward dependence. Attempted suicide was also predicted by depression and current suicidal ideation.

Hawton, et al. (2003) studied a sample of attempted suicides and diagnosed them for Axis 1 psychiatric disorder and Axis 2 personal disorder. Patients with both types of disorder had made more previous suicide attempts and repeated attempted suicide during the follow-up period. Patients with comorbid disorders were more depressed, hopeless and impulsive, reported more episodes of aggression, had lower self-esteem and poorer problem-solving skills. Patients with comorbid disorders more often reported not being loved by their parents and parental suicidal behavior.

Orbach, et al. (2003) compared psychiatric inpatients who had attempted suicide and those who had not using a measure of mental pain. In a poorly designed statistical analysis, the attempters apparently differed in the mental pain

variables of irreversibility, loss of control and emptiness as well as emotional expressiveness.

Stein, et al. (2003) compared adolescent female attempted suicides with patients with anorexia, nonsuicidal psychiatric patients and community controls. The attempters and anorexia patients had more repulsion to life and attraction to death and had more negative attitudes and feelings toward their bodies, lower sensitivity to body clues and less body control, and elevated anxiety and depression.

Schizophrenia and Psychosis

Harkavy-Friedman, et al. (2003) investigated command auditory hallucinations ordering schizophrenic and schizoaffective patients to die by suicide. Twenty-two percent of the patients reported such hallucinations. Patients who had attempted suicide did not differ in the frequency of these hallucinations from the non-attempters, but 80% of those with these hallucinations made a suicide attempt in response to them. Having these hallucinations was not associated with a history of depression or substance abuse.

Aguilar, et al. (2003) studied schizophrenics who had attempted suicide. Compared to non-suicidal schizophrenics, the attempters scored higher on depression and hopelessness. The two main reasons for the attempt were psychotic reasons and depression, suggesting two subtypes of attempters.

In one city in China, Ran, et al. (2003) found that attempted suicide was more common in patients with affective disorder than in those with schizophrenia. In both groups, hopelessness and depression scores were higher for those who had attempted suicide. The attempters were younger and had an earlier age at onset of the disorder.

Pillmann, et al. (2003) compared suicidal attempts and ideation in acute transient psychotic disorder (ATPD) and matched control groups with 'positive schizophrenia' (PS) and bipolar schizoaffective disorder (BSAD) and followed them up for 5 years. The three groups did not differ in the frequency of suicidal behavior. Suicidal behavior in ATPD was associated with the acute episode, while suicidal behavior in PS occurred during follow-up. Suicidal behavior was associated with a higher educational level and lower conscientiousness only for patients with PS.

Potkin, et al. (2003b) followed-up patients diagnosed as schizophrenic or schizoaffective from several countries for two years. The baseline predictors of suicidal behavior during follow-up were a diagnosis of schizoaffective disorder, history or current use alcohol or substance abuse, cigarette smoking, number of lifetime suicide attempts, and the number of hospitalizations in the previous 36 months to prevent suicide. Predictive clinical features included greater baseline suicidal ideation, anxiety and depression, and severity of Parkinsonism symptoms.

In a sample of schizophrenic and schizoaffective psychiatric inpatients, Potkin, et al. (2003a) found that neurocognitive performance was not associated with suicide risk or suicidal ideation.

Ponizovsky, et al. (2003) compared schizophrenic patients with and without a history of attempted suicide and found that the attempters had lower life satisfaction and rated quality of life in various domains, significantly so for the multiple attempters.

In the United Kingdom, McKenzie, et al. (2003) followed up patients with psychosis for two years and found that those of Caribbean origin were less likely to attempt suicide than British white people, especially for those over the age of 35. The British whites more often had a diagnosis of affective disorder and less often schizophrenia.

In a study of chronic schizophrenic patients, Kim et al. (2003b) found that suicidal ideation and past attempts were associated with hopelessness, substance abuse and greater insight. A history of suicidality (but not current suicidal ideation) was associated with better neurocognitive functioning (better on tests of psychomotor speed and attention, verbal working memory, verbal fluency, verbal memory, and executive function).

