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SUICIDAL BEHAVIOR IN THOSE ON PROBATION

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Abstract: Research on suicidal behavior in offenders on probation is reviewed. Suicide, attempted suicide and suicidal ideation are typically found to be more common in those on probation. Those on probation often have experiences and characteristics that make suicidal behavior more likely, including a high rate of psychiatric disorder and substance abuse, as well as factors such as high residential mobility and unemployment. Recent efforts to reduce the incidence of suicidal behavior, such as e-Connect, are reviewed.

Introduction

Suicidal behavior in prisons has been a concern for a long time, with many articles appearing on risk assessment and management of suicidal behavior in these situations (Lester & Tartaro, 2009; Tartaro, 2019). Much less attention has been paid to suicidal behavior in those in the correctional system who are placed on probation. This may be because litigation is more likely if suicide occurs in prisons where the prison system has coercive control, whereas those on probation are out in the community on their own and have the same self-determination over their lives as do ordinary citizens.

There has been, however, some discussion of suicidal behavior in those on probation, and this essay will review the research and thoughts on this topic.

Research on Suicidal Behavior in Those on Probation

Suicide

Pratt, et al. (2006), Pritchard, et al. (1997) and Sattar (2001) have all estimated that suicide rates among those on probation in England to be roughly 11-15 times the suicide rate in the general population. The high suicide of those on probation has also been documented in Australia and New Zealand (Biles, et al. 1999). Risk factors noted are sudden non-compliance with conditions of

supervision following a period of satisfactory compliance (Biles, et al., 1999) and substance use (Sattar, 2003).

In Victoria (Australia), Biles, et al. (1999) found that, of roughly 7,000 individuals on probation, there were 198 deaths between 1995 and 1998, with 62 from drugs or alcohol and 29 from suicide. In England during 1996-1997, Sattar (1993) found that there were 282 suicides among 1,267 deaths of offenders in the community. The standard mortality ratios for suicide in those two years were 977 and 1301 (versus 100 for the general population) and was higher for the older individuals ((>35 years of age).

Attempted Suicide

Gunter, et al. (2011) studied a sample of 337 individuals on parole or on probation in Iowa (America). They found that 41% reported suicidal ideation, 19% a suicide attempt and 14% self-harm without lethal intent. Suicide ideation was predicted by major depression, trauma at age <18, lifetime experience of bone fractures, white ethnicity, drug dependence and scores on a scale to measure psychopathic tendencies. Again, all of these risk factors are found for the general population but, again they appear to be more common in those on parole or probation.

Pluck, et al. (2014) screened a small sample of 173 offenders on probation in England and found that 32% had previously attempted suicide and 14.5% had suicidal ideation in the past month. Suicidal ideation was equally common in men and women, but more common in the younger probationers.

Wessely and colleagues (1996) reported that 31% of their sample of individuals on probation in England indicated a history of deliberate self-harm, frequently with suicidal intent. The authors noted significant overlap in the risk factors for deliberate self-harm and suicide in this group including unemployment, substance abuse, lack of social supports, mental illness, and previous episodes of self-harm.

Bryson, et al. (2021) studied suicide attempts during a 12-month period in those arrested, on probation and on parole in America compared with community residents with no criminal justice involvement matched for age, sex, education and ethnicity. The sample size was large: n=15,462. The 12-month prevalence of suicide attempts was 3.2% for those with recent parole, 2.7% for those on probation, and 3.3% for those arrested, all of which were all greater than the

matched controls (1.0%). These differences remained even after controls for socio-economic and health-related variables. It has been noted that the high suicide rate after arrest is often because of the stigma attached to the crime. For example, Lester and Baker (1989) documented suicides after arrest for ordering child pornography. Of 162 men arrested, four died by suicide.

The problems facing those on probation are not merely suicidal behavior, Bryson, et al. (2017) studied elderly people (>50) on parole or probation in America and found that they were more likely to have not graduated from high school, report income below the federal poverty level, have no health insurance, have worse health, receive government assistance, have. past-year major depression and serious psychological distress. Alcohol and drug use disorders were also more prevalent.

Bryson, et al. (2019) surveyed elderly Americans over the age of 50, and the sample included some on probation and parole. They found that 21% of those on probation and parole had moderate or serious mental illness compared to 7% for the general population. However, 81% of those on probation or parole with moderate or serious mental illness had received some treatment, a higher percentage of those not on probation or parole (only 61%). It seems, therefore, that probation officers are performing well in helping their clients.

While it is not always identified as a risk factor in every study, male probationers displayed high residential instability as a group, which presented difficulties for follow-up (Pritchard, et al., 1997). In a recent study on suicide attempts among a community corrections population, residential instability was identified as a risk factor (McCullumsmith, et al., 2013).

Quinn, et al. (2017) surveyed 11,607 young people (12-18) on probation in America and found that 5.8% reported suicide ideation or attempts (but failed to specify the time period in question). Suicidal behavior was predicted by being female, having mental health disorders and substance use.

Suicidal Ideation

Cook and Borrill (2015) studied 38,910 individuals on probation in London (England). The probation staff judged 12% of the sample to be at risk of suicide. The predictors of this judgment by the staff were a previous history of self-harm, current suicide attempts or suicidal ideation, poor coping skills, psychiatric treatment and on medication, attitude to oneself, childhood abuse, current

psychological problems such as depression, and a history of close relationship problems. These are typical risk factors for all individuals, but they appear to be more common in those on probation.

A study of probationers in England found that about a third of probationers had suicidal ideation (Akehurst, et al., 1995). Those with suicidal ideation had high unemployment rates, major depression, marital separation, substance use, and a history of suicide attempts, as well as a history of previous child abuse and poor educational adjustment.

In a national sample in America, Yu and Sung (2015) found that 7.8% of men on probation and 14.3% of women on probation reported suicidal ideation in the past year. Suicidal ideation in men was predicted by religious beliefs, drug use, depressive disorder and serious psychological distress. In women, the predictors were being black, having moved more than once, attacking someone without intent to harm them and depressive disorder and serious psychological distress. Yu, et al. (2014) also reported a higher rate of suicidal ideation in those on parole. Older age, employment and being married lessened the incidence of suicidal ideation.

In America, often people assigned to probation have no health insurance and are prone to recidivism, medical problems, homelessness and unemployment (Castillo & Fiftal Alarid 2011). Cardarelli, et al. (2015) screened 2,077 individuals on probation in one county in Texas and found that 13% answered yes to the question "Are you thinking about ending your life or committing suicide?" Answering yes to this question was predicted by substance abuse disorder, anxiety disorder, bipolar disorder, depressive disorder and being female. Ethnicity, age and education played no role in the prediction of suicidal ideation.

Help for Probation Officers

Biles, et al. (1999) found three major themes from their interviews with probation officers. First, there was deep concern about their responsibilities with regard to duty of care. Second, there was a degree of dissatisfaction with the support services available to those on probation especially with regard to psychiatric treatment and the treatment for drug and alcohol abuse. Third, there was a severe level of distress experienced when confronted with the news that one of their clients had died by suicide. Clearly, staff should be offered post-trauma counseling,

Screening and Contact

Elkington, et al. (2023) described a system set up in America for helping youths in probation at risk for suicide. e-Connect was established to train probation officers and provide them with mobile technology, This digital clinical decision support system integrated screening, referral, and guidance to assist probation officers with identification of suicide thoughts and behaviors and referral to care. An evaluation of e-Connect showed that it increased the ability of probation officers to identify suicidal youths (5 times more likely) and to refer them to mental health care (11 times more likely).

Sarapas, et al. (2025) also tested the usefulness of e-Connect for 4,344 juvenile probationers in America. They found that baseline screening scores predicted suicidal ideation, planning suicide, obtaining the methods for suicide and attempting suicide in the next 12 months, even after controlling for past suicidal behavior, a more encouraging result than that reported by Elkington, et al. (2023). The more serious the suicidal behavior, the higher the screening score on e-Connect.

Can ordinary screening tools help identify probationers at risk for suicidal behavior? Shaffer, et al. (2018) studied the use of two screening instruments in a Canadian sample: (1) The MAYSI-2 is a 52-item self-report screening inventory of mental health. And (2) The PAI-A is a 264-item self-report measure of mental health and personality, both designed for use with those under the age of 18. They found that neither instrument improved prediction in the next three months over lifetime suicide-related behavior and non-suicidal self-injury.

Counseling Clients

Casucci and Powell (1982) reviewed standard procedures used by counselors who are dealing with suicidal clients (see. Lester & Rogers, 2012). First, the counselor must evaluate how serious the suicidality is. Is it suicidal ideation, does the client have a plan, does the client have the methods for suicide available, and what is the client's past history of suicidal behavior? After that, however, the counselor focuses on what problems are causing the crisis, what has the client tried to do to resolve the crisis, and what could the client try in the future to resolve the crisis. The suicidal nature of the crisis affects only issues like scheduling appointments and follow-ups – immediately and soon, respectively. Twitchell and Hohman (2021) have also provided guidelines for counseling suicidal probationers.

Phillips (2020) made suggestions for helping probation officers. Primarily, probation officers have limited agency and cannot be solely responsible for their probationers. If a probationer dies by suicide, the post-death reviews and investigations should not be concerned about attributing blame, but focus on identifying systemic problems which might be hindering the officers' ability to prevent suicide: such as inadequacies in training, risk assessment procedures or data collection.

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A NOTE ON SUICIDES IN THE LIFE OF SIGMUND FREUD.

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Freud was one of the first physician-assisted suicides. Freud died by suicide on September 23, 1939 as his suffering from oral cancer intensified (see www.drdavidlester.net: Biographical Studies, BS 1991, page 51). Suicides were common among Freud's colleagues and even a female patient. This is revealed in an article by Hamilton (2001).

Disappointingly, Hamilton gives us little information about the patient's suicide. It occurred on May 14, 1891, when Freud was in the early stages of his career. He was still using hypnosis in his psychotherapy and had not developed psychoanalysis yet.[1] Pauline Silberstein was 19, and she jumped from the third floor a building where she was being taken.

Pauline was the wife of Freud's closest friend from adolescence, Eduard Silberstein, and they lived in Romania. Freud's correspondence with Silberstein has been published (in 1990). Pauline had come to Vienna for treatment with Freud, but there are no details known about her problem or the treatment. Her suicide was reported in a Viennese newspaper. According to the newspaper, she was in a building where people go for treatment, and she threw herself over the balustrade at 4:40 pm. Her head was shattered, and she died instantaneously. We know nothing about how Freud felt about the suicide of his patient who was the wife of his closest friend.

There are several suicides in Freud's life. Herbert Silberer, a member of Freud's group, died by suicide in 1923 by hanging after Freud threw him out of the group. A neurologist and friend, Nathan Weiss, died by suicide on September 13, 1883, by hanging in a Viennese public bath, one month after his marriage. Victor Tausk died by suicide on July 3, 1919, after Freud told Helen Deutsch to terminate her psychoanalysis of Tausk. Tausk shot himself while also hanging himself a week before his wedding (see www.drdavidlester.net: Biographical Studies, BS

[1] Freud's book on aphasia was published that year.

1991, page 68). It is noteworthy that these two suicides both occurred when Freud disbarred them from his group.

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UNEMPLOYMENT AND SUICIDE

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Abstract: A review of research indicates that, for most countries, unemployment rates are associated with suicide rates (an index of mental health at the societal level of analysis). At the individual level, the association between unemployment and mental health is more complex. Psychiatric problems can result in individuals being fired and difficulties for them in searching for a new job, but work can also have deleterious on the individual's mental health.

The association of unemployment and mental health can be studied at two levels, the societal level and the individual level. The association at the societal level focuses on suicide which can be used as an index of mental health and will be addressed first in this essay. The association at the individual level is much more complex and will be examined later.

The Societal Level

The association between the unemployment rate and suicide has been known and documented for more than fifty years now. Lester has conducted the most thorough studies on this topic. The first question is whether the unemployment rate and the suicide rate are associated over time in a country.

Time-Series Studies

The majority of empirical examinations of the relationship between the economy and the suicide rate have looked for simple linear relationships, using unemployment as an indicator of economic conditions (for expanding economies tend to generate a lower unemployment rate, while contracting economies tend to generate a high unemployment rate). For example, Yang and Lester (1995; Lester & Yang, 1998) examined the correlation between the suicide rate and the unemployment rate in several countries for the period 1950-1985 and the results are presented in Table 1. They found nine positive associations and three negative associations, although the four significant associations were all positive. Yang and

Lester also examined the data for quadratic (non-linear trends) and found little support for such trends.

Table 1: Unemployment, Suicide and Homicide Rates, 1950-1985

	suicide rates			homicide rates
	total	male	female	total
Pearson Correlations				
Australia	-0.25	+0.06	-0.45*	+0.56*
Austria	+0.03	-	-	-
Belgium	+0.71*	+0.77*	+0.59*	+0.68*
Canada	+0.73*	+0.79*	+0.53*	+0.67*
Denmark	+0.49*	+0.60*	+0.27	-
England/Wales	-0.53*	+0.37*	-0.67*	+0.29
Ireland	+0.83*	+0.83*	+0.77*	+0.40*
Japan	+0.24	+0.45*	-0.16	-0.55*
Netherlands	+0.86*	+0.90*	+0.78*	+0.78*
Norway	+0.06	+0.09	-0.01	+0.34*
Sweden	-0.21	-	-	+0.30
Taiwan	+0.73*	-	-	-
USA	+0.69*	+0.80 *	+0.26	+0.54*
West Germany	-0.04	+0.22	-0.38*	-0.07

* two-tailed $p < .05$ or better

From an economic point of view, the marginal impact of loss of income is expected to be greater for men than for women, based on the observation that the wage compensation for women tends to be about 25% to 40% less than that for men with the same qualifications. When layoffs occur, the loss of income is greater for men than for women. As a result, we may hypothesize that unemployment might have a greater social impact (including economic impact) on men than on women.

To answer this question, the association between unemployment rates and gender-specific suicide rates were examined for eleven nations for the period 1950-1985. Looking at Pearson correlation coefficients, all eleven nations had higher correlations between unemployment rates and suicide rates for men than for women (see Table 1).[2]

[2] Interestingly, unemployment and homicide rates were also positively associated on the whole (in 9 of 11 countries – see Table 1).

More recently, Yang and Lester (2025) explored this association for the period 1950-2022 in the USA and found that the suicide rate for women over this period was much more strongly associated with the inflation rate than with the unemployment rate whereas the reverse was true for men.

In the first study of its kind, Men, et al. (2022) studied the association of suicide rates separately for employed and unemployed people in Hong Kong for the period 2003-2019 (using quarterly data rather than annual data). They found that a 1% increase in the current unemployment rate was associated with a 15% increase in the suicide rate among the employed people in the current quarter and a 13% decrease in the suicide rate among the unemployed in the next quarter. Men, et al. suggested that, in difficult economic times, the unemployed are less impacted by those economic conditions and, also, they are subjected to less social disapproval for being unemployed. As a result, their mental health improves.[3]

Ecological Studies over Regions

For the 48 continental states of the USA in 1980, Lester (1994) found that unemployment rates were not associated with the suicide rate. The correlation between the male unemployment rate and the male suicide rate was -0.07 and between the female unemployment rate and the female suicide rate was -0.12. For a study of 50 countries, Lester (1996) found that the correlation between unemployment rates and suicide rates in 1980 was not statistically significant (r = +0.05).

Comment

Research indicates that, over time, the economic performance of a country and the accompanying unemployment rate has an association with the suicide rate, an association which is perhaps causal. However, the same association is not found over the regions within a country.

Studies of Individuals

The unemployment rate of a country or of a region of a country does not, of course, examine the reasons for people being unemployed. If we think of possible reasons for individuals being unemployed, we can suggest several possibilities:

[3] Men, et al. noted that this population in Hong Kong, a high-income Asian community, has a strong work ethic and cultural expectations.

- They quit their job in order to search for a better position
- They quit their job in order to engage in an alternative task, such as raising a baby or a leisure activity such as traveling the world
- They were laid off because the company is cutting production or business, the company has been taken over by another company, etc.
- They were fired for poor work performance
- They were fired for inappropriate behavior

Typically, researchers who study unemployed individuals do not examine the reasons for why they are unemployed.

A second issue concerns the mental health of unemployed individuals. For example, Takahashi, et al. (2015) found that the unemployed in Japan had higher scores on measures of anxiety/depression and disturbance of activity. They did not, however, ascertain whether the higher scores were present before becoming unemployed or developed after becoming unemployed.

Do Psychiatric Problems Cause Unemployment?

One question about psychiatric disorder in those who are unemployed is: does the stress of being unemployed cause the psychiatric problems or do the psychiatric problems cause the individual to be unemployed? The simple percentages of psychiatric disorders in those who are unemployed compared to those who are employed does not answer this question. However, some of the behaviors listed above suggest that the unemployed have problems that result in them being fired, such as being late to work and quitting without having an alternative job lined up.

Bland, et al. (1988) surveyed a random sample of over 3,000 residents of Edmonton (Canada). Overall, 53% of those interviewed were employed, 11% were not employed and 36% were not in the labor force. The men were ore often employed than the women (62% versus 44%). The unemployment rate was 19.5% (20% for men and 13.5% for women). Those who were not employed had higher rates of many psychiatric disorders and problems compared to those employed, for example:

Substance abuse: 45.9% versus 22.1%
Depressive disorder: 15.5% versus 8.8%

Antisocial personality disorder: 15.1% versus 2.8%
Lifetime attempted suicide: 9.4% versus 2.5%

Bland, et al. found that those with a psychiatric diagnosis more often had had three or more different jobs in a five-year period (39.1% versus 18.3%), been fired more than once (7.4% versus 1.5%), quit a job three times or more without having another job (14.8% versus 3.2%), and late three or more times a month (10.6% versus 1.3%). It seems from the study by Bland, et al. that the psychiatric problems of their sample of unemployed individuals are a cause of their irregular employment and their unemployment.

What about the problems facing those who have a psychiatric disorder? Zimmerman, et al. (2010) studied a sample of patients diagnosed with bipolar disorder. Some 17.5% of the patients reported not missing any time from work due to psychiatric reasons, while 34.4% missed up to two years or more from work. Individuals who had been unemployed for long periods of time had increased rates of current panic disorder and a history of alcohol abuse or dependence. Patients with prolonged unemployment were older and had experienced more episodes of depression. Here it is clear that having a psychiatric disorder impairs the individual's work performance.

Does Unemployment Cause Psychiatric Problems?

It is likely that being unemployed is a stress that increases the probability of developing a psychiatric problem. Banks and Jackson (1982) studied young adults in one region in England 2½ years after leaving school. They found that those who were unemployed at follow-up had higher scores on the General Health Questionnaire (GHQ) which can measure non-psychotic psychiatric disorders. Compared to their scores at baselines, those who had found employment had lower scores on the GHQ at follow-up, while those who were unemployed had higher scores on the GHQ at follow-up. This suggests, therefore, that being unemployed worsened the health of the youths, and this association was present even after controls for sex, ethnicity and educational qualifications.