In a study of chronic schizophrenics, Altamura, et al. (2003) found that suicide attempters had a higher rate of nicotine abuse or dependence and lifetime major depressive episodes, and more likely to have a duration of untreated psychosis > 1 year.

Affective Disorders

In a sample of patients with major depressive disorder, Oquendo, et al. (2003a) found that a history of attempted suicide was predicted by comorbid PTSD and Cluster B personality disorders.

In a sample of patients with bipolar I or II disorder, Leverich, et al. (2003) found that those who had attempted suicide more often had a positive family history of drug abuse and suicide (or attempts); a greater personal history of early traumatic stressors, and more stressors both at illness onset and for the most recent episode; more hospitalizations for depression; a course of increasing severity of mania; more Axis I, II, and III comorbidities; and more time ill on prospective follow-up. The predictors of an attempt were a history of sexual abuse, lack of confidant prior to illness onset, more prior hospitalizations for depression, suicidal thoughts when depressed, and cluster B personality disorder.

In a sample of suicide attempters, Balázs, et al. (2003) found that making multiple attempts was associated with major depressive episode and the number of current psychiatric disorders, but not with the diagnosis of past major depressive episode.

Palmer (2003) studied female depressed psychiatric patients and compared those with a healthy weight, overweight and obese. For the African American and the white females, a history of attempted suicide did differ by weight category. For the white females, but not the African American females, suicide risk (whatever that means!) was highest in the obese group.

Sakamoto and Fukunaga (2003) compared depressed psychiatric inpatients who had attempted suicide with those who had not. One week after admission, the depression level of the attempters more often had declined than the depression of the non-suicidal patients, suggesting a cathartic effect of the attempt.

Michaelis, et al. (2003) compared bipolar patients with one versus multiple suicide attempts. Single attempters were more likely to show high seriousness of intent at their first attempt and tended to be more likely than multiple attempters to exhibit mixed affective states at their first attempt. Single and multiple attempters did not differ in other clinical or demographic characteristics.

Dalton, et al. (2003) studied patients with bipolar disorder and found that comorbid substance use disorder increased the lifetime attempted suicide rate.

Sokero, et al. (2003) studied patients with major depressive disorders and found that suicidal ideation was predicted by age, hopelessness, alcohol dependence/abuse, perceived social support and social and occupational functioning. Attempted suicide was predicted by age, depression, alcohol dependence/abuse, perceived social support and social and occupational functioning

Pendse, et al. (2003) compared suicide attempters with major depression with non-suicidal patients with seasonal affective disorder (SAD), and community controls. The social situation and the clinical background of both the SAD patients and the attempted suicides were similar, and the social networks (availability and attachment) were equally disadvantageous and weaker than those in some community/healthy populations.

In a study of depressed inpatients, Corruble, et al. (2003) found that the number of lifetime suicide attempts was associated with impulsivity and an immature style on the Defense Style Questionnaire (including undoing, projection, passive-aggression, acting-out, splitting and somatization).

Oquendo, et al. (2003b) compared high lethality and low lethality depressed suicide attempters and found that the high lethality attempters were older, had higher suicidal intent and scored lower for impulsivity but not for depression or aggression. The repeaters had lower regional cerebral fludeoxglucose F18 in the ventral, medial and frontal cerebrocortex, thereby implicating the serotonergic system.

Personality Disorders

Yen, et al. (2003a) followed up patients with personality disorders for two years and found that attempting suicide was predicted by baseline borderline personality disorder and drug use disorders. Worsening major depressive disorder and substance use disorders in the month preceding the attempt were also observed.

Ruchkin, et al. (2003) studied Belgian male delinquents with conduct disorder. Those with suicidal ideation or who had attempted suicide more often had psychopathology and violence exposure and higher levels of harm avoidance, lower self-directedness, and higher rates of perceived negative parental rearing.

The associations were stronger for the attempted suicides than for the suicidal ideators.

Drug and Alcohol Abusers

Roy (2003b) compared alcoholics who had attempted suicide with non-attempters. The attempters were more often female and had a family history of suicidal behavior, were younger and had significantly higher childhood trauma scores for emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect. The attempters were also more introverted and neurotic.

Roy (2003c) compared drug addicts who had attempted suicide with those who had not done so. The attempters were younger, more often female, had a family history of suicide; and had a lifetime history of major depression and of alcoholism. They had higher scores for childhood trauma, psychoticism, neuroticism and introversion, as well as higher psychiatric composite scores on the Addiction Severity Index.

Roy (2003a) compared Caucasian and African American substance abusers who had attempted suicide. The groups did not differ in marital status, age, childhood abuse, or personality scores for neuroticism, extraversion, psychoticism, or hostility. The African American attempters had significantly lower childhood emotional neglect scores, while the Caucasian attempters more often had a family history of suicide and current legal problems.

Roy (2003d) compared HIV-positive drug abusers who had or who had not attempted suicide. The attempters were more often female, younger, with a family history of suicidal behavior, reported childhood trauma, scored higher for neuroticism, and more had comorbid depression.

In a study of homeless veterans who were substance abusers, Benda (2003) found that attempting suicide in the prior 5 years was predicted by psychiatric comorbidity, early physical and sexual abuse, problems with friends, the severity of substance abuse, and the longevity of drug use. Attempting suicide and suicidal ideation were also predicted by commitment (to religion, employment and marriage) and educational achievement, both negatively.

Darke, et al. (2003) found that methadone maintenance patients were more likely to have attempted suicide (and to be hospitalized after the attempt) if they had childhood conduct disorder.

Preuss, et al. (2003) followed up alcohol dependent patients for 5 years. Attempting suicide during the follow-up was predicted by prior attempts, younger age, being separated or divorced, other drug dependence, substance-induced psychiatric disorders, and indicators of a more severe course of alcoholism, but not sex.

Patten, et al. (2003) studied inpatients being treated for drug addiction. Tobacco use did not predict attempted suicide prior to admission or in the 10-20-year follow-up.

Gamblers

In a survey of Canadian residents, Newman and Thompson (2003) found that pathological gambling was associated with attempted suicide but, when psychiatric disorders were controlled for, the association was no longer statistically significant.

In a sample of pathological gamblers, MacCallum and Blaszczynski (2003) found that suicidal ideation and attempting suicide were not associated with features of pathological gambling. Suicidality was associated with depression, marital difficulties and the presence of illegal behaviors to finance the gambling.

In a sample of veterans who were pathological gamblers seeking treatment, Kausch (2003) found that a history of attempted suicide was associated with drug dependence, alcohol dependence and a psychiatric disorder, and a tendency to greater impulsivity. For the most recent attempt, 64% said that it was related to gambling issues.

Offenders and Prisoners

Hales, et al. (2003) found that attempting suicide in young English male prisoners was associated with knowing someone who had attempted suicide (but not who died by suicide), especially while in prison. Type of offense, legal status and ethnicity did not predict attempting suicide.

Penn, et al. (2003) studied adolescents in a juvenile prison and found that those who had suicidal ideation and behavior while incarcerated had higher levels of depression, anxiety and anger than non-suicidal youths. Adolescents who reported self-mutilative behavior had higher levels of anxiety, anger and substance use than non-self-mutilative adolescents.

In a study of Canadian prisoners, Holden and Kroner (2003) claimed that prior attempted suicide was predicted by internal-perturbation-based reasons for the attempt and not by depression, hopelessness or extrapunitive-manipulative reasons for the attempt. How could the prisoners who had not attempted suicide answered a questionnaire about their motivations for attempting suicide? This study, therefore, makes no sense.

Charles, et al. (2003) studied female prisoners in Chicago and found that suicidal ideation and attempted suicide were more common in non-Hispanic whites, the divorced/separated/widowed, the less educated and those not working.