In a sample of young people in Australia, Finlay-Jones and Eckhardt (1981) interviewed young people 16-24 seeking employment. Out of 401 individuals, 176 obtained higher scores on the GHQ and were invited for an interview. Seventy-two came for the interview, and 35 were diagnosed as depressed, 11 as anxious, and one as schizophrenic. Fourteen of these dated the onset of their psychiatric disorder to a time before they became unemployed, and so unemployment could not have

triggered the psychiatric disorder. It seems, therefore, that in this sample, some of the individuals had psychiatric disorders that led to them being unemployed, while others were employed, and the psychiatric disorder developed after they became unemployed. In this latter group, half of them had no other stress other than becoming unemployed, and the median time between unemployment and the onset of the psychiatric disorder was five months.

The research, therefore, supports both causal directions: unemployment causes psychiatric disorders (a social causation hypothesis) and psychiatric disorder increases the probability of being unemployed (a selection hypothesis).

Being unemployed does not necessarily impact only mental health. In Polish unemployed workers aged 45+ in Poland, Worach-Kardas and Kostrzewski (2014) found that the long-term unemployed reported worse quality of life, physical health and mental health.

Shin and You (2022) studied a sample of unemployed individuals aged 19-65 in South Korea and found that 45% scored high on a measure of feeling embittered, and 65% felt that their situation was unfair and unjust. In a study of employed and unemployed individuals in five Western countries, Connolly and Gärling (2022) found that the unemployed had lower scores for life satisfaction, emotional well-being (more negative mood and less positive mood in the past week), and financial satisfaction. Furthermore, there is stigma attached to being unemployed. in a study of attitudes in 21 European countries, Rosetti and Meuleman (2023) found that 21% of those surveyed believed in sanctions for the unemployed, a harsh attitude.

Peterie, et al. (2019) identified feelings of shame in some individuals in Australia who had been unemployed for more than a year, while others experienced anger.

The Critical Question

The critical question then is, in a sample of unemployed, what are the proportions of individuals with different reasons for their unemployment? For example, how many are unemployed because of psychiatric problems? How many have become unemployed because they quit their current job without first lining up an alternative? This issue is rarely studied. In addition, many research studies do not take into account the length of time that the individuals in the sample have been unemployed.

Winefield, et al. (1992) studied unemployed young people in Australia and compared those who were fired with those who were unemployed for other reasons. Those who once had a job and now were unemployed did not differ in self-esteem and hopelessness from those who had not yet sought employment. Those who had been fired did not differ in self-esteem and hopelessness from those who had left their job for other reasons.

Winefield, et al. also compared those who were unemployed for internal reasons (lack of ability or lack of effort) with those who were unemployed for external reasons (the situation was bad or bad luck). Those giving internal reasons had lower scores for self-esteem and higher scores for hopelessness.

Is Employment Bad for your Health?

Van de Wen, et al. (2022) studied a cohort of Dutch individuals aged 45-64 and followed them up for 8 years. They found that those who transitioned from employment to unemployment had declining physical and mental health in the period before they became unemployed. After the transition, physical and mental health improved, in particular for those with unfavorable working conditions, and then improved annually even for those with favorable or neutral working conditions. This study shows that employment is not necessarily good for your physical and mental health.

Comment

The research reviewed in this essay indicates the complexity of the association of employment and unemployment with mental health. At the societal level, it appears that, for most countries, unemployment rates are linked with suicide rates. At the individual level, the associations are more complex. Work can be deleterious to one's mental health, and one's mental health can impact work performance and, therefore, being fired.

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MICROSOCIONOMICS VERSUS MACROSOCIONOMICS AS A MODEL FOR EXAMINING SUICIDE

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Abstract: The role of social variables in suicide is examined from a micro-socionomic and a macro-socionornic perspective. As an example, the influence of divorce on suicide is explored and hypothesized to differ for the individual and for the society as a whole. This essay then examines whether Durkheim's theory of suicide (a macro theory) can be applied to individuals (at the micro level) and concludes that it can.

Micro-Socionomics and Macro-Socionomics

The causation of suicide is obviously multidimensional and includes physiological, experiential, psychodynamic, interpersonal, and sociocultural factors. The examination of the social context of suicide, which encompasses both the interpersonal and the cultural factors, promises to be an important area for theorizing about suicide, especially since it has been relatively neglected in recent years in the face of a spate of psychological and psychiatric studies of suicide. The present paper aims to provide a framework for examining the social context of suicide, a framework which can guide theory and research into this important area.

The social context of suicide can be examined from both the interpersonal and the cultural perspectives. A good analogy for this division comes from the discipline of economics, where microeconomics is concerned with specific economic units and a detailed consideration of the behaviors of these individual units, such as a household or a business enterprise, while macro-economics is concerned with the economy as a whole and aggregates (Mc- Connell, 1987). The generalizations which are valid in one of these perspectives may not be valid in the other perspective within economics (the fallacy of composition and division), and a parallel fallacy in sociology is the ecological fallacy in which generalizations from societies to individuals (and vice versa) may not always be valid (Robinson, 1958). To make this distinction in the study of suicide, Lester and Yang (1991) used the prefixes macro and micro in the same sense as they are used in economics and. to emphasize this derivation. we have suggested using the term socionomics rather than sociology. Thus, macro-socionomics examines the impact of societal

characteristics on the members of the society as a whole while micro-socionomics examines the effects of societal characteristics on the individua.

As an illustration, consider unemployment. At the rnicro-socionomic level of analysis, if a person becomes unemployed, personal behavior, emotions and thoughts will be greatly affected by the termination of employment. At the macro-socionomic level, however, an increase in the level of unemployment in the society will also have a large influence on the population as a whole.

To explore how these differing perspectives may illuminate a problem, Lester and Yang considered the influence of divorce on suicide.

The Impact of Divorce of Suicide

A Micro-Socionomic Perspective

In the micro-socionomic perspective, what are the effects of divorce on a person? Divorce changes behaviors dramatically. A person who was once living with a spouse is now without that partner. The loss is so great that often divorcees quickly team up with another partner regardless of how appropriate that new partner is for them. Friends of the former couple often split, most remaining friends with only one of the pair while a few may try to remain on good terms with both. Divorce also affects the emotions of the people, resulting commonly in anger, depression and anxiety. Accompanying these emotions are a variety of thoughts about the past and thoughts and plans for the future.

Durkheim (1897) in his classic theory of suicide proposed two concepts for understanding suicide, social integration and social regulation. Social integration refers to the extent to which people are integrated into society, while social regulation refers to the extent to which people have their emotions and thoughts regulated by society. There has been much debate about the operational definition of these two concepts, whether they can be clearly distinguished and whether they are really the same (for example, Johnson, 1965). However, two concepts provide a more powerful explanatory system than one concept, and so it may be worthwhile to use both social integration and social regulation. Maris (1969), for example, suggested that social integration could be measured by the number of interpersonal relationships while social regulation could be measured by the existence of subordinate-superordinate relationships.

Using Maris' distinction between social integration and social regulation, divorce dearly decreases social integration. The divorced person initially has fewer social relationships, and this deficit may persist. Suicide rates have been well documented to be higher among divorced persons than married ones (Danigelis & Pope, 1979).

A Macro-Socionomic Perspective

Consider two individuals with similar psychodynamic processes. One gets divorced in Ireland where divorce is rare; the other gets divorced in the USA where divorce is common. The divorce rate of a society is a macro-socionomic variable. How might this macro-socionomic factor affect the individual? Both are divorced, and both have changes in their social integration. However, the divorced person in Ireland is a rarity. There are not many similarly divorced persons. And there may be a stigma attached to being divorced in such a society. Further, for a person to proceed with a divorce in such a society suggests already the presence in that person of a weakened degree of social regulation. What friends, parents, superiors and supervisors, and the Church might say is obviously of less importance to such a person.

In contrast, in the USA where divorce is more common, the divorced person faces little stigma, and the society is much less likely to label the divorcee as a failure, immoral or psychologically disturbed. Divorce in the USA, therefore, implies less about the extent of social regulation.

Taylor (1982) in his discussion of Durkheim went further. He argued that social integration and social regulation are abstract qualities of a society. The effect of these abstract qualities can be observed in a number of phenomena, such as the divorce rate of a society or the strength of religiosity in the society. Sociologists, according to Taylor, ought to focus on the abstract quality itself rather than concrete manifestations of the abstract quality.

Thus, if we follow Taylor, divorce at the macro-socionomic level of analysis reflects an abstract social quality which affects all of the members of the society. A society's high divorce rate will affect the psychological processes of all of the individuals in the society, not simply those of the divorced people. This is easily demonstrated. In a study of the states of the USA in 1980 (Lester, 1988), the divorce rates of the states and the suicide rates of the states were strongly associated, but further analysis found that the divorce rates of the states were also strongly associated with the suicide rates of single men (Pearson $r=0.49$, $p<.001$),

married men (r=0.77), and widowed men (r=0.59) as well as with the suicide rates of divorced men (r=0.47). The same was true for women. Such results illustrate the more abstract meaning of divorce at the macro-socionomic level and show the usefulness of distinguishing between the micro- and macro-levels of analysis.

Comment

A micro -socionomic approach to the study of suicide focuses on the influence of events on the social life of the individual. In the case of divorce, according to Durkheim's theory of suicide, the divorce weakens the social integration of the divorced person, making suicide more likely. A macro-socionomic approach in contrast focuses on what effects a high divorce rate in a society might have on the members of the society beyond those on the divorced people themselves. It was suggested, for example, that a high divorce rate might be one index of an abstract quality in the society, perhaps social disorganization, which affects all of the members of the society. The implications of the two perspectives presented here, micro-socionomic and macro-socionornic, would generate different research paradigms, address different issues, and, hopefully, further our understanding of suicide.

Can Durkheim's Theory of Suicide be Applied to Individuals

Durkheim designed his theory and typology of suicide to be applied to *societies*, but both he and others applied it also to *subgroups* within a society and to *generalized figures*. For example, Durkheim mentioned fatalistic suicide only in a footnote and attributed this type to young husbands with no children and to slaves. The notion here, presumably, is that the typical suicide by a slave is fatalistic in nature. In this section, we explore whether a macro-socionomic theory can be useful as a micro-socionomic theory. For example, can it be applied to this particular slave?

Sociologists have been very traditional. Durkeim's book, published in 1897 has become like a bible. Sociologists are afraid to stray from what he said. For example, one of us has been scolded by anonymous journal reviewers for applying Durkheim's theory to primitive societies since Durkheim himself did not do so. Consequently, applying Durkheim's typology to individual suicides may also arouse the ire of some sociologists. However, if we cannot modify the theory and research paradigms of scholars in the past, then we cannot expect social science to advance.

This illustrated by Berk(2006) who also used the terms macro and micro (without citing Lester and Yang [9991]) and also pondered the question of whether Durkheim's theory could be applied to individuals. However, he focused on analyzing what Durkheim said and how what he said changed over the course of the book.

Classifying Societies

Sociological studies of suicide have not typically classified societies into Durkheim's four types of suicide. Rather, particular social variables, objectively measured, are studied. For example, societies with higher divorce rates typically have higher suicide rates (Lester, 1988). Divorce is thought to directly reduce the strength of social integration in the society (by splitting up families) and perhaps also to reflect a lack of social regulation (since only the socially unregulated would consider divorce).

It is obvious to anyone looking at Durkheim's two major constructs, social integration and social regulation, that two constructs create four types of societies: hi-hi, hi-low, low-hi and low-low. If you classify each construct into three categories (low, moderate and high), then you obtain nine types of societies. Sociologists have failed to do this. They keep to Durkheim's original terminology, labeling societies as high or low in social integration and high or low in social regulation.

Lester (1989), however, presented a study of the impact of social integration and social regulation on suicide which used the correct classification of societies. Lester got this idea from two earlier scholars whose articles did not appear in sociological journals and, therefore, remained unknown to sociologists, Rootman, (1973) in a suicide journal and Masumura (1977) in an anthropology journal.

Lester subjected measures of seven social variables in 53 countries to a factor analysis and extracted two factors. One, with high loadings from political rights, civil rights, political freedom, and religious liberty, seemed to tap social regulation. The second, with a high loading from the marriage rate, perhaps tapped social integration. Each of the 53 nations was classified as high, moderate or low on each of the factor scores.

High scores on both factors were obtained by Bulgaria, Czechoslovakia, Egypt, Hungary, Poland, Singapore, South Korea and Yugoslavia. Suicides in these nations might be fatalistic/altruistic. Low scores on both factors were

obtained by Sweden and Switzerland, and suicides in these nations might be anomic/egoistic.

Honduras, Jordan, Mexico, Panama, and the Philippines were high in social regulation and low in social integration; while Australia, Canada, New Zealand and the United Kingdom were low in social regulation and high in social integration. Lester's study was meant to be provocative rather than definitive, but a revised set of social variables might provide two factors which adequately measure Durkheim's constructs, thereby permitting a classification of nations on these constructs.

Classifying Subgroups

Several discussions have appeared of whether one of Durkheim's four types of suicide is characteristic of a particular of a society. Let us look at just a few of these.

Sati

Sharma (1978) has discussed whether sati (suttee), the suicide of a Hindu widow on her husband's funeral pyre, is altruistic suicide. In altruistic suicide, the individual is well integrated into the society, perhaps to the extent that the individual's ego is not his/her own property. The person belongs to the state. Since sati is performed as a duty, it may be termed *obligatory altruistic suicide*. Sharma noted that, though some Hindu widows may die by sati because there is strong public pressure to do so (obligatory altruistic suicide), other widows presumably do so because they dread life alone without their husband (*optional altruistic suicide*).

Sharma noted that the term altruistic for Durkheim meant that the act was performed as a duty. Sati was not regarded as a religious duty until the tenth or eleventh centuries and, for many years, was only found in the warrior class. Hindu society allowed for the separation of husband and wife, and often relatives tried to dissuade widows from sati. Furthermore, Sharma argued that the widow kills herself for the future good of both herself and her husband. Sati ensures that wife and husband will dwell in heaven. The wife's sati affects her husband's destiny. As such, Sharma views it as sacrifice rather than suicide, or perhaps a combination of the two.

Primitive Societies

Two basic forms of suicide have been described in contemporary Oceania. Some individuals in these societies die by suicide in order to avoid the consequences of public exposure of their immoral or illicit behavior. The suicide spares victims and their family from shame and humiliation. Other individuals, usually young men, kill themselves after being slighted or offended, typically by a family member. The suicide expresses the victim's anger at being mistreated. Since most Oceanic societies discourage the direct expression of anger, especially toward the family, the anger is turned inward onto the self.

MacPherson and MacPherson (1985, 1987) viewed the first type of suicide described above as altruistic suicide since the act affects the honor and prestige of the group as a whole. The individual dies by suicide to make amends to the community.

The MacPhersons viewed the second type of suicide as anomic since such suicides occur more frequently during times of social disequilibrium and change when the consensus on social norms and customs is breaking down. The desires of people, especially the young, may rise beyond realistic chances of fulfillment, and they die by suicide when reality indicates that those desires will never be satisfied.

Other Examples

Ofstein and Acuff (1979) suggested that suicide in the elderly could be seen as egoistic. They noted that disengagement theory (Cummings, 1963) suggests that the elderly and the society to which they belong experience a mutual withdrawal with advancing age, leaving the elderly individual in a state of social isolation.

Hitchock (1967) explored the consequences of the shortage of marriagable women among the Nauthars in Nepal. This shortage led to complex arranged marriages being agreed upon involving young children and extreme conflict when the arrangements became difficult to implement. The suicides in young women in the group were viewed by Hitchock as fatalistic in nature.

Applying Social Integration and Social Regulation to Individuals

Breed's Suicide Syndrome

It is clear that the basic elements involved in Durkheim's concepts of social integration and social regulation can be applied to individuals. For example, Breed (1972) proposed five basic components for the suicidal syndrome in individuals: commitment, rigidity, failure, shame, and isolation.

By *commitment*, Breed meant having an internalized set of culturally defined roles and goals, a notion which resembles social regulation. *Failure* for women included separation/divorce and childlessness, components of social integration. *Shame* included low self-esteem, feelings of shame from failure, and loss of hope, an anomic state. *Isolation* included living alone, few social contacts and frustration of dependency needs, aspects again of social integration.

Breed (1970) applied his concepts to suicide in African Americans. In his study of suicide among young, lower-class, single, black males in New Orleans, Breed was struck by the oppression of black society by the white society. In the USA, blacks were inferior, segregated, powerless and less well-protected from arbitrary authorities. For example, he identified a high incidence of difficulties with the police and other authorities in the black suicides. Interviews with blacks in the community revealed a widespread fear of the police, and several respondents said that they would die by suicide rather than go to jail. Breed saw fatalistic suicide as a result of the absence of freedom from unjust and arbitrary authorities, and he felt, therefore, that black suicide was fatalistic in nature.

Women of the Ch'ing Dynasty

Young (1972) examined suicide among Chinese women during the Ch'ing Dynasty in China (1644-1912). Chinese society was guided by an emphasis on familism rather than individualism and, as subordinate members of the family, women were expected to perform their roles according to the Confucian principles of filial piety and chastity. Among some groups, the notion developed that people should sacrifice their lives in order to preserve these values, and female suicide in the name of chastity began to appear from the 12th Century on.

At the *community level*, suicide as an act to preserve chastity inspired admiration, and the victim was glorified. Some *clans*, however, disapproved of suicide for any cause, while other clans tacitly encouraged suicide to preserve

chastity because of the honor it would bestow on the clan. *Families* almost uniformly disapproved of suicide for any cause.

Young noted that, during the Ch'ing Dynasty, some women died by suicide after their husband or fiancé had died, while others died by suicide because they felt that their hitherto unblemished reputation as chaste women had been damaged (perhaps by an attempted rape). Young saw both of these types of suicide as altruistic. Women also died by suicide rather than undergo a forced remarriage or after captive by armed rebel bandits. Young saw these suicides as fatalistic.

In a study of 626 cases of female suicide from selected local gazetteers, Young classified 59 percent of the suicides as altruistic and 41 percent as fatalistic. He noted that the methods used by the two types of suicide differed, with the altruistic suicides using hanging much more often than the fatalistic suicides (who used drowning and 'other' methods more often).

Fatalistic Suicide in American Youth

Peck (1983) identified Durkheim's concept of fatalism with Rotter's (1966) concept of an external locus of control. If people have an external locus of control, they think that their lives are determined by external forces beyond their control rather than being affected by how they themselves behave. Peck saw this attitude as similar to fatalism.

Peck examined suicide notes written by suicides under the age of thirty-five from a mid-western city and found evidence of an external locus of control (fatalistic thinking) in 33 percent of the notes, for example,

> I have attempted suicide because I could no longer take my father's sadistic nature. My mother was a "machine" - lacking in human emotions. This was the only way to get away from my parents. (Peck, 1983, p. 321)

Anomic Suicide in Japanese Youth

Iga and Ohara (1967) proposed that suicide in Japanese youth after the Second World War was anomic in nature. They argued that the components of anomie (egocentrism, goal-means discrepancy, emotional dependency and insecurity) were prominent in Japanese youth and reinforced by the culture. For example, Japanese place great value on rising in the world, and parents are highly competitive in striving to enhance their children's chances for getting ahead. On the

other hand, channels for social mobility are limited. Employers often looked at family background and influential connections before hiring staff, and the government for a long time gave preference (almost exclusively) to graduates of Tokyo University. Thus, it was not easy for Japanese youth to realize the aspirations set up for them.

Iga and Ohara moved from this general level of discourse to studies of the individual by giving personality inventories to suicidal and non-suicidal Japanese youth and noting that the suicide attempters obtained high scores on such scales as lack of cooperativeness, inferiority feelings and worries over possible misfortune. They interpreted these differences as indicating anomie in the suicidal Japanese youth.

Applying Durkheim's Theory to Individuals

Altruistic Suicide in Greek Tragedy

Faber (1970) used the suicides in the plays of Euripides to illustrate the nature of altruistic suicide as defined by Durkheim. For example, in the play *Alcestis*, Apollo is fond of Alcestis's husband, Admetus, and, when he finds out that Admetus is going to die at a young age, tries to persuade the Fates to spare him. The Fates agree to do so, but only if a substitute willing to die in his place can be found. Admetus cannot find anyone willing to die in his place, and so eventually his wife, Alcestis, volunteers to do so. Thus, Faber saw Alcestis's suicide as altruistic.

Incidentally, Faber notes that the motivations in the play are more complex than this simple analysis indicates. For example, Alcestis is shocked that her husband is willing to let her make this sacrifice and comes to feel great resentment toward him. She then tries to induce guilt through her death, and her self-sacrifice becomes tinged with unconscious aggression, which in turn suggests that her initial offer to die in Admetus' place was not serious - that she hoped he would reject her offer.

Kaplan (1987) took all of the suicides discussed in Faber's book, from the plays of both Sophocles and Euripides, and classified them into Durkheim's typology. For Sophocles, Kaplan classified the suicides as follows:

Ajax	egoistic
Oedipus	egoistic

Jocasta	egoistic
Haemon	egoistic
Eurydice	egoistic
Deineira	egoistic
Heracle	anomic/egoistic
Antigone	anomic/egoistic

For the suicides in Euripides, Kaplan suggested the following classification:

Hermione	anomic/egoistic
Phaedra	anomic/egoistic
Evadne	altruistic
Iphigenia	altruistic
Menoeceus	altruistic
Macaria	altruistic
Polyxena	altruistic
Alcestis	altruistic

Kaplan also examined the six suicides mentioned in the Bible, and found that only four possibly fitted into Durkheim's types. The suicides of Abimelech (Judges 9: 54) and Saul's armor bearer (I Samuel 31: 5) were possibly altruistic, and the suicides of Ahitophel (II Samuel 17: 23) and Zimri (I Kings 16: 18) possibly egoistic. However, Kaplan felt that the suicides of Samson (Judges 16: 30) and Saul (I Samuel 31: 4, II Samuel 1: 6, and I Chronicles 10: 4) were the result of a differentiated and integrated relationship with their God, and Kaplan called such suicides *convenantal*. (The suicides of Saul's armor bearer and Zimri were also thought to be possibly convenantal.)

Famous Suicides

Shulman (1987) classified three famous suicides into Durkheim's types. Ernest Hemingway stressed courage and machismo. His heroes were boxers, soldiers and bull-fighters. His orientation was American individualism and his suicide egoistic.

Virginia Woolf was sexually abused as a child and frigid throughout her marriage. She had several episodes of psychiatric disturbance and was generally pessimistic in her outlook on life. Shulman saw her suicide as anomic.

Nikolay Gogol was politically conservative but often criticized by Russian nobility. After the death of a woman who had served as a mother-figure for him, he fell under the influence of a priest who convinced Gogol that his writings were sinful. Gogol fasted and prayed for forgiveness for his sins for three weeks and died of starvation in 1852. Shulman saw this an altruistic suicide.

Van Hoesel's Empirical Study

Van Hoesel (1983) obtained cases of suicides from two medical examiners and made summaries of the cases. An independent judge decided whether the cases might fit more than one typology of suicide, and 404 such cases formed the basis for the study. Undergraduate and graduate student judges then sorted the set of cases into one or more of ten typologies, including Durkheim's. The concordance rate (percent agreement between judges) for Durkheim's typology was 79 percent, and 71 percent of the cases could be classified. None of the suicides were seen as altruistic, 5.7 percent as egoistic, 8.7 percent as fatalistic and 56.7 percent as anomic.

Criteria for Classifying Individual Suicides

Shulman's analysis of three famous suicides discussed above highlights two important problems which must be addressed before applying Durkheim's typology to individual cases of suicide. First, it is necessary to specify formal criteria for classifying a suicide into each of the four Durkheimian types. When we read Shulman's decisions on Hemingway, Woolf and Gogol, we disagreed with his placement, and the disagreement was because Shulman and we use different criteria.

A second decision is whether we are going to rely on objective, externally observable, criteria or subjective criteria. For example, a reliance on observable and external criteria might lead to social integration being operationalized in terms of such variables as married/divorced, attends church/does not attend, and lived in same community for ten years/moved in last ten years. In contrast, a reliance on subjective personal criteria would necessitate knowing how the individual felt about his or her social integration and social regulation. It is obvious that a person may appear to be socially integrated, with a family, friends and colleagues, yet feel alienated and alone.

The analysis provided by Iga and Ohara (1967) provides a starting point for this task. In Table 1, adapted from their paper, Iga and Ohara attempted to analyze

the Durkheimian types of suicide for the suicide's value orientation, social restraints, suicidal motivation and psychological condition.

Table 1: Components of Durkheim's Types Of Suicide

Component	Type Of Suicide			
	egoistic	altruistic	fatalistic	anomic
value orientation	nonconforming individualistic	conforming	conforming	conforming
social restraints	weak	strong	very strong	very weak
sources of suicidal motivation	(1) desire for meaning in life through social (2) conflict between non-conformity and unconscious wish for sympathy	(1) sense of obligation despotism (2) abnegation and a state of impersonality	(1) excessive moral attachment (2) future blocked and passion	(1) goal-means discrepancy (2) feeling relativel deprived choked (3) insecurity and dependency
psychological condition	depression melancholy	mystical joy shame & guilt	resentment fear resignation	greed jealousy disillusionment

Another source of ideas for a Durkheimian classification comes from Van Hoesel (1983) who prepared the following set of guidelines for classifying suicides into Durkheim's types:

(1) *Egoistic Suicide*: This suicide stems from a lack of integration of the individual into society. People most likely to die by egoistic suicide are not dependent enough on their group and are left too much to their private interests.

A 78-year-old black male was found in his apartment in a decomposed state. Neighbors reported they had not seen the man for three weeks, but said this was normal since he usually kept to himself. There was no known family or friends to contact for funeral arrangements. Autopsy results showed the man died of a self-inflicted gunshot wound and had a considerable amount of alcohol in his blood at the time of death. This man was an older person living alone and clearly alienated from society. He had no friends or family and very limited contact with his neighbors. The fact that he lacked any meaningful social interaction would place him as an egoistic suicide.

(2) *Altruistic Suicide*: This suicide is characterized by very high social cohesion. Unlike the individual who dies by egoistic suicide, the individual described in the altruistic category is overly integrated into a group and feels that no sacrifice, even that of one's own life, is too much if it would benefit the group as a whole.

A 23-year-old white male poured gasoline over himself and set himself on fire. Prior to this act he had given an anti-war speech and had said he would kill himself to show that the peace movement was serious. This would be an example of altruistic suicide because this man gave up his life for a cause he believed in.

(3) *Anomic Suicide*: This occurs in a crisis situation. The person is not capable of dealing with the crisis in a rational manner and chooses suicide as a solution to the problem.

A 35-year-old white female was found hanging in the basement of her house. She had been very depressed after her husband left her two days prior to her death. About an hour before her death he had visited her and talked about a divorce. She then called her mother and said she couldn't deal with the situation anymore and would kill herself. This is an example of someone experiencing the loss of a loved one which clearly constituted a major crisis in her life. Other examples of an anomic suicide would be the person who experiences a sudden increase or decrease in wealth or the death of a loved one.

(4) *Fatalistic Suicide*: These are suicides where people die by suicide because of excessive regulation. They feel that they have no freedom and no future.

A 27-year-old black male was found hanging from the top of his cell door in a state penitentiary. A week before his death he had received a 40-year sentence for his involvement in several armed robberies. This man was in a situation where he had very little free choice. He was "choked by oppressive discipline" and had no freedom. (Van Hoesel, 1983, 64-66).

If one focuses solely on the definitions of social integration and social regulation given by Durkheim, definitions which have been greatly criticized (see Lester [1972] for a review of the criticisms), then one is forced to look solely at the degree to which a suicide is integrated into and regulated by society. However, Durkheim chose particular labels for his four types. Altruistic goes beyond the concept of social integration and suggests that such suicides must intend to help others by their suicide. Altruistic suicide is, therefore, a sacrifice by a socially integrated person. *Fatalistic* indicates that people are overwhelmed by their fate

and suggests, therefore, either that a socially determined fate requires their suicide or that suicide is an escape from too strong a regulation. The first type might be illustrated by the mass suicides of Americans in Guyana who were followers of Jim Jones (Kilduff & Javers, 1979) while the second type might be illustrated by the Jews in Austria who killed themselves rather than be sent away by the Nazis to concentration camps (Kwiet, 1984).

Thus, we must also look at the psychological state of the individual and the motives behind the suicide. For Iga and Ohara, the sources of motivation and psychological condition are relevant, and for Van Hoesel the descriptions given for anomic and fatalistic suicide are also relevant.

An Application of these Principles to Thirty Suicides

Lester (1991) presented a study of the lives of thirty suicides whose lives and deaths were sufficiently interesting to warrant a biography. Table 2 applies the concepts discussed above to their lives/deaths. The ratings of social integration and social regulation are based more or less on objective information about the social network and degree of regulation of each individual. The final classification uses the criteria both of Van Hoesel and of Iga and Ohara.

Nine of the suicides were classified as anomic, eight as anomic/egoistic, five as egoistic, five as fatalistic, two as fatalistic/egoistic and one as altruistic. All of the thirty suicides could be classified. The problem was not whether they fitted into the typology, but rather which type did they fit best, and occasionally two types fitted the suicide.

As expected, given the problems that sociologists have had in distinguishing between social integration and social regulation (Johnson, 1965), the mixed label of anomic/egoistic was common. However, interestingly, two suicides had elements of both fatalistic and egoistic suicide. This possibility suggests the usefulness of viewing social integration and social regulation as two independent dimensions giving four (two-by-two) cells in the cross-tabulated array if each dimension is scored as high or low.

As Johnson and others have suggested, altruistic and fatalistic suicide may not be common in modern society. However, almost all of the suicides considered in this analysis took place in countries where political and religious oppression are relatively absent. If we had been able to obtain suicides from nations where

oppression is strong, then fatalistic and altruistic suicides might have been more common.

Table 2: The Classification of Thirty Suicides[4]

	social integration	social regulation	comment	type
Craig Badialis	high	average	to bring peace	altruistic
Povl Bang-Jensen	high	average	fired from UN felt persecuted	fatalistic
John Berryman	low	low	fear of failure obnoxious alcoholic	anomic
Bruce Clark	low	average	a failure	anomic
Hart Crane	low	low	a failure violent alcoholic	anomic
James Forrestal	high	?	schizophrenic forced resignation	anomic
Sigmund Freud	high	?	fled Nazis dying from cancer	fatalistic
Judy Garland	average	low	immature addict failing	anomic
Kenneth Halliwell	low	low	losing lover a failure	egoistic & anomic
Tom Heggen	low	average	alone needed mentor	egoistic
Ernest Hemingway	high	high	feared being placed in institution	fatalistic
Christopher Jens	low	low	schizophrenic	egoistic & anomic
Paul Kammerer	mixed	average	losing wife & lover accused of fraud	anomic & egoistic
Vachel Lindsay	low	low	schizophrenic	anomic
Ross Lockridge	high	average	obsessed with novel anticipating failure	anomic
Jack London	average	average	threat of and real loss illness	anomic & egoistic
Yukio Mishima	high	low	tried to overthrow government	anomic
Marilyn Monroe	low	average	alone & rejected	egoistic
O H Mowrer	average	high	widower, depressed	egoistic
Cesare Pavese	low	average	alone	egoistic
Sylvia Plath	mixed	average	husband left her	egoistic/ & anomic
Freddie Prinze	average	low	addict, impulsive	anomic
Mark Rothko	mixed	low	distrustful separated from wife	egoistic & anomic

[4] Biographies of these suicides can be found at www.drdavidlester.net

Gabrielle Russier	mixed	low	lost lover threatened with prison	fatalistic & egoistic
Victor Tausk	mixed	low	rejected fiancé forced into marriage	fatalistic
Sara Teasdale	low	average	alone; fear of illness	egoistic
Vincent van Gogh	low	low	disturbed	egoistic & anomic
Jody White	mixed	low	lost girl friend	egoistic & anomic
Virginia Woolf	high	low	feared insanity	fatalistic
Stephan Zweig	mixed	average	feared old age and Nazis	fatalistic & egoistic egoistic

* Mixed indicates that there are social ties, but not the ones which the individual most desires.

Comment

The task attempted in this essay, namely to explore whether individual suicides can be fitted into Durkheim's typology, has been successful. We have observed that several other scholars have played with this idea. The present analysis has shown that it may well be possible to apply Durkheim's typology to individuals, and we have explored some of the difficulties encountered in doing this. In particular, it has been found that the derivation of a set of criteria for the classification of individuals is the major hurdle to be overcome. Durkheim's macro theory may also be a micro theory.

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SERIAL KILLERS, MASCULINITY AND SUICIDE

Lizzie Benkart & David Lester

Abstract: Based on significant differences found between female and male serial killers and their murders by White and Lester (2012), a masculinity score was derived for serial murders. For male serial killers, the masculinity increased over the 20th century and was lower in older serial killers. The masculinity score was not associated with the male serial killer dying by suicide.

In recent years, there has been growing interest in female serial killers, but many of the published papers have been case studies or simple descriptive statistics of a small samples. For example, Schurman-Kauflin (2000) studied four cases, and Farrell, et al. (2011) ten cases, while Myers, et al. (2005) studied a single case (Aileen Wuornos).

Occasional research studies have appeared. For example, White and Lester (2012) compared 37 female serial killers with 271 male serial killers from the United States. The female serial killers were more often of white ethnicity, more often married at some point in their lives, never served in the armed forces, had less police contact in the past and fewer arrests, and were more often caught as a result of police investigation rather than being turned in by others or by themselves. They less often killed for sexual or hedonistic motives, and their crimes were less often categorized as disorganized. They used con for the attacks rather than surprise or blitz, and more often used the same place for all of the murders. The women obtained their victims more often from their own home or the victim's home, more often killed family members, more often drugged the victims and used fewer locations (only one or two) The women were more often diagnosed with a psychiatric disorder after arrest, but not more often in the past. Eight (22%) of the women killed children only compared to only 5% of the men. One third (33%) of the women killed at least one infant versus 3% of the men.

However, gender norms have changed over the years. For example, men were recruited at high rates for World War One leaving behind a large number of job openings. Thus, women entered the work force for the first time, which was

traditionally a masculine activity. This lead to women adopting masculine tendencies, evident by increased rates of women smoking. This new gender norm influenced their behaviors (Anderson, Glantz, & Ling 2005). Therefore, Benkart (2019) hypothesized that the nature of the murders committed by serial killers might have changed over the years.

The present study was designed to develop a measure of masculinity for serial murders, that is, a measure based on the ways in which the serial murders of male and female serial killers differed, and then to look for correlates of the masculinity score.

Method

The Sample

White and Lester (2012) constructed a data set on serial killers in the following way. Five criminal justice graduate students collected data on 500 serial killers using true crime books, encyclopedias of murderers, newspaper accounts and court records. Each serial killer needed three data sources to be included in the data set, and the data were coded. The collection of cases stopped at 500 as the available data on the murders grew scarce for any further cases. Three hundred and eight of the serial killers were from the United States, of whom 37 (12%) were female and 271 were male. The serial killers and their murders were then coded on 97 variables.

The Masculinity Scale

Benkart suggested the use of a masculinity score which was constructed from stalking, torture, strangers, motivation (enjoyment), violent method, no child victims and hands-on killing. For the present paper, we took the largest significant differences identified by White and Lester and formed two subsets of items: one in which the males more often had that variable and one in which the females more often had that variable.[5] A composite score was then obtained by combining the two sets of items. Each of the variables below was scored as present versus not present.

Masculine variables (coded as yes/no):

- Frequent drinker

[5] The data set used was similar to that used by White and Lester (2012), but not identical.

- Used drugs
- Prior arrests
- Hedonistic motive
- Tortured victims

Feminine variables (coded as no/yes):

- Married at some point
- Con used
- Drugged victims
- Did not kill strangers
- Organized crime scene

Results

The mean masculinity score was 6.09 (standard deviation 1.87; range 1-10). The females obtained lower scores than the males (means 3.43 and 6.09, respectively, standard deviations 1.64 and 1.87, $t=8.22$, $df=306$, $p<.001$), thereby validating the scale. The Cronbach alpha for the scale was moderate, at 0.53.

For the males, the masculinity score was positively associated with the year of birth with ($r=0.18$, $p<.01$). The older male serial killers had lower masculinity scores ($r = -0.21$, $p<.001$).For the females, there was a non-significant tendency for the year of birth to be positively associated with the masculinity score ($r = 0.17$) and negatively with their age (-0.14), similar to the correlations for males but non-significant.

Seventeen (6.3%) of the 271 male serial killers in the sample were known to have died by suicide.[6] The point-biserial correlation between the masculinity score was -0.012 (not significant) for the male serial killers.

Discussion

The results support the hypothesis that the masculinity score for serial murders increased during the 20th century for males. Unfortunately, the sample of females was too small to find a significant association. For the males, the older serial killers did obtain lower masculinity scores which night be expected.

[6] Only one female serial killer died by suicide.

The prediction of an association between the masculinity score for male serial killers and suicide has two possibilities. Since completed suicide is typically viewed as a "masculine" behavior (and attempted suicide a "feminine" behavior), based on the suicide rates for women and men in general, one could predict that the masculinity score would be positively associated with suicide. On the other hand, the masculinity score for serial murders is heavily weighted for the violence of the act, in which case this outward expression of aggression might result in less suicide, based on the theory proposed by Henry and Short (1954) who saw outward-directed aggression and inward-directed aggression (manifest as depression and suicide) as opposed behaviors. Since these two hypotheses are in opposite directions, the lack of an association between the masculinity score and suicide might be expected. Future research, of course, would benefit from a much larger sample.

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HUBERT AQUIN: A CASE STUDY[7]

24 October 1929 – 15 March 1977

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Preamble

The biography of Hubert Aquin is more like a literary work than a simple biography. As a result, important information about Aquin's life is missing. *Wikipedia* is not a remedy for this, but I have used Wikipedia to fill in some details. Material from Wikipedia is placed here in *italics* to distinguish my source. For example, whereas Sheppard names Marie-Ève Lapierre as Aquin's first wife. Wikipedia names his first wife as *Thérèse Larouche*. Sheppard died in 2006 and so cannot be questioned about this and other matters.[8]

Although this discrepancy may throw doubt on the validity of Sheppard's information about Aquin's life, Sheppard presents apparently verbatim interviews with people. Assuming he did not invent or distort these interviews, the information in them may be valid.