In a poorly presented paper on attempted suicide in prisoners in England and Wales, Meltzer, et al. (2003) found that suicide attempters were young, White, single, born in the UK, left school early and poorly educated. Female prisoners, who attempted suicide were more likely to be without children. The attempters were more likely to have personality disorders (and also neurosis and alcohol abuse) and less likely to be psychotic. They had worse physical health and more often long-standing illnesses, more often were heavy smokers, had less social support and more life stressors, recent and lifetime.

Borrill, et al. (2003) studied female prisoners in England. White women more often had attempted suicide (lifetime) than black/mixed race women. In neither group was attempted suicide associated with drug dependence. Attempted suicide in the prior month was more common in women on remand than in those sentenced. Experience of violence from family and friends was associated with self-harm, but Borrill, et al. did not report this association for attempted suicide.

Howard, et al. (2003) studied young Australian offenders in detention. Prior attempted suicide was associated with negative affect (a mixed variable of depression, self-esteem and pessimism about the future), prior exposure to violence, housing stress and substance abuse. Life-time substance-use predicted the number of suicide attempts, but self-reported lethality was not predicted by any variable

Studies of Suicidal Ideation

Physiological Studies

Belderbos and Shah (2003) studied elderly depressed patients and found no association between measures of frontal lobe dysfunction (Wisconsin Card Sort Test and verbal fluency) and suicidal ideation.

Youths

Watkins and Gutierrez (2003) compared adolescents who had a friend or acquaintance die by suicide and matched controls. The two groups did not differ in suicidal ideation or scores on the Suicidal Behaviors Questionnaire.

Christoffersen, et al. (2003) studied Danish young adults born in 1966. Attempting suicide by 1993 was predicted by parental psychiatric disorder, suicidal behavior, violence, child abuse and neglect, and for the attempter by psychiatric disorder or physical handicap, imprisonment, drug addiction, and without graduation, vocational training or employment.

In a community sample of Australian adolescents, Bergen, et al. (2003), found that attempted suicide was associated with sexual abuse, hopelessness and depression, with the strength of these predictors different for boys and girls.

Flannery, et al. (2003) analyzed responses to the Youth Risk Behavior Survey and identified six clusters, two of which were associated with suicide ideation, the *silent suicide* cluster and the *extreme risk* cluster.

In a sample of school students, Askland, et al. (2003) found that suicidal ideation was associated with depression and poor social functioning.

Miotto, et al. (2003a) found that scores for propensity to aggression were associated with suicidal ideation in both male and female Italian high school students. In addition, several SCL-90-R subscale scores correlated with suicidal ideation for males and females. Miotto, et al. (2003b) studied Italian youths (15-19) and found that suicidal ideation was associated with scores on several eating disorder scales (as well as scores on the SCL-90), but not with age, socioeconomic status, or body mass index.

Esposito and Clum (2003) found that sex, social support and internalizing disorder predicted suicidal ideation, but not negative life events, family environment, problem solving, or comorbid disorders.

In a study of Italian high school students, Baldry and Winkel (2003) found that suicidal ideation in the past six months was more common in the older girls. Suicidal ideation was predicted by direct victimization (e.g., physical harm) and relational victimization (e.g., rumors) at school, witnessing father-mother violence, and direct victimization at home by the father for boys and by the father and the mother for girls.

Sanislow, et al. (2003) compared adolescents in a juvenile detention facility with psychiatric inpatients. They had similar scores on a measure of suicide risk. For the detainees, but not the psychiatric inpatients, impulsivity and drug abuse predicted suicide risk. For the female psychiatric inpatients, hopelessness predicted suicide risk.

In a study of North American indigenous adolescents, Chandler, et al. (2003) found that those who had a sense of personal continuity were showed less suicidality.

De Man, et al. (2003) studied suicidal ideation in Hong Kong high school-age students and found that maternal favoritism predicted suicidal ideation, but not paternal favoritism or maternal and paternal control.