Although Aquin's partner, Andrée Yanacopoulo, initially collaborated with Sheppard in the preparation of the book, she subsequently dissociated herself from it according to the publisher. Andrée died on August 27, 2025, at the age of 97.

Introduction

Aquin was born in Montréal, Canada, on October 24, 1929, the day of the Wall Street crash which triggered the Great Depression. He graduated from the Université de Montréal in 1951, and then studied in Paris, France, for three years. He worked for Radio Canada from 1955 to 1959. From 1959 until 1964, he also

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[7] This essay is based on Sheppard (2003). The book is called HA! H.A. are Aquin's initials.

[8] Accrding to ChtGPT, Hubert Aquin was married to Thérèse Larouche, not to Marie-Ève Lapierre. According to reliable biographical records, Aquin married Thérèse Larouche in 1955- she is listed as his spouse from 1955 until 1975 Wikipedia. Following the separation, he began a long-term relationship with Andrée Yanacopoulo from 1963 until his death in 1977 Wikipedia. There is no credible evidence that Aquin was ever married to someone named Marie-Ève Lapierre. So, to directly answer your question: Hubert Aquin was married to Thérèse Larouche.

worked as a screenwriter, director and film producer with the National Film Board of Canada.

From 1960 to 1968, Aquin was active in the movement for Québec independence. He was an executive member of the first independentist political party, the *Rassemblement pour l'indépendance nationale*. In 1964, he went underground to work for independence through terrorism. He was arrested and detained for four months in a psychiatric hospital. While there, he wrote his first novel, *Prochain épisode* (1965), the story of an imprisoned revolutionary.

He was awarded the Governor General's Literary Award in 1968 for his second novel, but he refused the award and the check because of his belief in Québec's independence from Canada.

The self-destructive thoughts of the novel's narrator in *Prochain épisode* foreshadowed Aquin's own death: On March 15, 1977, Aquin shot himself in the head. He left a suicide note claiming his death was a free and positive choice, stating, "I have lived intensely, and now it is over."

Aquin's Suicide

Aquin says that he contemplated suicide from the age of 15, in different situations and by different methods. As a young boy, he often worried that his mother had died by suicide and came home from school expecting to find her dead.

He killed himself on March 15, 1977, at the age of 47, when the female students at Villa Maria high school were on holiday for the day. He was dressed in a suit and tie, and his car had been freshly washed. He died with 99 cents in his packet and, to some people, 99 means *Amen*.[9]

At 2:10 pm, people heard a gunshot. A woman was driving to the campus to walk her dog, saw a parked car, and stopped her own car. She got out and saw a man's feet beside the parked car. Aquin had shot himself in the head with a .12gauge shotgun inherited from his father.[10] The police were called, and they found a suicide note. Translated from French it reads:

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[9] It is not uncommon for 9 to appear in literature – in Dante's *The Divine Comedy* and *The Aeneid*, for example, works that Aquin knew well.

[10] Before his suicide, Aquin had sawed off the barrel.

> Please inform my wife, Andrée at 486-4001. MERCI. HA. Please put Granada car 217 R 177 back in front of 3776 Vendôme SVP. Keys near the pedals

They later found out that he had informed his next of kin of his intention.

His mother was distraught at the news, but his partner, Andrée Yanacopoulo, said they took leave of each others in a state of renewed harmony.[11] On the day of his suicide, Aquin dictated a letter to Andrée.

> Today, the 15th of March 1977, I have no further reserves in me. I feel destroyed. I haven't managed to reconstruct my life and I don't wish to do so. I have made a choice. I feel peaceful, my act is positive. Moreover, I have always known that I would choose the moment of my death. I have lived intensely, now my life has reached its end.

Andrée noted that he had started writing a new novel, but could not continue with it. He had been fired from *Les Éditions La Presse* and was unemployed and felt useless.[12] Andrée said that he had been depressed. He and Andrée had one son. Aquin died penniless.

His first wife, Marie-Ève Lapiere, and he had two children. Marie-Ève described him as a selfish person who abandoned her and the children without any money, and she saw his choice of the high school for his suicide as revenge because she had attended that school. *His first wife, however, may have been Thérèse Larouche.*

His former secretary, Mireille Despard, said that they had discussed suicide frequently, almost every day, and she thought that would both go on living or both would die by suicide. She was angry at the news of his suicide. Jacques Folch-Robas, a radio host, thought that Aquin had realized that Québec would never gain its independence. His secretary thought that Aquin would use pills. He took pills for his epilepsy, often along with alcohol, so she was surprised by the use of a gun.

Aquin's suicide was viewed as a statement. Québec's National Assembly delivered a tribute to him and the Québec Minister of Immigration saw his suicide as a *masterpiece*.

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[11] Andrée taught at a junior college.

[12] He was still teaching three hours of classes at the Université de Québec

Parents and Childhood

Some of Aquin's friends said that he never talked about his mother, only his father. Aquin's father had worked as cheap labor all of his life and never got to have much enjoyment, losing the will to live. His father became an alcoholic and, not knowing what he was doing, would try to eat his clothes and anything he could get his hands on. To Dominque Blodeau, he said that he despised his father. On the other hand, in talking to Andrée, Sheppard heard that Aquin's father sold firearms in a hardware store and was a clay-pigeon champion. Aquin learned to shoot at the age of 12 or 13 and went hunting with his father. Sheppard described the father's job as head of the sports department at Omer de Serres department store. Aquin sometimes described his father as a gunsmith and he may have trafficked in firearms.

He seldom mentioned his mother to Dominque Blodeau except to say that she was ten years younger than her father. He seemed indifferent to her. Another friend said that he adored his mother, but Andrée said that he had always told her that he detested his mother. He went to Europe at a young age to escape her. Aquin went into psychoanalysis briefly after his arrest in 1964, and his psychoanalyst told Aquin that he had wanted to sleep with his mother.

MM said that Aquin felt closer to his father than his mother and, after his father died, he grew more distant from his mother. He didn't dislike her and spoke ironically about her. There was some hostility toward her, and when his younger brother was born, he didn't feel as close to his mother. He told MM that he looked forward to his mother's funeral and would sit in the front row. He admitted that she had helped him financially. Another long-term friend, Jacques Folch-Ribas, said that Aquin adored his mother and also his brothers, but didn't talk about his father much.

Sheppard did interview Aquin's mother. She met her husband when she was working at the Omer de Serres department store. He worked at the store for 42 years. In 1963, her husband got a blood clot in the brain and died ten years later. The events in Aquin's life as told by her were:

- Difficult birth
- At age 2 or3, he fell on his head and bled a lot
- Choirboy at ages 7-13 (for the pay)
- Read all the time and had a talent for writing

- Boy scout
- Skied at the age of ten and liked tennis
- After graduating from college and going to France, she sometimes sent him money when he needed it. On Christmas Day in 1976, he and his family visited her and his brothers' families.
- A few weeks before his death, she took care of his son for a few days
- She said that there were no suicides in the family or in his friends

Aquin talked about his parents in different ways to his friends. This is going to be a theme in Aquin's life – a fragmented self, talking and behaving very inconsistently.

Aquin studied at the Sainte-Croix day-school, the Collège Saint-Marie and the Université de Montréal with a major in philosophy. He won a scholarship to study for three years in Paris, France. Back in Canada, he worked at Radio-Canada, and then at the National Film board as director, writer, translator and film produced.

Revolutionary

Aquin was investigated in 1958 by the Royal Canadian Mounted Police for possible communist ties and was tried and, apparently, acquitted although they confiscated some of his book.

Aquin became a revolutionary in 1963, part of what he called the maquis (underground). Aquin became a member of the Rassemblement pour l'indépendance nationale executive and vice-president for the Montréal region in April 1964A colleague remembered him coming to meetings stoned on drugs. This colleague described him as living too fast, too energetically, too intensely. .In 1964, he announced in a letter to a newspaper that he was going into hiding.

Aquin was arrested in a stolen car with a firearm. He was detained for two months in a psychiatry unit in a maximum security wing. A psychiatrist who interviewed him said that Aquin had had a nervous breakdown. He was released and later, in 1966, Aquin went to Switzerland, from which he was expelled, and that ended his involvement with the militant movement.

Employment

Aquin was founder and president of a company *that tried to organize a motor car race* and worked as a stockbroker. After being imprisoned for terrorism, he wrote his first novel, *Prochain episode,* at the age of 34, followed by a series of novels, ending with *Neige noire* which won several prizes. In 1970, he resigned from the magazine *Liberté* which he had helped found.

In 1971, Aquin had been out of works for months and had legal problems with his ex-wife and could not see his two sons (Pierre and Marcin). He also discovered that he was epileptic, and Aquin worried that he might have an epileptic seizure in front of other people. He lost an eye in a car accident and had a false eye. Aquin was without a full-time job until September 1974 when he began teaching at Carleton University in Ottawa. He came home on weekends, but his life in Ottawa was disorganized and he was happier back home in Montréal on weekends. He told his partner, Andrée, that it was at this time that he began to fall apart, more so than after writing *Neige noire.* However, he told a friend, Patricia Smart, that he always felt black and depressed after writing a novel, a reaction that is found in many authors.

He was viewed as someone alternating between exaltation and depression, and he said that he found life to be intolerable. Andrée said that after writing *Neige noire* in the Spring of 1974, he became depressed and said that, although he could write more novels, he did not want to and preferred to end it all. He earned very little from his books.

He was offered the position of editor-in-chief at a weekly newspaper called *Le Jour*, but the magazine closed the day after Aquin's appointment was announced.

He thought seriously about suicide, even writing a suicide note to his son which he tore up, and then was offered a job at *Les Éditions La Presse* in January 1975, from which he was later fired. He worked hard at the publishers for a year and a half, and it brought stress to his marriage because he worked such long hours there, as well as going on business trips. He recruited many authors, but did not get along well with the new managing director or the president of the company who disapproved of many of Aquin's projects. Aquin wanted to encourage authors from Québec, where those above him wanted to publish *American literature in the French language*. The dispute became extremely contentious. Aquin was also generous to temporary staff such as freelancers and spent a great deal of money on lunches and drinks. His secretary described him as always smelling of alcohol. Andrée said that he always drank too much, and she was constantly nagging him

about that. It affected his reputation, and his consumption increased during the last year of his life. Andrée saw him, on occasions, deliberately drink to get drunk.

After he was fired, Aquin sued *Les Éditions La Presse* for $45,000 but his lawyer had no confidence in winning the law suit. After a great deal of stress over the issue, Aquin accepted $10,000 in February 1977.

At the end of 1976, after the Parti Québécois won the general election, Aquin asked a friend who was now in the government for a job, but was turned down.

Wives and Loves

Aquin's first wife was Marie-Ève Lapierre (married in December 1955), and he grew angry talking about her. She had sent their two sons to Switzerland to study German so that, he thought, they couldn't speak in French to him. They were divorced in October 1975. A psychotherapist who was a friend of Aquin said that his first wife was conventional, disciplined and well-behaved, shy, self-effacing and prudish, the opposite of Aquin. Perhaps she brought Aquin security. Interestingly, Marie-Ève had gone to school at Villa Maria high school, the site of Aquin's suicide.

Aquin was often in legal trouble over alimony and child support, and Marie-Ève had his salary seized. He had a bad credit rating and no credit cards. Things, like cars, were always bought in Andrée's name. Andrée's daughter, Michelle, saw Aquin as an eternal little boy who never got over the fact that he had been poor and spent his adult life avenging that by spending. Marie-Ève turned their two sons against Aquin, and they refused to see him ever again, but they did go to his funeral service. His divorce was granted in October 1975, but Marie-Ève kept Aquin as her surname, she said to keep the same name as her sons.

Aquin met Andrée in 1963 and moved in with him in 1966. She was in a stressful marriage with three children.[13] Andrée had a medical degree from the Université de Lyons in France in 1995 and a master's in sociology.[14] When they

[13] Andrée was born in Tunisia. At the age of 18, she went to study in France. At the age of 25, she married in December 1952. She and her husband moved to Canada. Her husband was physically abusive. She left him in 1966 when she sent to Switzerland with Aquin whom she had met in 1963.

[14] Andrée was writing a thesis on suicide in Montréal, which she never finished, and she lent Aquin a book *Psychologie du suicide* by Gabriel Dechaies.

met, she was teaching psychology at a junior college. She was 36 and Aquin was 34. Aquin met Andrée's children, and two of them lived with Aquin and Andrée at one point. According to Andrée, they never married. (Confirmed by Wikipedia.) Later in their relationship, Andrée got involved with feminist activites.

Aquin and Andrée had a pact that, if either one decided to die by suicide, they would give the other 24 hours notice. They made this pact after Aquin's suicide attempt in 1971 when he went to a hotel and overdosed on barbiturates but survived. Andrée felt that his intent was not 100% because, having ordered a gin and tonic to drink before his overdose, but he threw out the gin and drank only the tonic. Aquin told a friend that, after that attempt, he felt that he should have died then.

Incidentally, later, although there was a sexual undertone to the relationship between Aquin and Patricia Smart, both were committed to their marriages. They decided not to have an affair, although he did suggest making love once during their relationship, but they stayed very close as friends. Patricia was a professor French literature at Carleton University and was writing a book about Aquin prior to meeting him. Aquin told her in October 1974 that there were problems in his marriage.

Although Aquin and Patricia were never lovers, there were other women in his life. He told her that the poet Koré LaGrenade was so sacred that he didn't want to reveal it. He told another friend that he loved her, but that she never seemed to love him as much. There was also an affair with MM that Patricia knew nothing about. Patricia described her relationship with Aquin as being haunted by him – being fascinated and in love with him, and being angry with him and bound to him. Dominque Blodeau thought that, although Aquin fell in love with other women, he would never have left Andrée because he was too afraid of living with a different woman. He needed Andrée for security, as a life buoy.

Patricia recalled that Aquin told her that occasionally he was impotent, and he attributed it being raped by man when he was five or six on a street near home. He also told MM about the rape. He told a friend that sadomasochistic fantasies helped him overcome his impotence, and he may have tried mild versions of them with lovers. He also told this friend that he was fascinated by homosexuality but that this caused him anxiety. He also said that he had had a relationship with a lesbian and watched her make love with another woman. However, Andrée said that he was never impotent with her and that they made love several times each week for the whole time they were together.

There were signs of distress in 1976. He told Patricia that, in October, he had parked outside his ex-wife's house hoping to see his sons, but they didn't come home while he was there. In December, he told Patricia that he had stomach cramps and headaches, couldn't sleep and was having bad dreams. He did not think of himself as handsome and came to dislike being photographed. A friend thought that perhaps was why he shattered his face in his suicide.

In July 1975, he met Dominque Blodeau, a novelist, and they became close friends, but platonic even though Aquin told her that he was in love with her and occasionally proposed marriage. Aquin called her up to five times a day for brief calls. Sometimes, however, he was very aggressive towards her, for example, criticizing her writing, so that she broke off their relationship in She told his biographer, Sheppard, that Aquin's sexual relations with women disappointed him profoundly and often led to a break-up. She felt that Aquin was incapable of being alone and needed to have people around him – to have a public. She felt that Aquin would have liked her better if she had been a boy, and she wondered whether he had latent homosexual tendencies.

Aquin met a woman, called MM in the biography, in March 1976 and fell in love with her, although Dominque Blodeau thought that Aquin did not love MM, even if he was her lover. MM called him every day at the office and sent him long letters. MM told Aquin's secretary that the relationship had fights, conflicts and sexual problems. MM left her husband around this time, and Aquin thought of leaving Andrée. He and MM discussed marriage. He talked with Andrée about it, but losing his job had created money problems. His secretary said that there had been another love crisis in July 1975, but that fizzled out too. It is odd that Sheppard calls her MM yet identified her as a professor at the University of Toronto who got turned down for tenure there. MM admitted to Sheppard that they were lovers, and she said that Aquin told her that he had had previous sexual affairs. From Sheppard's interviews with Andrée and MM, it seems that, for the last year of his life, Aquin was torn between the two but, in the end, stayed with Andrée and broke with MM.

A friend who was a psychotherapist said that Aquin needed women, but at the same time hated needing them. And Sheppard said that Aquin told him that he was faithful to Andrée sexually. Sheppard doubted this claim.

Again, we have a fragmented Aquin. Did he love all of those women profoundly or did he exaggerate (to others and to himself) the depth of his

feelings? Did he have sex with any of those women or was he faithful to Andrée? Was he impotent or not? I believe Andrée more than the reports by other women, but it likely that he did think that he was in love with some of the other women, and it would not be surprising if he had sex with one or more of them and hid this from Andrée. He did take frequent trips away from home without Andrée.

The End

The move of Aquin and Andrée to a new house in June 1975 did not help Aquin's mood. In the Spring of 1976, Aquin's secretary told the editorial director at *Les Éditions La Presse* that Aquin was thinking of leaving Andrée, not because he didn't love her, but to spare her pain and because he couldn't love *only* her.

Andrée said that in 1976, Aquin had many minor medical problems: exhaustion, insomnia, coughing fits, difficulty breathing, cramps, headaches and diarrhea. He was taking Phenobarbital and Dilantin twice a day for his epilepsy (rather than three times a day as prescribed). Aquin's first epileptic seizure was in September 1967 at home. His doctor thought that the seizures might have been induced by alcohol. Sheppard noted that the epilepsy first appeared during divorce proceedings with his first wife and seizures appeared to coincide with later court hearings.

Since he was unemployed, Aquin found it difficult to be home all the time, and so he would typically travel by himself, by car or train, for a couple of days each week, giving Andrée the telephone of the motel or hotel where he was staying.

However, Aquin was teaching a course at the Université du Québec à Montréal, which was delayed by a teacher's strike in the Fall of 1976. A group of five students, who really liked the course, had lunch with Aquin the Friday before he killed himself.

In September, 1976, Aquin told Andrée that he planned to die by suicide by the end of the year, but he kept putting it off – for Andrée's birthday on November 14th, then the result of the elections (which the Parti Québécois won), Christmas, and his son's birthday on January 27th. He took a trip by himself to Italy in order to "give himself a last chance to choose life," but he killed himself fifteen days after his return to Canada. A friend said that Aquin believed he had past lives and so may have believed in reincarnation.

At one point in his relationship with Dominque Blodeau, they were in the basement of house. (Andrée and their son were away for a few days). Aquin got a rifle, threatened to kill her and fired it so that a bullet grazed her arm. He said that that was how he would kill himself.

The Reason for His Suicide

Jean Éthier-Blais, professor, writer and critic, speculated that Aquin may have died by suicide because he had an inferiority complex (not sure about his writing talent) or because of issues with women. Éthier-Blais also saw Aquin as a big baby, still clinging to the maternal breast. Aquin's first wife admired him but was not willing to support or mother him. Aquin's partner (Andrée) was European and too strong and dominant.

One of Aquin's long-term friends, Jacques Folch-Ribas, thought that the reason why Aquin killed himself was political. Aquin had always wanted Québec to be independent and yet, when the Parti Québécois took power in 1976, he realized that the government would not seek independence.

His novels contained much violence and many suicides. Sheila Fischman, who translated *Neige noire* into English, was horrified by the violence in the novel. She found it offensive and frightening, but also powerful and possibly great. In the novel, the hero tortures his wife, drinks her blood and then kills her. Where did this anger come from? Assuming that the story of being raped was true, it did not seem to have traumatized him or become manifest in his behavior, but perhaps it did in his writing. There is the possibility that it may not have been very traumatic since later in life he was aware of homosexual desires and had sadomasochistic fantasies.

Why did Aquin kill himself?

As far as we know, Aquin's childhood was relatively normal. Neither Aquin's mother not himself recalled psychoanalytically relevant events (other than the rape at age five which, however, did not seem to result in odd behavior later in childhood or in his teenage years).

However, Aquin's adult life seems to be a staged dramatic performance, including his suicide (clean car, wearing a suit and tie, and staging the suicide at the school that his first wife attended, and leaving a disfigured face).[15] Aquin

[15] For understanding the staging of suicide see Lester (2015; Lester & Stack, 2015).

comes across as a fragmented person, going through strong emotions during a meeting with someone, from elation to aggressiveness, from support to verbal attack to indifference, from depression to elation, etcetera. However, there is no mention of physical violence. He drank a lot and often behaved as if he liked being a drunkard (crawling on the floor and being aggressive). He liked to shock others. In his relations with women, Aquin again appears to be fragmented, changing from affection to hostility moment to moment. Consistent with the dramatic aspects of his life, Sheppard suggested that Aquin was in love with love.

Although it is unclear why Aquin chose to develop the life style that he did, but he once said to Andrée , "I've made such a mess around me. I've only deceived, defiled, destroyed." To be sure, Aquin had a great of stress in the last few years of his life, but much of this stress was self-created. He was not a good employee at any of the jobs that he had. His credit was bad because he had failed to find a well-paying career. He was not a good partner for any of the women he grew close to.

In line with the dramatic aspects of his life, it does appear that, in 1977, it was time for the final curtain to close.

Comment

Sheppard, Aquin's biographer, is not a psychologist. Therefore, much of the 869 pages in the book are tangential to understanding HA's suicide but, then, Sheppard is presented as writer and director of the book! The book is disjointed and reads like a script. Sheppard never writes about Aquin. Rather, he reports his interviews with others presumably verbatim. Many of the issues that are important for understanding HA's suicide are not explored.

One other comment. I have read many (close to 100) biographies of suicides, and I have never ended up disliking the person. I came to dislike Aquin. Many of those interviewed by Sheppard spoke affectionately of Aquin at times, but I think that Aquin was the most self-centered individual that I have ever read about. He seemed to not care about anyone other than himself. Andrée is described in the biography as a psychiatrist, but her training (if reported accurately by Sheppard) did not help her to understand Aquin. It is difficult to diagnose Aquin, but probably *narcissistic personal disorder* is the most appropriate.

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PRECARITY AND SUICIDE: A STUDY OF EUROPEAN COUNTRIES

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Abstract: A measure of precarity in a sample of European countries was, surprisingly, negatively associated with female suicide rates, but unrelated with male suicide rates.

The association between unemployment and suicide has been documented for many decades, brought to attention by Stephen Platt's (1984) review. Unemployment rates and suicide rates are often found to be associated over regions and, in time-series analyses, over time. At the individual level, those who are unemployed have higher suicide rates. However, these associations are not always found.

For example, Lester (1994) studied the states of America and found that the correlations between unemployment rates and total, male and female suicide rates in 1980 were not significantly different from zero. However, Lester and Yang (1998) calculated linear regressions for the unemployment rate and suicide for 14 countries for the period 1950-1985 and found that the regression coefficient for unemployment was positive in ten of the countries, significantly so for seven of these countries. In a meta-analysis of studies at the individual level, Roelfs and Shor (2023) found that suicide was more common in those who were unemployed and in those suffering from financial stress.

Golden, et al. (1987) asked whether the general public would prefer lower inflation or lower unemployment and suggested combining them into a misery index (or discomfort index). Yang and Lester (1992) found that the misery index was associated over time in the United States with the suicide rate. Robert Barro is cited in *The Economist* (Anon, 2024) as suggesting augmenting the misery index with, for example, interest rates. For the period 1950-2022 in the United States, Lester and Yang (2025) found that the misery index was positively associated only with the female suicide rate. In addition, the two suicide rates respond differently

to the components of the misery index in a manner that seems appropriate: men to unemployment and women to inflation. Neither suicide rate was associated with the prime interest rate.

In recent years, interest has grown in the impact of uncertainty in employment. How precarious do people feel about their employment? Blustein, et al. (in press) reviewed research on *precarity* which they defined as "an overriding state of vulnerability, insecurity, lack of power and agency, and at times, existential threat" (p. 2).

Padrosa, et al. (2021) developed a scale to measure precarity in individuals, the Employment Precariousness Scale (EPRES), which has several components: temporariness, disempowerment, vulnerability, exercise of rights, uncertain working times, and wages. Padrosa, et al. gave the EPRES to workers in 22 European countries and published the mean scores of workers in these countries. The present study sought to examine whether these measures of precarity are associated with the suicide rates of those countries.

Method

Data for the mean EPRES scores by country came from Padrosa, et al. (2021). The unemployment rate in the countries for 2024 came from the World Bank[16], while male and female suicide rates for 2019 came from Wikipedia[17]. Data were available for 22 countries.

Results and Discussion

The six scores for the subscales of the EPRES were subjected to a factor analysis using a principal components extraction and a varimax rotation. Two factors were identified (see Table 1). The factor scores for these two factors, along with the mean country scores for each subscale of the EPRESS and the unemployment rate were correlated with the male and female suicide rates of the countries (see Table 1)

The results are surprising. First, male suicide rates were not associated with any of the precarity scores or with unemployment rates. Female suicide rates, however, were negatively associated with one factor of the precarity constructs.

[16] data.worldbank.org/indicator/SL.UEM.TOTL.ZS
[17] en.wikipedia.org/wiki/List_of_countries_by_suicide_rate

Countries whose residents reported **higher levels of precarity** had **lower female suicide rates**.

Table 1: Factor analysis and correlations

	Factor 1	Factor 2	Pearson r with suicide rate	
			Male	Female
Temporariness	+0.14	+0.85#	-0.26	-0.30
Disempowerment	+0.89#	+0.01	+0.09	-0.54***
Vulnerability	+0.74#	-0.08	+0.29	-0.37*
Exercise of rights	+0.85#	-0.04	+0.01	-0.52***
Working times	-0.65#	+0.11	+0.15	+0.34
Wages	-0.28	+0.64#	-0.25	-0.05
Total precarity			-0.01	-0.58***
Factor score1			+0.06	-0.58***
Factor score2			-0.33	-0.29
Unemployment rate			-0.13	-0.09

* p<.10
** p<.05
** p<.01
# high loading

These results must be seen as interesting but as warranting further research. Lester (1996) has found that many variables predict suicide rates in countries and he prefers taking a large number of relevant variables and subjecting them to a factor analysis in order to identify more comprehensive (or abstract) socio-economic dimensions with which to predict suicide rates.

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BOREDOM AND SUICIDALITY: A PRELIMINARY STUDY

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Abstract: In a small sample, boredom scores were associated with depression scores but not with suicidal ideation.

George Sanders (1906-1972) became a famous film actor in the United States. Sanders predicted back in 1937 that he would die by suicide using an overdose. In 1970, his third wife died and, in the same year, his mother and brother died. Sanders became depressed and reclusive. He lost money in a failed investment and had a minor stroke. Sanders died by suicide on April 25th, 1972, from an overdose. He left two suicide notes, one of which read:

> Dear World, I am leaving because I am bored. I feel I have lived long enough. I am leaving you with your worries in this sweet cesspool. Good luck

The relationship between boredom and suicidal behavior has been largely ignored. On PsycInfo, suicid* plus boredom elicits two articles. De Souz Minayo, et al., (2016) explored the role of boredom in the elderly who attempt suicide. They found that attempted suicide occurred in the context of fragile social and familial relationships, social isolation, loneliness, experiencing a tedious lifetime, depression, abuse of alcohol and a negative perception of aging. Maltsberger (2000) presented the case of a 30-year-old who attempted suicide and who felt that life was boring, a purposeless burden, and without meaning.

A more meaningful discussion of boredom and suicide was presented by Velasco (2024) who noted that "dying of boredom" is treated as a joke rather than as a serious issue.[18] Boredom can kill though agency and passivity. Helplessness in the face of boredom can result in psychache (mental pain) and suicidal ideation,

[18] This article originally appeared in Spanish (Velasco, 2021). https://dependencia.info/noticia/4141/opinion/puede-uno-morirse-de-aburrimiento.html

and this was noted by Seneca, Kant, Gustav Flaubert and Émile Durkheim. Baudelaire, who attempted suicide at the age of 26, left a suicide noted for his mother that read: I kill myself because I find the tedium of going to sleep and the tedium of getting up unbearable. [19]

Velasco presented several cases of suicide in young people motivated by boredom, but noted that boredom can result in suicidal behavior also in the elderly. "Boredom.…is the breeding ground for both physical and mental problems that affect the development of life. Their suffering leads to states of anger, irritation and frustration, agitation and nervousness, sleep disorders, eating disorders, a decrease in functional abilities and perceived health, a feeling of loneliness, disinterest in the world, depressive symptoms, increased alcohol consumption and medication, episodes of violence and suicidal ideation, among many others. This rises exponentially in those who are institutionalized" (p. 99). Bargill (2000) reported the case of a 67-year-ol mother of eight children, married to a man who was emotionally abusive and cold, who had attempted suicide because she found her life empty and could find no relief from her boredom.

In an empirical study, Yusoufzai, et al. (2022) had undergraduate students watch videos that induced boredom, anger or were neutral. Those watching the boring video were more likely to administer mild electric shocks to themselves, especially those with a history of non-suicidal self-injury.

The present preliminary study was designed to explore whether boredom is associated with depression and suicidal ideation.

Method

A questionnaire was given to a convenience sample of 26 people, 20 women and 6 men, mean age 40.0 (SD = 13.4). The questionnaire contained the brief 8-item boredom scale devised by Struk, et al. (2017) and the short 13-item version of the Beck Depression Inventory (Luty & O'Gara, 2006).

Results and Discussion

The means scores (and standard deviations) and Cronbach alpha reliabilities for the scales are shown in Table 1.

[19] More generally, Britton and Shipley (2010) found that boredom was associated with a shorter life expectancy.

Table 1: Means scores and Cronbach reliabilities of the scales

Scale	mean	SD	Cronbach alpha
Boredom	22.19	9.35	0.894
Depression	5.88	5.77	0.906
Suicidal ideation item	0.12	0.33 (possible range 1-4)	

The correlation between the scores for boredom and depression was 0.68 (two-tailed $p<.001$). Item 7 of the depression scale measures suicidal ideation, and scores on item 7 were not associated with boredom scores ($r=0.12$), but the range of scores on item 7 was narrow.

In this preliminary study using a small sample, boredom was significantly associated with depression. The direction of this association is, of course, not ascertainable from this study. Both paths are possible (depression leads to boredom and boredom leads to depression) and there may be mediating variables. Further research is warranted on this topic.

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SUICIDE AND THE MENSTRUAL CYCLE

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Abstract: A good deal of research has explored the relationship between the incidence of suicidal behavior and the phase of the menstrual cycle.[20] I will review the research in this essay and explore its implications for our understanding of the sex differences in suicidal behavior.

Completed Suicides

McKinnon, et al. (1959) carried out autopsies on women who had killed themselves and found that the suicide rate was greatest during the mid-luteal phase of the cycle (days 17-23). The same distribution was found, however, for women who died from accidents and diseases. Ribeiro (1962) studied a small sample of Hindu women who had immolated themselves and found that 19 of the 22 were menstruating while two others were pregnant. However, Vanezis (1990) found no variation over the menstrual cycle in a sample of 50 suicides.

Behera, et al. (2019) compared suicides with those dying from other causes. Suicides occurred more often in the secretory phase (14 days after ovulation) and menstrual phase and less often in the proliferative phase (14 days after menstruation up to ovulation). Incidentally, the corpus luteum was present more often in the right ovary for the suicides.

Dogra, et al. (2007) compared suicides with women dying from other causes. More of the suicides were menstruating at the time of dying. Incidentally fewer of the suicides were pregnant. In a smaller sample, Leenaars, et al. (2009) also found that a higher proportion of the suicides were menstruating at the time of death compared to women dying from other causes.

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[20] The standard 28-day menstrual cycle is typically divided into the menstrual phase, days 1-5 (the bleeding phase); the follicular phase, days 6-14 (while the ovum is still contained within the Graafian follicle, ending with ovulation); and the luteal phase, days 15-28 (during which the corpus luteum is active). The late luteal phase, usually days 25-28, is also often called the premenstrual phase.

The consensus appears to be that the menstruating (bleeding) phase is over-represented in female suicides.

Attempted Suicide

Dalton (1959) investigated female attempted suicides and noted a peak in the attempted suicide rate during the bleeding phase, with subsidiary peaks during the premenstrual and ovulation phases.[21] Trautman (1961) also reported an excess of attempted suicide during the bleeding phase of the cycle.

Tonks, et al. (1968) examined female attempted suicides and found peaks around the bleeding phase and the ovulation phase, but Tonks's results were not statistically significant. Furthermore, they noted the number of days prior to the next period, and they used 28 days as the length of the cycle for all women, even for those with cycles longer than 28 days. This increased the number of patients supposedly attempting suicide 28 days before a period. These difficulties in assessing the exact days of the cycle are present in many other studies of this topic.

Baca-García, et al. (2000) compared attempted suicides with blood donors. The number of suicide attempts during the follicular phase (14 days prior to ovulation, particularly during the menstrual phase) was significantly higher than expected. Baca-García, et al. also reviewed previous studies and found that six studied found no relationship, five found a higher incidence of attempts during the premenstrual and fourth week, five found a higher incidence during the premenstrual and first week, and two studies found a higher incidence before or after menses (fourth and first weeks) and perimenstrual weeks. Baca-García, et al. (2001) found that the high rate of attempts during the follicular phase was higher in those with a history of an Axis-I psychiatric disorder and was lower in those with a personality disorder.

Papadopoulou, et al. (2019) studied women after a suicide attempt. They found that attempts were more frequent during the last 4 days of the luteal phase and during the 4 days of menses, with 59% of attempts to occur during those 8 days, regardless of diagnosis, violent versus non-violent method or first-time or repeaters.

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[21] Dalton also found a greater frequency of general psychiatric admissions, depression and schizophrenic attacks during this phase.

In a study of women admitted for a suicide attempt, Çayköylü, et al. (2004) found that the incidence of suicide attempts in the menstrual follicular phase was significantly higher than in other phases. The hormonal levels of the attempters did not differ from normal.

On the other hand, Buckle, et al. (1965) reported no variation in attempted suicide over the menstrual cycle, either for the younger or for the older females in the sample. Birtchnell and Floyd (1974, 1975) found no association between attempted suicide and the menstrual cycle in a sample of emergency room patients. Holding and Minkoff (1973) found no association between attempts at suicide and the phase of the menstrual cycle (even when age, pregnancy, suicidal intent, marital status and premenstrual symptom scores were controlled for). Pallis and Holding (1976) also found no variation in attempted suicide over the menstrual cycle. Ekberg, et al. (1986) found no association between the incidence of self-poisoning and the menstrual cycle, either for suicidal or non-intentional overdoses or for any of the particular toxic agents ingested.

Rosenthal, et al. (1972) found that wrist cutters were more likely to have irregular menses and to feel negative toward menstruation than females using other methods for attempting suicide.

Dalton noted that those women attempting suicide during the premenstrual and bleeding phases of the cycle were younger than the others. Tonks, et al. found that age, parity and premenstrual symptoms had no effect on the association. However, those women living with a man attempted suicide sooner after the first day of the menstrual cycle than those living alone. Tonks, et al. also looked at the association in different subgroups of the sample. They found that, for parous females (those with offspring) with premenstrual symptoms, suicide attempts were less likely premenstrually (as opposed to postmenstrually) than for parous females without premenstrual symptoms.

Pallis and Holding (1976) compared premenstrual suicide attempters with the other attempters and found no differences in age, marital status, depression or premenstrual symptom scores, but they did have higher suicidal intent. Birtchnell and Floyd (1974, 1975) compared attempted suicides and normal controls and found no differences in premenstrual disturbances, the number of days of bleeding or the number using birth control pills. The attempted suicides were more likely to have a regular cycle of 28 days, to be late for their next period, and to be pregnant. They were also younger and more likely to be unmarried.

Dong, et al. (2023) found that menstrual pain and daytime sleepiness (which were associated with each other) were associated with suicidal attempts and ideation in a sample of female adolescents. Chen, et al. (2017), in a study of female adolescents, found that menarche at ≤11 years was associated with increased risk of suicidal ideation, while menarche at 12 years was associated with having had a suicide plan. An irregular menstrual cycle was significantly associated with increased risk of suicidal ideation, and a menstrual period less than or equal to 4 days was significantly associated with increased risk of suicide plan. Associations of these variables with having attempted suicide were not statistically significant.

In a study of adolescents, Liu, et al. (2018) found that, after adjusting for adolescent and family covariates (age, body mass index, impulsivity, internalizing and externalizing problems, paternal education, and family economic status), onset of menstruation was significantly associated with increased risk of lifetime non-suicidal self injury (NSSI) and last year NSSI. Among adolescent girls who had menarche, often irregular menstruation and period pain were significantly and independently associated with lifetime NSSI and last year NSSI.

Comment

The results of this research are inconsistent with one another. It is also interesting to note that other features of menstruation (aside from the days of the cycle) appear to be associated with suicidal behavior.

Suicidal Ideation

Mandell and Mandell (1967) studied callers to a suicide prevention center and found an excess of females in the premenstrual and bleeding phases. Wetzel, et al. (1969) also studied callers to a suicide prevention center and found the women to be menstruating more often than one would expect by chance, but no increase in the likelihood of women calling during the premenstrual phase.

Wetzel, et al. (1971a, 1971b) also studied callers to a suicide prevention center. Compared to normal controls, the callers reported more premenstrual symptoms and more interference in their lives from the symptoms. Callers during the bleeding phase reported more serious suicidal behavior and higher suicidal intent. This was especially so if they had a history of suicide attempts. These women also more often reported having a family member who was depressed or suicidal. The callers to the center did not differ from women who had never sought psychiatric help in the incidence of dysmenorrhea.

Glass, et al. (1971) studied female psychiatric emergencies and found that the premenstrual females were more likely to have suicidal ideation.

Finlay (1970) found no differences in the incidence of dysmenorrhea in suicidal and non-suicidal college students. Park and Jung ((2021) in a large sample of South Korean women found that women with irregular menstrual cycles were more likely to have suicidal ideation than those with regular cycles.

Nagpal, et al. (2024) studied lifetime and recent stressors in women with past suicidal ideation who were followed up for three menstrual cycles with regular daily ratings. They found that greater lifetime stressor exposure predicted a more pronounced perimenstrual increase in serious suicidal ideation. Additionally, pre-menarche[22] stressors significantly increased the cyclicity of suicidal ideation compared to post-menarche stressors. Exposure to more interpersonal loss stressors predicted greater perimenstrual symptom change of suicidal ideation.

These results are not easy to summarize.