Harter, et al. (2003) studied suicidal and violence ideation in middle-school students. The measures of these two ideations were positively correlated. In their poorly presented results, Harter, et al. do not report multiple regression results for predicting suicidal ideation or violence ideation. They reported, however, that perceptions of competence or adequacy, social support from peers and parents, and anger-induced physical aggression predicted both suicidal and violent ideation.

Eskin (2003) compared Swedish and Turkish high school students for to whom they revealed their suicidal thoughts. More Turkish students disclosed their suicidal ideation to others than the Swedish students. The Swedish students more often talked to an opposite sex friend than the Turkish students. The social reactions to suicidal disclosures in both samples were mainly positive. The two most common reasons in both groups for not disclosing involved interpersonal

hopelessness. Adolescents who disclosed their past suicidal thoughts to someone had lower current suicidal ideation than those who had not.

Groleger, et al. (2003) found that suicidal ideation in Slovenian students (aged 14-19) was associated with depression and low self-esteem, and psychosocial variables (e.g., reacting to stress by consuming alcohol, alcohol and substance abuse, conflicts with parents, running away from home, and pessimism about the future).

Adults

In a study of young adults (aged 17-24), Mize and Ellis (2003) found no differences in suicidal ideation (or scores on a reason for living scale) between those raised by intact families and those raised by divorced parents.

In a study of people attending primary care clinics in 15 countries, Linden, et al. (2003) found that suicidal ideation was predicted by hopelessness, presence of an ICD-10 diagnosis, social disability in terms of occupational role functioning and daily routine, and lack of social adaptation in terms of lower age and being less educated.

In a study of college students, Joiner (2003) found that “roommates who chose to room together were more similar on a suicide index than were roommates who were assigned to room together. Stress in the roommate relationship amplified similarity in roommates’ suicide levels” (p. 495).

In a large sample of American primary care patients, Goodwin, et al. (2003) found that suicidal ideation was associated with pulmonary disease and depression as well as anxiety and alcohol use disorder.

Kumar and Pradhan (2003) found that suicidal ideation in men was associated with depression and psychoticism positively and extraversion negatively. Suicidal ideation in women had similar correlates and also with hopelessness.

In a sample of African American female college students, Marion and Range (2003a) found that suicidal ideation was negatively associated with family support, a view that suicide is unacceptable, and a collaborative religious problem-solving style.

In a sample of Irish university students, McAuliffe, et al. (2003) found that those reporting past suicidal ideation (with or without a plan) had worse problem-solving scores (on the Self-Rating Problem Solving Scale) than non-ideators, and agreed more with the attitude that suicidal behavior is normal and that people have the right to die and less with the attitude that suicidal behavior is associated with mental illness.

Kerby (2003) found that suicidal ideation in college students was predicted by four of the Big Five personality traits: high neuroticism and openness and low extraversion and agreeableness.

Eshun (2003) compared correlates of suicidal ideation in American and Ghanaian college students. Suicidal ideation in the Ghanaian students was associated with family closeness and attitudes toward suicide. For the American students, suicidal ideation was associated with sex, family closeness and attitudes toward suicide. Religiosity was not associated with suicidal ideation in either country.

Hovey and Magaña (2003) found that suicidal ideation in migrant farmworker women in the Midwest (United States) was associated with lower self-esteem, greater family dysfunction, less effective social support, greater hopelessness, higher acculturative stress, and greater depression.

In a sample of college students, Heisel, et al. (2003) found that suicidal ideation was associated with daily stress, depression, general hopelessness, and social hopelessness.

In a large community sample in Australia, Goldney, et al. (2003) found that suicidal ideation was predicted by depression scores, as well as being an immigrant and unmarried,

Brown and Vinokur (2003) studied unemployed married individuals shortly after job loss and six months later. For those in poor health or depressed, critical messages and social support from the spouse predicted suicidal ideation six months after the job loss, *both positively*. This was not found for those in good health and not depressed.

In a study of medical students and doctors in Bosnia and Herzegovina, Martinac, et al. (2003) found that suicidal ideation was more common in 6th year students than in medical students in other years and in hospital doctors.