1. First, it appears that the research is inconsistent on the basic association. Some studies found an excess of suicidal attempts or suicidal preoccupation during the bleeding phase, three found a premenstrual increase and two found a luteal/ovulation phase increase. Interestingly, no studies report a decrease during these phases. Thus, we may conclude that the association is present but weak.[23]
2. The research also shows that a variety of other factors need to be taken into account, including parity, dysmenorrhea and amenorrhea, premenstrual symptoms, and days of bleeding. as well as psychiatric and socio-demographic variables.
3. The research also suggests the importance of measuring the serious of the suicidal intent as well as the actual occurrence of a suicide attempt.

Explanations

During the bleeding phase of the menstrual cycle, the levels of circulating estrogen and progesterone are low (Guyton, 1959), and during the mid-luteal phase

[22] Menarche refers to the first menstruation.
[23] We must remember that we do not know whether there is an excess of suicide attempts during the premenstrual and bleeding phases or a deficit during other phases of the menstrual cycle.

the levels of circulating estrogen and progesterone are high. Perhaps the level of these hormones is important in the timing of suicide attempts?

It has been proposed that the menstrual cycle is affected by the stress associated with suicidal behavior, reversing the cause-and-effect direction. It may be that the premenstrual phase is a trigger of acute psychiatric problems.

Pregnancy

This raises several interesting research questions. First, what is the suicide rate during pregnancy (when the estrogen level is low)? Rosenberg and Silver (1965) reported that the rate of completed suicide in pregnant women is low. They estimated that the completed suicide rate of pregnant women was about one-sixth of the expected rate. Barno (1967) estimated the suicide rate in pregnant women to be 0.03 per 100,000 per year as compared to a rate of about 6.0 for women in general. Lewis and Fay (1981) looked at 2.3 million births and found only six ante-partum completed suicides and eleven post-partum, evidence for the rarity of suicide in pregnant women.

Whitlock and Edwards (1968) reviewed estimates of the incidence of pregnancy among completed suicides, and these ranged from 3% to 20%, with 5% appearing to be the most reasonable estimate. For attempted suicides, the incidence of pregnant women ranged from on1% to 12%, with 6% appearing to be a reasonable estimate. They examined a sample of females who had attempted suicide and compared those who were pregnant with those who were not. The pregnant females who had attempted suicide were younger than those who were not pregnant but did not differ in marital status, religion or social class. Only about 47% of the pregnancies were conceived in wedlock by the husband. Of the 30 cases, the pregnancy played a precipitating role in five cases, a partial role in eight cases, and no role in 17 cases.

Of interest is the fact that attempts at suicide were equally common during the first two trimesters of pregnancy but rare during the third trimester. Rayburn, et al. (1984) found a higher incidence of women who had taken drug overdoses calling a poison control center during the first trimester than during the second and third trimesters.

The Contraceptive Pill

A second important question is the suicide rate of women on the pill. Lester (1969) suggested that the birth control pill could have an ameliorative effect on suicidal behavior in females, but had no evidence to support such a hypothesis. Birtchnell and Floyd (1974) found no differences in the use of the pill in samples of attempted suicides and normal controls. However, Kane, et al. (1966) reported using Enovid to successfully treat a suicidal psychotic woman.

Vessey et al. (1985) found that the attempted suicide rate in women on the pill did not differ from the rate of those using an intra-uterine device, although both of these groups had a higher rate than women using a diaphragm. The length of time on the pill was not related to the rate of attempted suicide.

Other Possibilities

Lester (1969a) also noted that the hormonal changes accompanying menopause might affect the incidence of suicide. Interestingly here, completed suicide rates for women do peak in middle age, and thereupon drop, while completed suicide rates in men continue to rise with age.

Winston (1969) noted that disturbance in the tryptophan metabolism along the kynurenine pathway was associated with mood changes (Dewhurst, 1968) and that these disturbances occur just prior to the onset of menstruation. He speculated that this may be the mechanism underlying the association between suicidal behavior and the phase of the menstrual cycle. However, this hypothesis requires evidence that the sex hormones affect the tryptophan metabolism.

Lester (198a, 1988b8) proposed a dopaminergic theory of suicide based upon a theory of depression put forward by Skutsch (1981) in which depression is caused by high levels of dopamine in the central nervous system. Skutsch hypothesized that estrogen suppresses dopamine release, leading to low levels of dopamine. Thus, when the level of circulating estrogen is low, depression and, therefore, suicide should be more likely, which is the case during the premenstrual and bleeding phases of the menstrual cycle.[24]

Struve (1985) found that attempted suicide was more likely in females with paroxysmal EEGs who had been taking oral contraceptives. Thus, the levels of

[24] Saunders and Hawton (2006) suggested that estrogen may impact the serotonergic system.

estrogen (or progesterone) may increase the risk of suicide in those with paroxysmal electrical activity in the brain (Lester, 1987b).

Broverman, et al. (1968) noted that females are better at tasks that are based upon past experience and which are evaluated in terms of speed and accuracy, while males are better at tasks which require inhibition or delay of initial responses to obvious stimulus attributes in favor of responses to less obvious stimulus attributes. They argued that these (and other) differences in perceptual motor functioning were a result of differences in the adrenergic and cholinergic neural processes. Lester (1974) rephrased this idea in terms of differences in the sympathetic and parasympathetic divisions of the central nervous system. These differences in the functioning of the autonomic nervous system may in turn be dependent upon the sex hormones.

Broverman, et al. argued that estrogens tend to increase the activity of the sympathetic division much more than androgens do. The sympathetic division has a mobilizing function and prepares the organism for action. (The parasympathetic division works toward protection, conservation and relaxation of the organism when action is not required.) Eysenck (1967) viewed sympathetic activity as the basis for neuroticism, and thus we might argue that the level of circulating estrogens affects the degree of neuroticism. Since the level of circulating estrogen is highest during the luteal phase of the menstrual cycle, suicide might be more common during this phase.

Thus, we can see that estrogens may be implicated in dopaminergic pathways in the brain, paroxysmal EEGs and the sympathetic division of the autonomic nervous system. At a more general level, sex hormones have been implicated in aggressive behavior (Berkowitz, 1962), and Lester (1987a) has discussed the evidence that suicide can be seen as an aggressive behavior. Scott and Fredericson (1951) have suggested that the sex hormones may have an impact by changing the sensitivity of organism to painful stimuli and, therefore, their response to these stimuli.

Thus, the possibility remains strong that the sex hormones do exert a physiological influence on the suicidal behavior, although the mechanism by which they do so remains unclear.

Of course, psychological explanations of the variation in suicidal behavior over the menstrual cycle can be proposed. Smith, et al. (2015) found that perceived burdensomeness (a risk factor for suicide) varied over the menstrual cycle in a

small sample of undergraduate women, greater during follicular phase than the luteal phase.

One final caveat is warranted here. It is important to show that the sex hormones affect suicidal behavior in particular rather than psychological disturbance in general. It will be of less interest if estrogens, for example, raise the level of general psychological disturbance as is proposed in the Eysenck/Lester hypothesis discussed above rather than having a specific impact on suicidal behavior.

Discussion

Although psychological explanations can be proposed for the sex difference in suicidal behavior, these explanations, if valid, do not eliminate the possibility that the sex hormones may have a direct physiological role to play in explaining the sex differences in suicidal behavior. Possible physiological mechanisms involving estrogens in particular are quite compatible with physiological theories of depression and suicide.

Final Comment

The research reviewed in this essay is persuasive in showing that suicidal behavior in women is impacted by the menstrual cycle. More research is warranted to explain why some studies find no association while others do report an association, and also into the physiological and psychological basses for the association.

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FEELING PRECARIOUS, DEPRESSION AND SUICIDE: THE DEVELOPMENT OF THE GPS-I SCALE

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Abstract: A scale to measure a feeling of general precariousness (GPS-I) was devised and its reliability and correlates explored. Scores for a feeling of precariousness were positively associated with scores for depression.

In recent years, interest has grown in the impact of uncertainty in employment. How precarious do people feel about their employment? Blustein, et al. (2025) reviewed research on *precarity* which they defined as "an overriding state of vulnerability, insecurity, lack of power and agency, and at times, existential threat" (p. 2).

Padrosa, et al. (2021) developed a scale to measure precarity about employment in individuals, the Employment Precariousness Scale (EPRES), which has several components: temporariness, disempowerment, vulnerability, exercise of rights, uncertain working times, and wages. Padrosa, et al. gave the EPRES to workers in 22 European countries and published the mean scores of workers in these countries. Lester (2025) found that the EPRES measure of precarity in this sample of European countries was, surprisingly, associated negatively with female suicide rates, but unrelated to male suicide rates.

However, people may have a sense of precariousness in areas other than employment, for example, their medical health, their romantic life and their mental state. The present study explored the development of a General Precariousness Scale (GPS-I).

Method

An 10-item scale was devised to measure precariousness in several areas of life (see Appendix) In a preliminary study, the scale was given to a convenience sample of 26 people (20 women and 6 men) with a mean age of 40.0 (SD = 13.4). The questionnaire also contained the brief 8-item boredom scale devised by Struk, et al. (2017) and the short 13-item version of the Beck Depression Inventory (Luty

& O'Gara, 2006). The mean scores for the scales and the Cronbach alpha reliabilities are shown in Table 1.

A principal components extraction with a varimax rotation for the ten items in the GPS-I identified four orthogonal factors dealing with medical health and long life, luck and chance, friends and, surprisingly earnings and romance loaded in opposite directions on the fourth factor. One item (I am uncertain whether I will find a permanent love relationship) appeared to have the lowest internal consistency with the other items and so was removed, leaving a nine item GPS (see Appendix).

Table 1: Means scores and Cronbach reliabilities of the scales

Scale	mean	SD	Cronbach alpha	Correlations with GPS-I
GPS-I	2.81	2.26	0.756	-
Depression	5.88	5.77	0.906	0.629*
Boredom	22.19	9.35	0.894	0.688*

* < .001

Scores for feeling precarious about aspects of life were positively associated both depression and boredom scores (see Table 1), but not with the item about suicidal ideation on the Beck Depression Inventory (r=-0.07).

Discussion

This preliminary study on a small sample resulted in the development of a 9-item scale to measure the general feeling of precariousness. Score of this scale were associated both with depression and boredom. Further research in planned to explore the reliability and validity of the GPS-I.

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Appendix: The GPS-I items (answered yes/no)

1. I am not sure that I will be able to earn enough for me to have a comfortable life
2. I worry that I may develop unexpected medical illnesses
3. Many things that happen in my life seem to be a result of good or bad luck
4. I sometimes wonder if I will find good and trustworthy friends
5. I sometimes doubt that I will live a long life
6. Many times, I might just as well decide what to do by flipping a coin
7. To a great extent, my life is controlled by accidental happenings
8. I often worry whether a medical crisis is just around the corner
9. When I fail at things, I find that it's useless to try again because my luck never changes.

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A REVIEW OF RESEARCH ON SUICIDE IN 2007

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This and my earlier reviews would not be possible without the assistance of Susan Bucikowski who locates many of the articles reviewed here for me. Thank you, Susan.

From 1897 (the date of the publication of Durkheim's book on suicide) until 1997, I read *every* article in English on suicidal behavior and wrote reviews of the literature in four books called *Why People Kill Themselves*, published by Charles Thomas. Recently, I have been reviewing research and theory on suicide year-by-year, but not exhaustively.

I realized that I was primarily interested in completed suicide, not suicidal ideation, nor attempted suicide. Therefore, I began to classify the research into that which was useful for understanding suicide and that which was not useful. As I have pointed out, in 1979, Aaron Beck and I proposed that one needed to classify attempted suicides by intent so that one could extrapolate to completed suicide (Lester, et al., 1979).

I thought about excluding research that did not do this, but I do have obsessive-compulsive tendencies. Therefore, I have reviewed all of the research that I read, but I do classify the research that does not permit extrapolation to completed suicide as of *no use for understanding suicide*. I do not mean to offend the researchers involved, but their research does not advance our understanding of completed suicide. Included in that category is all physiological research, which is often published as a by-product of a larger study and which is oriented toward identifying medications that might be of use. You will see that some of my research is in the *no use* section.

I should note that some of the intriguing research and theories that I found during the period 1897-1997 were in obscure journals and surprising places, sources that are not covered in these present reviews. For example, I found Raoul Naroll's theory of suicide in a mimeographed paper and a book entitled *Data Quality Control* (Glencoe, IL: Free Press, 1962)!

The reviews of scholarly research published in 1998-2006 are published (Lester, 2024a, 2014b, 2024c, 2024d, 2024e, 2024f, 2024g, 2025a, 2025b). This is the review for 2007. I have used only two abstracting services for 2007 – see below.

Source	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sociological Abstr.	93	106	55	56	67	62	64	107	117	107
PsycINFO	401	460	388	425	441	510	541	592	726	784

I am getting discontented with the research that I am reading. Because researchers do not know of, or search for, papers published before, say, 2010, the research is often a repeat of research published in the 1900s. My paper with Aaron Beck in 1974 on the hopelessness scale, as it is now known, is approaching 9,000 citations. Okay, we know that hopelessness (as well as depression) is associated with suicidality. Study different variables. I have to decide whether to review research on suicidal ideation and attempted suicide in the year 2008. We'll see.

RESEARCH POSSIBLY OF USE FOR UNDERSTANDING SUICIDE

Studies of Suicide Rates and Suicidality

Methodological Issues

Nakagawa, et al. (2007) found that year-to-year declines in the Japanese suicide rate were associated with the increase in prescriptions of antidepressants and not associated with unemployment and alcohol consumption. Therefore, in time-series (and ecological) studies, SSRI prescriptions should be controlled for.

Baldessarini, et al. (2007) reviewed ecological studies on the role of antidepressants in reducing suicide rates.

Gallagher and Dobrin (2007) discussed the problem of calculating suicide rates in prisoners (which would also apply to psychiatric inpatients), comparing rates per based on beds versus rates based on persons. The methodology in these situations is impacted by the length of time that the prisoners were in the institution. In the general population, the number of suicides in a year can be divided by the total population at the beginning of the year to give a rate of x per 100,000 per year. In prisons, prisoners are entering the prison and leaving the

prison throughout the year. It was nice to see Florence Nightingale (1863) cited as providing relevant data on this issue.

Verger, et al. (2007) found that GPs missed suicidal ideation in 48% of their patients compared to the patient's self-report. The GPs did better if they had completed continuing medical education about depression, when patients had higher depressive symptom scores, and when consultations were relatively long.

Pritchard and Amanullah (2007) suggested that *other violent deaths* in the ICD-10 may include hidden suicides. For the ten Western countries for which they reported suicide rates and OVD rates, I found no association between suicide rates and OVD rates for men or women (r's=-0.012 and -0.023, respectively). For 16 Muslim majority countries for which they report rates, I found no significant association for men or women (r's=0.28 and 0.15, respectively). To give examples, while Qatar reported a zero male suicide rate, they reported a male OVD rate of 420 per million per year. On the other hand, while Syria reported a male suicide rate of 2, their OVD rate was only 1.

Burrows and Laflamme (2007) documented the misclassification of suicides in South Africa, thereby leading to an under-estimation of the suicide rate.

Theory

Yang and Lester (2007) found that, contrary to commonly made claims, suicides save the society money.

Bradatan (2007) looked at the suicide rate in Romania and found that there was support for Durkheim's theory of suicide (Durkheim (1897) and that of Masaryk (1970; Lester, 1999).

Graeff and Mehlkop (2007) argued that it makes sense to calculate the average suicide rate of a country (they used the geometric mean) and explain deviations from this mean. They studied 55 countries at five time points, but it unclear exactly which data they studied. Deviations appeared to be associated positively, with unemployment and wealth and negatively with the size of the government and communication processes. However, they do not present their analyses clearly. Furthermore, studying correlations for deviations from the mean should give similar results to correlations with the actual score. Graeff and Mehlkop did not compare these two possibilities

Regional Studies

For nine major regions of the world, Templer, et al. (2007) found that suicide rates were positively associated with estimates of regional IQ while homicide rates were negatively associated with estimates of regional IQ.

In several multinational data sets, Voracek (2007a) found no association between estimates of national IQ and the incidence of suicidal ideation, plans or attempts. The association between rates of completed and attempted suicide were positively associated in one data set and negatively in another data set. The samples in these correlations were quite small.

Using a different measure of intelligence, Voracek (2007c) found that estimates of IQ and suicide rates were positively associated in a sample of European countries.

In a sample of European countries, Voracek, et al. (2007b) found that longitude and latitude (used as substitute measure of the Finno-Ugrian population in Europe) was associated suicide rates. The same was found for 89 regions of Belarus, Ukraine and Western Russia.

In samples of various countries and in the states of the United States, Voracek (2007b) found that suicide rates found that countries with a higher pace of life had higher suicide rates, while American states with a faster pace of life had lower suicide rates. Across countries, suicide rates were associated with affluence, higher intelligence and being less friendly and, again with opposite associations across the American states.

In 12 countries, Cutright, et al. (2007) found that married women had lower suicide rates than not-married women at most ages. Over the 12 countries, the suicide of both groups were positively associated with female labor force participation, and negatively with estimates of disapproval of suicide and the degree of publication of religious books. In a study of 12 developed countries, Cutright and Fernquist (2007) explored three hypotheses for lower suicide rates in those who are married. In a methodology typical of this team, their statistics are unnecessarily complex and raise the question of whether simpler statistics failed to produce the results that they desired. They found that social integration, marital status integration and a national measure of suicide acceptability all were associated with *male and female standardized suicide difference coefficients*. One

can only assume that the three hypotheses were confirmed for suicide rates as the dependent variable.

In a totally incomprehensible article, Helliwell (2007) claimed to present data from 50 countries showing that more social capital and higher levels of trust were associated with lower national suicide rates, and there was a negative correlation between suicide rates and measures of life satisfaction. However, he does not make it clear whether his study is ecological (over countries or regions of the countries?) or time series (let alone how many regions in each country or over what time period), and what were the variables studied (and their source).

In samples of industrialized countries, Voracek and Tran (2007) found that measures of tryptophan intake were negatively associated with suicide rates, even after controls for national affluence, total alcohol consumption and happiness levels. The result was found for male and female suicide rates and for elderly suicide rates.

In a sample of 66 countries, Shah (2007) studied the association of suicide rates by sex of those 65-74 and 75+ and the average annual growth rate and the average annual change in the consumer price rate. The only correlation was a positive one between the suicide rate of men aged 66-74 and average annual change in the consumer price rate.

Regions within a Country

In a poorly presented and statistically obscure article, for the 22 regions of France, Bellanger, et al. (2007) factor analyzed a set of socio-economic variables and found two factors: (1) wealth, youth and population density, and (2) income inequality, unemployment and health status. These variables were not associated with male suicide rates, but female suicide rates were higher where the region was poorer, the populations older and less healthy, and with a lower population density, less income inequalities and use of social benefits. The female suicide rate was positively associated with economic inequalities and alcohol withdrawal drug prescription rates. The male suicide rate was positively associated with the unemployment rate and negatively with the prescription rate for lithium.

For the 42 counties of Romania, Voracek, et al. (2007a) found that the suicide rate was predicted by the percentage of Hungarians (supporting the Finno-Ugrian hypothesis) and life expectancy out of a set of 20 socioeconomic variables.

For the 95 provinces of Italy, Gatti, et al. (2007) found that suicide rates were negatively associated with homicide rates, were higher in the northern regions, and were positively associated with civicness (voter turnout, newspaper reading, and number of clubs and associations), GDP, being separated and percentage of elderly, and negatively with unemployment and percentage of young people.

Voracek (2007d) replicated the association of intelligence and suicide rates across the states of the United States using data from the early 20th century as did Voracek (2007g). Voracek (2007f) found a positive association for the regions of Australia. A synthesis of studies in several countries indicated that positive ecological correlations of intelligence with the suicide rate were more likely observed for nations with higher suicide rates and poorer general living conditions. However, Voracek (2007e) found that the association between estimates of IQ by state and suicide rates could be positive, negative or zero depending on how the state estimates of IQ were measured.

In a study of American cities, McCall and Tittle (2007) found no association between city population size and suicide rates. Regarding an association between changes in size of city populations and change in suicide rates, no association was found for logged population size, but there was a significant negative association using percentage population change.

In a study of 23 cities in Taiwan from 1983-2001, Chuang and Huang (2007) found that:"The level of income per capita in a region appears as the most important predictor of suicide rates. However, some sociological correlates (such as divorce rate) which were less powerful in explaining suicide rate variations in the earlier study appear to exert more significant influence over suicide rates when eight more recent years of information are added, as in the current study. This study also uncovered several gender differences in the determination of regional suicide rates, such as the proportion of elderly population in the region, and the impacts of earthquake and unemployment. Furthermore, this study confirmed the linkages between natural disaster (earthquake) and suicide, between economic and social miseries (unemployment and divorce, respectively) and suicide, as well as those between demographics (aboriginal and elderly sub-population groups) and suicide" (p. 465).

In a study of 269 metropolitan statistical areas in the United States, Wadsworth and Kubrin (2007) found that Hispanic suicide rates were associated positively with white/Hispanic inequality, Hispanic cultural assimilation, Hispanic

mobility, Hispanic divorce rates and the percent born in Cuba, and negatively with Hispanic affluence, the percent born in Puerto and the percent born in the Dominican Republic. The associations were similar, but not identical, for those born abroad and those born in the United States.

In New Zealand, Pearce, et al. (2007b) found that suicide rates for men aged 15-44 increased more during 1980-2001 in health districts that were more socioeconomically deprived.

In a study of the American states, Bridges (2007) found that homicide rates using different methods were positively associated, but not suicide rates. For suicide rates, the more firearms and poisons were used, the less hanging and other methods were used.

Regions within a State or Province

In a study of census districts in British Columbia (Canada), Hallett, et al. (2007) assigned each of 152 aboriginal bands to a census district. They used seven measures of cultural continuity factors. The percentage of aboriginal people knowing their language was negatively associated with the youth suicide rate. The youth suicide rate was also negatively associated with number of the six other cultural factors present.

Time-Series Studies

In Denmark, Nordentoft, et al. (2007) found that detoxifying domestic gas and car exhaust and restricting the sales of barbiturates resulted in declines in the use of these methods for suicide and a 55% decrease in the total suicide rate.

In Alberta (Canada), Zalcman, and Mann (2007) found that the privatization of liquor sales in Canada increased suicide rates. Unemployment rates and membership in Alcoholics Anonymous also contributed to the regression analysis for both men and women and alcohol consumption for women.

In a time-series analysis of suicide rates and unemployment rates in one prefecture in Japan, Inoue, et al. (2007a) found a significant association only for male suicide rates.

Bramness, et al. (2007) found that, over time in Norway from 1980-2004, as sales of non-tricyclic antidepressants increased, suicide rates decreased, even after

controls for unemployment and alcohol consumption. A similar association was found across the Norwegian counties.

Morrell, et al. (2007) claimed that the decline in suicide rates among men aged 20-24 in Australia was the result of a national suicide prevention program and not changes in the unemployment rate, but their statistical manipulations are so devious that one doubts the validity of their conclusion.

In a mixed ecological/time-series studies of 8 countries and 8 time periods (a bad technique), Fernquist (2007) found that male suicide rates were predicted by the cirrhosis death rate, the divorce/marriage ratio and unemployment, while female suicide rates were predicted by the cirrhosis death rate, the divorce/marriage ratio and education, indicating that Durkheim's theory may still apply even after controls for alcoholism and depression (using a proxy measure of life satisfaction).

In a time-series study of Belarus in 1970-2005, Razvodovsky (2007) found that the suicide rate was associated with the alcohol-psychosis morbidity rate.

For England 1960-1975, Lester (2007b) found that the suicide rate declined over the 15-yr. period as did the toxicity of domestic gas, while the number of suicide prevention centers increased as did social stress (indicated by divorce and unemployment rates). It is, therefore, difficult to decide which of these factors was mainly responsible for reducing the English suicide rate.

Research on Distal Variables

For suicides in Singapore, Loh, et al. (2007) found higher rates in Indians, then Chinese and lowest in Malayans. There was no monthly variation and no higher rate on national holidays. They claimed that suicide was associated with unemployment but not with GDP growth rate or the stock market index, but I do not see appropriate statistics for these assertions.

Climate

In an incomprehensible paper, Preti, et al. (2007) claimed that there were links between anomalies in monthly average temperatures (deviations from the mean) and the number of monthly suicides registered in Italy over the period 1974-2003, leading them to conclude that global warming was causing higher suicide rates!

In a seven year period in one prefecture in Japan, Inoue, et al. (200c) found no association between the annual male suicide rate and the annual average atmospheric pressure, temperature, humidity, rainfall or daylight hours. However, the female suicide rate was positively associated with rainfall and almost significantly with daylight hours. It is puzzling that annual average daylight hours differed over the seven years.

Season

In Slovenia, Oravecz, et al. (2007) found that suicides peaked in May and June, but the seasonal variation grew less over time (1971-2002). The amplitude of the seasonal variation was positively related to suicide rates, but statistically significant only for females.

Rocchi, et al. (2007a) reported a consistent Spring peak in suicides in Italy. They also claimed that "an anticipation of the peak was observed in both males and females over time, with amplitude increasing or decreasing as a function of yearly suicide rates" (p. 129), but I could not work out from their paper what this meant.

In a study of all suicides in Italy, Rocchi, et al. (2007b) classified the reasons for suicide as: psychiatric illness, economic, somatic, sentimental and unknown. Psychiatric illness was the most common, and females had this reason more than did males. The seasonal variation in suicide varied by reason. For example, psychiatric suicides peaked in July while somatic suicides peaked in May and June.

Benedito-Silva, et al. (2007) found a Spring/early summer peak of suicides only in the southern regions of Brazil (corresponding to the regions with the highest latitude).

Lester and Moksony (2007) reported a Spring peak for suicides for 1930-1938 in Hungary, stronger in rural regions than in urban regions.

Clusters

Exeter and Boyle (2007) identified four clusters of suicides of adults aged 15-44 in Scotland (divided into 10,508 regions) in 1980-2001, three in east Glasgow and one in Midlothian. They suggested that the clusters were not geographically contagious, but explained by the concentration of deprivation in the

areas. There was some clustering for methods of suicide, but the age and sex of the suicides was not examined.

Urban-Rural Differences

Pearce, et al. (2007a) found that both male and female suicide rates in New Zealand were significantly higher in urban than rural areas in 1980–1982, whereas by the end of the 1990s, urban/rural differences in suicide rates were not significant The narrowing of urban/ rural differences was, to some extent, a result of the growth in suicide rates in more isolated rural communities.

Birthday Blues

Reulbach, et al. (2007) studied suicides in Bavaria (Germany) and found no association between the day of the suicide and the birthday.

Occupation

Scoville, et al. (2007) found lower suicides compared to the general population in enlisted recruits in the U.S. armed forces. The rate was higher in the army and the air force than in the navy and marines.

Agerbo, et al. (2007a) looked at suicide rates by occupation in Denmark, finding high rates in doctors and lower rates in architects and engineers. They noted that doctors have access to lethal medications which they commonly use. Females working in male dominated occupations were at higher risk compared with females working in female-dominated occupations. Farmers used firearms more often for suicide but soldiers did not.

Kaplan, et al. (2007a) found that American veterans who were white, those with ≥12 years of education and those with activity limitations (after adjusting for medical and psychiatric morbidity) were at a greater risk for completing suicide.

Michel, et al. (2007) found a lower suicide rate in former Swedish peacekeepers than in the general population.

Heller, et al. (2007) found a high suicide rate in Australian building industry workers. For the young suicides (15-24), the building worker suicides, as compared to other young suicides, more often had untreated psychiatric conditions, had relationship problems, and were separated/divorced

Ethnicity

Shoval, et al. (2007) documented high suicide rates among immigrants from Ethiopia to Israel.

Celebrity Suicides and the Media

Cheng, et al. (2007b) found an increase in suicide attempts in the 17 days after a celebrity suicide in Taiwan. Furthermore, in interviews with a sample of attempters, 23% admitted being influenced by the celebrity suicide, especially males and those who had made prior attempts.

Stack, et al. (2007) reviewed the evidence that the song *Gloomy Sunday*, released in 1936, and later again in 1941sung by Billie Holiday, resulted in an increase in suicides. As a result, the song was banned from the radio in the USA and the UK.

Niederkrotenthaler and Sonneck (2007) found that media guidelines for reporting on suicide in Austria in 1987 led to a reduction in suicides, especially for Viennese subway suicides and in regions with heavier coverage by newspapers.

Methods for Suicide

Liu, et al. (2007) found that, after the first reported case of suicide using charcoal burning in Hong Kong in 1998, the use of this method rose dramatically in Hong Kong and in Taiwan, and the total suicide rates in these two countries rose.

In a study of 22 cantons in Switzerland, Reisch, et al. (2007) found that the suicide rate was associated only with the percentage of Catholics in the canton. The suicide rate by jumping was associated population density, unemployment, and the percentage with no religion. Cantons with bridges had more suicides by jumping, but the total suicide rates were no different from those in cantons with no bridges.

Kapusta, et al. (2007) found that passage of a strict firearm law in Austria results in a decrease in firearms suicides but did not impact the total suicide rate.

Lewis, et al. (2007) reported on 16 aircraft-assisted pilot suicides, 15 by crashing the aircraft and one by exiting the aircraft.

Thombs, et al. (2007) studied suicide by burning in America. The rate of suicide by burning was highest between 30 and 59 years whereas the rate by all methods is highest for ages 70+. Of patients admitted to burn centers with large self-inflicted burns (total body surface area >20%), 59% live. The most common psychiatric disorders were psychosis and/or a substance abuse/dependence disorder.

Pelletier (2007) noted that installation of a safety fence on a bridge in Maine (USA) eliminated suicides from the bridge without suicides by jumping elsewhere increasing.

Bennewith, et al. (2007) found that fencing the Clifton Suspension Bridge in Bristol (England) cut the number of suicides from the bridge without any evidence of an increase in suicide by jumping from other sites.

Lester (2007a) reviewed research that indicated that men and women jump from similar heights in their suicidal actions, but women are more likely to survive.

Yip and Lee (2007) found that increase in suicides using charcoal burning led to an increase in the suicide rate, indicating that substitution of methods did not occur.

> The charcoal-burning suicide victims were predominantly aged 25–54, mostly men, unmarried, and had no history of substance abuse or other mental disorders. They were more likely to have premeditated the suicide, acted in advance, and demonstrated a strong degree of suicidal in tent. Of the cases studied, 95% were committed at a time when discovery was unlikely, 76% were performed at a place with no one nearby, 44% took active precautions against discovery, and 81% had prepared a will or made similar arrangements prior to the act. Suicide notes were left by 65%; by contrast, only 25% of those who died by suicide in 1997 left notes. A striking 58% were in financial trouble with an insurmountable debt, whereas only 13% of all suicide deaths in 1997 were debt related (p. 22).

Imitation

McKenzie and Keane (2007) found significant space-time clustering in suicides in 90 British prisons over 10 years, but not for natural deaths.

Other Distal Variables

Gibbons, et al. (2007) explored the impact of warnings about suicide posted for SSRIs on suicide in children and adolescents. SSRI prescriptions for youths decreased by approximately 22% in both the United States and the Netherlands after warnings were issued. In the Netherlands, the youth suicide rate increased by 49% between 2003 and 2005 and showed a significant inverse association with SSRI prescriptions. In the United States, youth suicide rates increased by 14% between 2003 and 2004.

Page, et al. (2007) documented changes in urban and rural suicide rates in Australia over time and by sex.

In one region of Japan, Inoue, et al. (2007b) found differences between male and females suicides and elderly versus younger in the reasons for suicide and for accompanying medical conditions. However, they did carry out any statistical analyses. It is noteworthy that Japan is the only country which officially records record the reason for the suicide.

During an anti-alcohol campaign in Estonia during 1985-1988, Värnik, et al. (2007) found that per capita alcohol consumption dropped and fewer suicides had blood alcohol, but these variables both increased from 1989 on. It is not clear if every suicide was tested for blood alcohol and, therefore, the impact on suicides as a whole.

Discussion

These primarily sociological studies of suicide rates can be interesting, but they do not seem to increase our understanding of suicide rates. The research reviewed does not appear to test any particular theory of suicide. It would be better if competing theories of suicide could be stated precisely, and research designed to compare and contrast these theories of suicide.

Studies of Suicides

Methodology

Gosney and Hawton (2007) reviewed inquest verdicts on deaths of youths aged 8-18. Of 20 probable suicides, only 7 received a verdict of suicide. The others were labeled as open verdict (n=6), death by self-hanging classified as misadventure (n=6), and overdose with a verdict of accidental death (n=1). This suggests that official British rates of suicide are gross under-estimates.

Phillips, et al. (2007) found that an expanded probe into the depression of suicides in China using interviews with informants revealed more cases of depression than the standard probe, and the inter-judge reliability was higher for the expanded probe. The suicides were, as expected, more depressed than those dying of injury or mental illness (undefined). The correlates of depression in the suicides differed for the two types of probe.

Typologies

Fortune, et al. (2007) studied a small sample of adolescent and young adult suicides and described three types. "Group I characterized by longstanding difficulties which spanned the developmental domains of home, school and peers. The suicidal process was longstanding, and included deliberate self-harm prior to their death and direct communication to friends and family about suicidal ideas and plans. The second group was characterized by evidence of an established psychiatric disorder. Two subgroups were identified, namely those individuals with a protracted suicidal process which lasted approximately 5-9 years, and those with a brief suicidal process lasting approximately one year. The third and smallest group was characterized by the emergence of the suicidal process as an acute response to life events among young people who appeared to have previously been functioning well, without apparent mental illness or known self-harm. However, two out of five in this group communicated specific suicidal intent in the weeks before their death" (p. 199).

In a study of suicides, Séguin, et al. (2007) identified two types: Two distinct life trajectories emerged: "(1) individuals who experienced childhood traumas, developmental adversity and little protection were more likely to present concurrent psychiatric and Axis II disorders; and (2) individuals who experienced less adversity but seemed more reactive to later major difficulties" (p. 1575).

In a study of suicides in Hong Kong, Chen, et al. (2007b) identified two types: (1) suicides associated with charcoal burning, no psychiatric illness, indebtedness, better problem-solving ability, chronic stress, and higher overall suicidal intent scores, and (2) suicides associated with jumping from a height,

psychotic disorders, psychiatric treatment, acute stress, and lower overall suicidal intent.

Theories of Suicide

- Reeves, et al. (2007) proposed a theory of suicide linking allergies, alcohol and suicide. There is evidence that there is an association between allergic inflammation, depression, and suicide, and it has been proposed that seasonal allergies may contribute to the seasonal variation in suicides. Reeves, et al. proposed that allergic inflammation influences depression-related brain function via molecular and cellular mediators, but those mediators have a very limited access to the brain when the blood-brain barrier is intact. Alcohol intake disrupts the blood-brain barrier, allowing increased brain exposure to cellular mediators of allergy.

Knizek and Hjelmeland (2007) suggested viewing suicide as a communication and reviewed several models of communication that could be used, such as viewing the suicidal communication as assertion of a situation, directives (forcing the reader to do something), commissive (asking the reader to do something) and expressive.

Sher (2007) raised the possibility that selenium deficiency may play a role in suicidal behavior.

Bolton, et al. (2007) applied Williams' (1997) *Cry of Pain* theory of suicide to schizophrenia.

Suicide Notes and Letters

In a linguistic analysis of a series of letters written by a young man who died by suicide to a friend over a period of two years prior to his death, Barnes, et al. (2007) found several trends, including a decrease in negative emotion words and an increase in death words.

Jones and Bennell (2007) studied Shneidman and Farberow's 33 pairs of genuine and simulated notes and found nine differences. The genuine notes had shorter sentences, and more words, positive affect and instructions.

Handelman and Lester (2007) compared suicide notes left by competed suicides and by attempted suicides using a linguistic word count program (LIWC).

Notes from completed suicides had fewer metaphysical references, more future tense verbs, more social references (to others) and more positive emotions than did the notes from attempted suicides. These differences suggest that the attempted suicides were in greater psychic pain and more concerned with their own present condition and less concerned with others.

Hokans and Lester (2007) found that, in a sample of suicide notes from adolescents ages 14 to 18 years, younger adolescents reported more social isolation from their families than older adolescents.

In a study of the motivational content of suicide notes, Rogers, et al. (2007) found that psychological motivations were the most common, followed by relational, spiritual, and somatic concerns. Notes of completed suicides included more relational motivations than did those of suicide attempters, and older writers of notes had more psychological and fewer spiritual motivations than did younger writers.

Physiological Studies

Malone, et al. (2007) found that platelet 5-HT2A receptor responsivity in high-lethality depressed suicide attempters was 41% that of low-lethality depressed suicide attempters.

Youth Suicides

Else, et al. (2007) studied attempted suicide in youths and suicide rates in Hawaii. They found that all indigenous Pacific Islander populations showed patterns of higher suicide rates with highest rates for males ages 15–25 and a peak at ages 20–25. The peak in the elderly found in Caucasians was not found for Pacific Islanders. In a sample of Hawaii youth, Else found many correlates for attempting suicide, but failed to either report a multiple regression or carry out a factor analysis of the predictor variables.

In a study of the autopsies of suicides under the age of 19, Garlow, et al. (2007) found that white suicides had more often used cocaine and alcohol than the black suicides. For the older suicides, the reverse was found for the use of cocaine.

In a 35 year follow-up of Finnish adolescents, Riala, et al. (2007a) found that daily smoking in adolescence, along with psychiatric disorder, predicted male

suicide during the follow-up, but not female suicide. The same differences were found in surveys of suicidal ideation and attempted suicide.

In a study of adolescent suicides, Kwan and Ip (2007) found that immigrants to Hong Kong who had been in Hong for 10+ years had higher suicide rates than those born in Hong Kong. This was not true for more recent immigrants

Adult Suicides

In an American national sample of non-institutionalized adults, Kaplan, et al. (2007c) found that those who died by suicide versus the rest (dead from other causes or alive) were more likely to be male, have higher income, living in the South, veterans of military service, in poorer health (poorer self-rated health, physical illness, and reported psychiatric morbidity) and report functional impairment, and less likely to be obese.