In a sample of Greek male military conscripts, Giotakos (2003) found that suicidal ideation was associated with drug and alcohol use and misuse, as well as scores on a measure of sense of coherence.

The Elderly

Yip, et al. (2003) surveyed elderly living in the community in Hong Kong. Suicidal ideation was associated positively with being female and widowed, in poor physical health (poor vision, hearing problems, and a greater number of diseases), in poor mental health (especially depression), and with court cases, financial problems and relationship problems and negatively with active coping when faced with negative events.

Meeks and Tennyson (2003) found that depression and hopelessness predicted suicidal ideation in elderly nursing home patients.

Patients with Psychopathology

Psychiatric Patients in General

In a sample of psychiatric outpatients, Gil (2003b) found that suicidal ideation was predicted by two of the three personality dimensions measured by Cloninger's Tridimensional Personality Questionnaire (negatively by novelty seeking and harm avoidance but not with reward dependence), including the component traits of impulsiveness, stoic rigidity, confidence, disorderliness, and, indirectly, pessimism through confidence and rigidity.

In a sample of psychiatric outpatients, Chioqueta and Stiles (2003) found that major depression and bipolar disorder, but not dysthymia, "were associated with suicide ideation. Increased levels of anxiety symptoms in patients with dysthymia were associated with increased levels of suicide ideation, while increased depressive symptoms in patients with specific phobia and generalized anxiety disorder were associated with significantly lower levels of suicide ideation (p. 105).

Affective Disorders

Palmer, et al. (2003) compared white and African American clinically depressed female inpatients and found that scores on a suicide risk scale did not differ between the groups and were predicted by low self-esteem and a lower internal locus of control scores in both groups.

Dilsaver and Chen (2003) studied patients with pure and depressive mania. Suicidality was predicted by having depressive mania and concurrent social phobia and panic disorder, as well as by these variables separately.

Berlim, et al. (2003a) studied Brazilian mood disorder outpatients and found that suicidal ideation was associated with self-rated quality of life, depression and hopelessness scores. In a sample of depressed outpatients, Berlim et al. (2003b) found that suicidal ideation was associated with a higher score on the Beck Depression Inventory and worse quality of life in the physical health domain, the psychological domain, the environmental domain and the social relations domain.

Agargun and Cartwright (2003) studied REM sleep in patients with major depression. Those with suicidal ideation had a shorter mean REM latency and a higher mean REM percentage than the non-suicidal patients. A reduction in dream-like quality of the REM content reports between the first and second halves of the night was associated with suicidal ideation.

Schizophrenia

In a study of a new scale for suicidal ideation, using schizophrenic and schizoaffective patients, Lindenmayer, et al. (2003) found that scores on the new scale were associated with the severity of PANSS General Psychopathology scores and present and past alcohol and substance abuse.

Drug and Alcohol Abuse

In a sample of substance patients, Garlow, et al. (2003) found that those abusing only cocaine reported suicidal ideation more often than alcohol abusers and cocaine-plus-alcohol abusers. Suicidal ideation was also more common in those with substance-induced mood or psychotic disorders.

In a sample of alcoholics undergoing treatment, Conner, et al. (2003e) found that the intensity and frequency of drinking was associated with suicidal ideation in women whereas, in men, only intensity was associated with suicidal ideation. Antisocial personality disorder in men but not in women, and depression in both groups, were also associated with suicidal ideation.

Demirbaş, et al. (2003) assessed suicide risk in a sample of hospitalized alcoholics. Suicide risk was correlated with self-esteem, depression and trait and state anxiety as well as a history of attempted suicide.

In a study of homeless veteran alcohol and drug abusers, Rodell, et al. (2003) found that suicidal ideation was associated with the years and the intensity of substance abuse, prior psychiatric admissions, childhood sexual abuse, and attachment to caregivers (negatively)

Medical Issues

Haller and Miles (2003) found that suicidal ideation in psychiatric patients with HIV was associated with major depression, dysthymia, substance abuse, thought disorder, posttraumatic stress disorder, borderline and avoidant personality disorders, and quality of life scores. Those with narcissistic personality disorder less often had suicidal ideation.

Noor-Mahomed, et al. (2003) compared adult, black, Zulu-speaking women with cervical cancer in either palliative or radical oncology treatment groups and found that the palliative care women had more serious suicidal ideation.

Attitudes toward Suicide

Wallin and Runeson (2003) studied the attitudes of Swedish medical students about suicide. By their final year, students more often considered suicide to be an expression of psychiatric disease and thought that people dying by suicide were not responsible for their own actions. (They were in medical school and not in psychology programs!) A history of suicidal ideation was associated with less optimistic about helping suicidal patients, but not current depressive or anxious symptoms.

Loewenthal, et al. (2003) compared Jews and Protestants in the UK for their attitudes toward suicide. On the reasons for living scale, the Jewish respondents

scored higher, and they were less likely to endorse a right to die by suicide. The respondents' suicidal ideation was associated with depression and anxiety scores, weaker endorsement of reasons for living and stronger support for the right to die by suicide.

Cato and Canetto (2003) presented hypothetical situations for suicide to heterosexual and LGBT adults in the United States, situations such as coming out and being rejected by parents, and incurable physical illness, academic failure and a broken relationship. An incurable physical was viewed as the soundest precipitant, while coming out plus rejection was viewed as unsound and weak. Regarding gender identity, androgynous subjects were least accepting of suicide.

Pacheco, et al. (2003) found that patients with incurable malignancies were less supportive of assisted suicide three months after first being asked than they were when first asked. Depression was unrelated to attitude change, but the patients had improved on two coping dimensions: use of social support for emotional reasons and use of religious resources.

Renberg and Jacobsson (2003) constructed a scale to measure attitudes toward suicide and identified 10 factors. Scores varied with suicidal behavior in the prior year (e.g., those answering yes scored higher on suicide as a right), age (for women) and cohabitating (for women) and urban/rural (for men).

Kocmur and Dernovšek (2003) surveyed people in Slovenia and found that those who reported suicidal ideation more often saw the suicidal act as deliberate, placed less importance on the role of mental illness, believed that people have the right to die by suicide, but saw suicide as an act of cowardice.

Physician-Assisted Suicide (PAS)

Marion and Range (2003b) found that the attitudes toward suicide and physician-assisted suicide in African American and European American college women were associated with religiosity but not with possible extenuating circumstances.

Wineberg and Werth (2003) compared those in Oregon who opted for PAS with other suicides and found that college educated people and divorced people were over-represented among those choosing PAS.

In England, O'Neill, et al. (2003) found that opposition to PAS was associated with strength of religious affiliation and less strongly with religious denomination. Members of the Church of England, non-Christian faiths and those of no faith were more likely to support legalization of PAS than Roman Catholics and those of other Christian faiths. Education, income, sex, marital status, long-standing illness and age did not predict attitudes. The results for family-assisted suicide were similar although support for this was less than for PAS.

In a community survey in America, Domino (2003) found that support for PAS was inversely related to age but not to sex. Better educated, upper class individuals were more in favor than semi-skilled and unskilled, poorly educated, lower social class individuals.

In a sample of American undergraduates, Schaller, et al. (2003) found that approval of PAS was positively associated with age, but not with sex, fears of death or dying of self or others, or having a Taoist orientation to life.

Lester (2003b) found that American undergraduates were more in favor of preventing suicide than in assisting suicide. Support for assisting suicide was associated with perceiving rather than judging on the Keirse-Bates Temperament Survey.

In a sample of American social workers, Ogden and Young (2003) found that religious commitment was negatively associated with support for PAS (significantly only for Catholics), while age and sex were not associated with support for PAS.

Achille and Ogloff (2003) found that 70% of patients with amyotrophic lateral sclerosis (ALS) found PAS morally acceptable, and the willingness to consider it was associated positively with depression and negatively with religiosity. The severity of ALS was not associated with attitudes toward PAS., nor was social support or perceived stress.

In a study of Canadian physicians, MacKinnon, et al. (2003) found that that moral attitude has the largest impact of whether they would engage in active euthanasia and PAS, followed by religiosity, legal attitude, and the moral assessment of the act.

The Language of Suicide

Farber and Olney (2003) wrote about neurons “committing suicide.”

Discussion

Personal Comments

I have noticed a trend for the statistical presentation of results in some of the papers to make no sense. I suspect that it is becoming common to recruit a statistician to collaborate on the paper (for co-authorship) with the result that he or she is unfamiliar with the way in which we in the social sciences analyze data and report our results. When we read the resulting paper, it is very difficult to see the evidence for what the authors conclude.¹⁹ Often the statistician engages in statistical manipulations which make a reader doubt the validity of the reported results. If one is using many variables, factor-analyze them to identify clusters of predictors. Then throw these factors scores into a linear regression. Transforming the data (using logarithms or reciprocals, lagging scores, etc.) and using statistical techniques unfamiliar to most readers renders the results to be of dubious value.

The authors themselves, apparently without the help of a statistician, are often allowed by editors and reviewers to present incomplete results of the statistical analysis which is noteworthy since they write pages and pages of *Introductions* and *Discussions*.

In addition, this is the sixth year of my recent reviews (1998-2003) and perhaps I am getting fatigued. However, the research in 2003 has made me more frustrated than ever. The methodology continues to be bad, especially for research on suicides. Since healthy controls are often used, it is impossible to know whether the differences reported are due to suicide or to psychiatric disorder. In addition, the same variables are used again and again to correlate with and predict suicidality. I understand that it is difficult to be aware of the research that was published many years ago, but almost all of the variables chosen for study were studied in the previous year or two. Since reviewers typically insist on recent citations, the authors have to be aware of this recent research.

¹⁹ For example, statisticians from economics use very different statistical techniques than sociologists and psychologists.

In my first review which was for research in 1998 (Lester, 2024b), I criticized the continual appearance of research on the same topic, and I used suicidality and childhood sexual abuse, articles on which appear year after year. Therefore, I should note that Rogers (2003b) reviewed this research, found it to be poor and declared that “a conclusion that childhood sexual abuse (CSA) is a significant risk factor for subsequent suicidal ideation, attempts, and completed suicides is premature” (p. 83). Since James Rogers was good friend and colleague of mine whom I respected, I thought that I should report his conclusion.

Methodology continues to be a problem. Markowiz, et al. (2003) did what is common, combine data points from regions and years. Those who have conducted ecological and time-series studies of suicide know that the results can often differ for the two methodologies. Combining regions and years is, therefore, makes less sense despite its common use.

Even when there is well-designed and meaningful study (e.g., Yen, et al., 2003a), I am still left the thought that I do not understand why people die by suicide better than I did.

What Have We Learned About Suicide?

To be honest, we have not learned much. Two new or rarely used variables appeared in sociological research: the median age of a group of suicides (Da Veiga & Saraiva, 2003) and the male suicide rate minus the female suicide rate (rather than the male suicide rate/female suicide rate: Cutright & Fernquist, 2003). I immediately ran two small studies on these variables [see *Suicide Studies*, 2024, 5(6)]. Moksony (2003) showed that the region in which a person is born has an impact on later suicidal behavior.

I have argued that a new theory of suicide should be based on a sound typology of suicides (Lester, 2024f). Fazaa & Page (2003) suggested two types that had not been proposed hitherto. In addition, Conner, et al. (2003d) proposed a theory of suicide based on reactive aggression. Aggression-prone individuals fall into two subtypes: (1) those displaying impulsive–reactive–hostile–affective; and (2) controlled– proactive–instrumental–predatory. Again, this might prove useful for a typology of suicides.

Theoretically, Goldney (2003) proposed that there is a natural suicide rate for each society, a proposal that Yang and Lester (2004) later developed and

showed (in simple linear regressions to predict suicide) that the constant was always positive, giving a positive value for the suicide rate.

This section is somewhat longer than those in my previous reviews and that is encouraging.

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