Andersen and Hynnekleiv (2007a, 2007b studied suicide in a rural community since 1845 and found a typical Norwegian suicide rate, indicating that endogamy had no impact on suicide rates. However, being a descendent of three psychiatrically disturbed founders of the community, especially a descendant of all three, did increase the risk of suicide.

Nakaya, et al. (2007) surveyed adults aged 40-79 in a region of Japan and followed them up seven years later. Those who drank were more likely to die by suicide, and the relationship between the amount drank and suicide risk was linear.

In a sample of Austrian suicides, Deisenhammer, et al. (2007) studied contacts with physicians in the year prior to their suicide. Contacts with any physician and general practitioners increased over the year, especially in men and in those older than 60 years. For female suicides, contacts with psychiatrists increased until one quarter before suicide and then declined before the suicide. Contacts with more than one general practitioner per quarter occurred significantly more often in the final quarter before the suicide, especially in those older than 60 years. Deisenhammer, et al. suggested that this may have been doctor shopping, searching for adequate help.

Yip, et al. (2007) compared suicides in Hong Kong with and without debt. Those with debt were more often male, middle-aged, divorced, gamblers, left a suicide note and employed, and less often had psychiatric problems and medical problems.

In a national sample of American suicides, Kaplan, et al. (2007b) found that BMI was negatively associated with suicide. “For each 5 kg/m2 increase in body mass index the risk of suicide decreased by 18% and 24%, for men and women, respectively” (p. 948).

Stack and Lester (2007) using a national sample of suicides and those dying in motor vehicle accidents found that female suicides (but not male suicides) had higher BMI, but not after controls for race and other covariates of BMI, The results were similar for ectomorphy scores. The best predictors of suicide were living alone for females, and alcohol abuse for males.

Palacio, et al. (2007) compared suicides in Columbia with those dying from accidents. The suicides more often had adverse life events in the last six months, a family history of suicide, major depressive episodes and expression of a wish to die.

Chan, et al. (2007c) compared suicides in Hong Kong who were unemployed or underemployed with comparable living people who were unemployed or underemployed. The suicides were more often male, had psychiatric illness, had made prior suicide attempts, and had acquired less competent social problem solving skills.

Orbach, et al. (2007a) studied the last days of the lives of Israeli soldiers who died by suicide:

> Four types of narratives were identified: regressive, stable, tragic (progression and sudden collapse), and romantic (ups and downs). During the last days of life, suicide completers exhibited a split between an emotional state of mind (evidencing an emotional deterioration) and a behavioral military functioning which was mostly stable. (p. 909)

Racette and Sauvageau (2007) compared planned and unplanned complex suicides (defined as the use of more than method of suicide) and simple suicides. The complex suicides were more often males, and the average age was higher for the planned complex suicides. The groups did not differ in leaving a suicide note or previous attempts at suicide.

Dogra, et al. (2007) compared female suicides with women dying of other causes. Of the suicides, 55% were menstruating compared with only 7% of the controls.

Tsutsumi, et al. (2007) followed up a large sample of employed Japanese males for nine years. The suicides during the follow-up more often had low control at work (after adjustment for age, marital status, educational attainment, occupation, smoking status, alcohol consumption, total cholesterol level, and study area) but not more job demands.

Rockett, et al. (2007) looked at American death certificates for suicides and unintentional injury deaths. For the suicides, men and women were similar in mental and physical conditions noted. The suicides had higher comorbidity for depression and mood disorders, schizophrenia and cancer, but unexpectedly no excess comorbidity for HIV.

Tadros and Salib (2007) compared elderly (>65) and younger suicides in England who had been seen in primary care. The older suicides more often had depression and physical illnesses and had more often seen their GP in the prior six months and less often had psychiatric symptoms.

Koponen, et al. (2007) compared elderly (>65) and younger (18-64) suicides in northern Finland. The elderly suicides used more violent methods and were less often under the influence of alcohol. The elderly suicides had a high prevalence of previous hospital-treated depressive episodes and hospital-treated physical illnesses, especially genitourinary diseases, injuries or poisonings after their 50th birthday.

Joe, et al. (2007c) compared white and African American suicides using firearms versus other methods for suicide. The use of firearms was more common for African Americans. Whites who had more than a high school education, who did not use antidepressant medication or mental health services, who had a firearm in the home, who lived in urban (65.6%) and Southern geographic areas were more likely to use a firearm to die by suicide than other Whites. For African American suicides, users of a firearm were more often male, did not use antidepressant medication or mental health services, had a firearm in home, and lived in the South.

Hendin, et al. (2007) had psychotherapists write up cases of their patients who died by suicide and depressed patients who did not. Of nine emotions rated by

the psychotherapists, the suicides were characterized more often by intense desperation, hopelessness and feelings of abandonment, but also self-hatred, rage, anxiety, loneliness and guilt, but not humiliation.

In a study of suicides in Turkey, Oner, et al. (2007) found a high suicide rate in those aged 15-24. The most frequent reasons for suicide were illness and unsatisfactory relationships. Women died by suicide more because of unsatisfactory relationships, whereas for men it was illness.

Mukamal, et al. (2007) followed a sample of American men for 16 years. Suicide during the follow-up was associated with the quantity of alcohol drunk per drinking day (more than 2 drinks was significant), especially for those using a firearm for suicide. Average alcohol consumption, drinking frequency and binge drinking did not predict suicide.

Stack and Wasserman (2007) explored the types of economic strain in suicides. They found that:

> a goal blockage occurred in 18 cases [out of 62 suicides], typically based on a gap between desired and actual income; evidence was found for shortfalls in retirement income contributing to suicide risk; and loss of a job was the dominant form of economic loss (33 cases). However, some new modalities of loss were found in the files and included loss of a home and loss of a car. Noxious relationships at work contributed to eight suicides. (p. 109)

Br ådvik (2007) followed up (for up to 40 years) Swedish psychiatric inpatients with depressive disorders who had attempted suicide. Br ådvik found that: “use of a violent method for completed suicides was common among both men and women that died in their first suicidal act (68% versus 60%), but the first nonfa tal suicidal act was most often nonviolent in both men and women (67% versus 74%). However, men more often than women switched to a violent method after the first nonviolent suicide attempt or for the completed suicide after only nonviolent attempts. In contrast, women more often than men used nonviolent methods throughout their suicidal career (p. 261).

Agerbo, et al. (2007b) compared adult suicides in Denmark with living controls. For the 267 municipalities, the suicide rate was higher in those where the proportion of people living alone was higher. At the individual level, suicide was more common in males, those not married, and those unemployed. Adjusting for individual level variables weakened the association with municipality. In contrast,

individual-level associations with these risk factors were little changed when controlling for contextual (municipality) effects

Elderly Suicides

Useda, et al. (2007) compared samples of attempted and completed suicides over the age of 50 for the Big-5 personality traits using informants for both groups. The suicides scored lower in neuroticism and higher in conscientiousness. The suicides were older and more often male. The study is flawed because of the failure to control for age and sex. Also, some of the attempters had themselves previously filled out the Big-5 inventory. No comparison was reported on their scores compared to the informants' scores.

In a sample of Chinese suicides, Zhang and Xia (2007) found that scores on a suicidal intent scale were positively associated with depression scores.

Psychopathology

Conlon, et al. (2007) compared psychiatric patients who died by suicide after release with those that did not. Regarding aftercare, neither talk of suicide nor reduction of aftercare was a predictor of suicide,

In a sample of discharged psychiatric patients, Kan, et al. (2007) found that suicide within 60 days of discharge was predicted by previous deliberate self-harm, admission for deliberate self-harm, compulsory admission, living alone, work stresses and being out of contact, and the number of risk factors. The commonest diagnosis and suicide method were schizophrenia and falling from a height.

In an Australian sample of suicides, De Leo and Klieve (2007) found that patients with psychiatric disorders communicated their suicidal intent more frequently than those with no psychiatric diagnosis, and persons with schizophrenia communicated their intent more than those with other psychiatric diagnoses.

In a study of first-ever psychiatric patients in Denmark, Agerbo (2007) found that subsequent suicide was more frequent in those in the highest quartile of income, fully employed, with post-graduate degrees, married and male.

In England, Hunt, et al. (2007) compared patients who died by suicide while in inpatient care with living inpatients. Some suicides occurred within a week of

admission or when absconding. The suicides were more often employed and with a history of self-harm, with affective disorder, comorbidity, adverse life events in the prior three months, not detained under the mental health act, and with observed hopelessness. Suicides on the ward were associated with obstruction to observation as a result of ward design.

McGirr, et al. (2007a) compared patients with borderline personality disorder who died by suicide with those who did not do so. The borderline personality disorder suicides had fewer psychiatric hospitalizations and suicide attempts than the borderline personality disorder controls. The suicides were more likely to meet criteria for current and lifetime substance dependence disorders, had higher levels of current and lifetime Axis I comorbidity, novelty seeking, impulsivity, hostility, and comorbid personality disorders, and lower levels of harm avoidance. The suicides were more likely to have cluster B comorbidity.

Affective Disorder

In a sample of patients with bipolar disorder, Simon, et al, (2007a) compared attempted suicides not hospitalized, hospitalized attempters and suicides. Unfortunately, they did not present adequate statistical comparisons of these three groups. They concluded, however, that suicide attempts were more frequent among younger patients; substance use comorbidity was related to the risk of suicide attempt but not to the risk of suicide; and comorbid anxiety disorder was associated with a higher risk of both suicide attempt and suicide, results which do not permt looking at variables which changed linearly (or not) over the three groups.

In a sample of depressed veterans, Zivin, et al. (2007) found that suicide was more common in male, younger, and non-Hispanic White patients, in veterans without service-connected disabilities, with inpatient psychiatric hospitalizations in the year prior to their depression diagnosis, with comorbid substance use, and living in the southern or western United States. Posttraumatic stress disorder (PTSD) with comorbid depression was associated with lower suicide rates, but younger depressed veterans with PTSD had a higher suicide rate than did older depressed veterans with PTSD.

In a sample of Sardinian patients with affective disorder, Tondo, et al. (2007) found that suicidal acts occurred earliest among major depressive disorder patients. Suicide occurred more often in bipolar patients and attempted suicide in bipolar 1 patients. Suicidal ideation was predicted by bipolar 2 diagnosis, affective temperament and higher depression score at baseline. Suicidal acts (probably

meaning completed and attempted suicide) were associated with tobacco use and substance abuse and were predicted by bipolar diagnosis, younger age at onset and more hospitalizations.

In a follow-up study of patients with bipolar disorder, Dutta, et al. (2007) found an increased risk of suicide (but not from other causes). Suicide was predicted by alcohol abuse and deterioration from pre morbid level of functioning up to a year after onset (as well as sex and cannabis use).

In a two-year follow-up of patients with major depression, Oquendo, et al. (2007) found that a family history of suicidal acts, past drug use, cigarette smoking, borderline personality disorder, and early parental separation each predicted future suicidal acts (suicides plus attempts) in men. The predictors for women were prior suicide attempts, suicidal ideation, the lethality of past attempts, hostility, depressive symptoms, fewer reasons for living, comorbid borderline personality disorder, and cigarette smoking.

McGirr, et al. (2007b) compared suicides with major depressive disorders (using informants) with living patients with major depression (using informants). The depressive symptoms of the suicides were more likely to include weight or appetite loss, insomnia, feelings of worthlessness or inappropriate guilt and recurrent thoughts of death or suicidal ideation but less often fatigue and difficulties concentrating or indecisiveness.

Schizophrenia

In a ten-year follow-up of schizophrenic patients, Limosin, et al. (2007) found that four baseline variables predicted suicide: male gender, drug abuse, previous suicide attempts, and short duration of illness. The suicides also had lower BMI, were more often current smokers, and had more mental suffering.

In one region of Finland, Karvonen, et al. (2007) studied suicides diagnosed with schizophrenia and found that, for male suicides, the median survival time after final hospitalization was approximately 1 day in those with a history of depression and 90 days in those without depression. The corresponding times for female suicides were 50 and 24 days, respectively

In a five-year follow-up of first episode psychotic patients, González-Pinto, et al. (2007) found that suicide/attempted suicide was predicted by depressive symptoms and baseline stimulant abuse (cocaine and amphetamine).

Offenders

Christoffersen, et al. (2007) compared Danish violent offenders with attempted and completed suicides in a 13-year follow-up study from when they were 15 to when they were 27. Among their results, the experience of parental domestic violence during adolescence predicted males' later violent behavior but was a weaker predictor of suicidal behavior. In contrast, being battered and being neglected during childhood predicted later suicidal behavior. Their results are complicated, and it would have been better to compare those committing homicide and attempted homicide with those attempting and completing suicide and omitting the remaining non-homicidal violent offenders. Multiple regressions would have been better than odds-ratios.

Way, et al. (2007) noted that 24% of inmate suicides in New York occurred when in special disciplinary housing after an average of 63 days and serving an average sentence of 299 days.

Medical Problems

Mainio, et al. (2007) studied all suicides in Northern Finland in 1988-2002 and found that 1.3% had epilepsy. The epileptic suicides were more often female, were older, and more often had depression.

Sarwer, et al (2007) reviewed research and found that women who had breast augmentation had a higher suicide rate than women in the general population and women receiving other cosmetic surgery.

Polednak (2007) found no differences in the suicide rate in women with breast cancer between those who had surgical reconstruction and those who did not.

Chan, et al. (2007b) studied suicides in community residents over the age of 50 and found that a measure of cerebrovascular risk factors was higher in the suicides than in community residents, even after controlling for age, sex, depression and functional status.

Peisah, et al. (2007) compared elderly (>65 years) suicides living in the community with those deceased from motor vehicle accidents. The groups did not

differ in evidence of Alzheimer's dementia (plaque score or neurofibrillary tangle staging).

Discussion

These studies of suicides are not informative about why people die by suicide. The listing of risk factors or predictors of suicide do not tell us why the people chose suicide. For example, studies above and some later studies indicate that smoking seems to be associated with suicidal behavior. Does this help us understand their choice of suicide? Of course not.

I have argued that we need a sound typology of suicides and a set of theories of suicide that could be examined for their applicability to each type in the typology.

Murder-Suicide

Harper and Voigt (2007) proposed eight types of murder-suicide based on their sample of 42 cases together with the number in each type in their sample:

- intimate or domestic lethal violence-suicide (n = 30)
- family annihilation-suicide (n = 6)
- mercy killing-suicide (n = 4)
- public killing spree-suicide (n = 1)
- mistaken or accidental homicide-suicide (n = 1)
- felony murder-suicide (n = 0)
- terrorist murder-suicide (n = 0)
- cult mass murder-mass suicide (n = 0)

At the theoretical level, they drew attention to:

- conflict intensity structures
- elements of social frustration, failure, and anomie
- power-control issues

Studies of Attempted Suicides[25]

[25] Remember that these studies have to have measures of suicidal intent.

Methodology

Chan, et al. (2007a) found good agreement between interviews with attempted suicides and interviews with proxies on psychiatric symptoms that enabled a psychiatric diagnosis to be made.

Physiological Research

Kim, et al. (2007) found that brain-derived neurotrophic factor (BNDF) levels were significantly lower in major depressive disorder patients who had attempted suicide than in non-suicidal major depressive disorder patients or normal controls. BNDF levels were not associated with the lethality of the attempt or the risk-rescue score.

Adults

In a sample of undergraduate students, Flamenbaum and Holden (2007) found that those who had attempted suicide scored lower on other-oriented perfectionism (but not on other dimensions of perfectionism), higher on psychache, higher on internal perturbation based reasons and on extrapunitive/manipulative motivations (on a reasons for attempting suicide questionnaire). Suicidal intent was unfortunately measured for the whole sample rather than just the attempted suicides. Intent was negatively associated with other-oriented perfectionism, positively with psychache, internal perturbation based reasons, suicidal ideation and number of attempts.

Brezo, et al. (2007a) followed a sample of French Canadian school students up to age 24. They found that attempting suicide in those with suicidal ideation was predicted by female gender, disruptive disorders, child sexual abuse, persistent rather than transient suicidal ideation, and insecure attachment. For those with persistent suicidal ideation, attempting suicide was predicted by child sexual abuse, gender and drug abuse/dependence. The predictors differed for men and women, and the researchers seem to have controlled for mood disorder.

Lindqyist, et al. (2007) followed up a sample of attempted suicides. Those who later died by suicide had higher scores on the Comprehensive Psychopathological Rating Scale. For the attempters, suicidal intent (measured by a scale) was not associated with psychopathological scores. Suicidal intent at baseline did not predict later suicide, nor did depression scores. The suicides were older and more often females.

In a sample of attempted suicides, Loas (2007) found that male sex and a low anhedonia score predicted subsequent suicide 5-8 years later.

In a 4-year follow-up study of a Danish sample, Christiansen and Jensen (2007) found that suicide was more frequent among those who had attempted suicide, and 31% of the attempters made another attempt during the follow-up. The most reliable predictors for suicide were repetition, suicide attempt method and treatment for mental illness. The most reliable predictors for repetition were age, gender and mental illness.

In a sample of Chinese rural attempted suicides and community controls, Conner, et al. (2007b) did what Lester, et al. (1979) had suggested (but not citing them), dividing the attempters into low, medium and high in suicidal intent. By suicidal intent, higher intent was associated linearly with high chronic stress, low acute stress, major depression, low quality of life, and suicide in associates or relatives. Major depression and suicide in an associate or relative appeared to also distinguish the attempted suicides from the controls, but this was not tested explicitly.

In a sample of Irish patients presenting with deliberate self-harm, McAuliffe, et al. (2007) found that those with higher suicidal intent were more motivated to escape from their problems and less motivated to appeal to others or get a temporary break from their problems. Repeaters more often had motives of escape, revenge, and appeal.

Crane, et al. (2007b) compared first-time and repeat attempted suicides and found that the association between life events and intent was moderated by repetition status, but only in women. Suicidal intent was predicted by sex, hopelessness, life events and repetition.

In a sample of attempted suicides in Japan, Yamada, et al. (2007) compared those with low and high lethality. Those with higher lethality required a longer hospital stay and were more often male, older and living alone.

In a sample of male attempted suicides, Tripodianakis, et al. (2007) found that they had lower testosterone plasma levels, marginally higher luteinizing hormone, and normal follicle stimulating hormone compared to healthy controls. Testosterone levels were not associated with suicidal intent.

In a study of attempted suicides in China, Zhang and Xu (2007a) found that the lethality of the intent was positively associated with suicidal intent. The male attempters were poorer and more often divorced. The males and females differed in the reasons for the attempt: the women more often for love/marriage and the men more often for poverty and physical illness. Zhang and Xu (2007b) studied females who had made serious suicide attempts and found that suicidal intent was predicted positively by age (older), mental disorder (worse), superstition, and perceived gender inequality, and with a negative trend with religiosity and marital status (married).

Caldera, et al. (2007) studied attempted suicides in Nicaragua. The males and females had similar scores for suicidal intent. For women only, a higher intent score was associated with older age, having children and use of pesticide as the method. The level of suicide intent at the index attempt did not predict suicidal behavior in the next three years, and nor did having a child, male sex, age, use of pesticides, and use of drugs.

Wyder and De Leo (2007) studied a community sample of attempted suicides and compared those whose attempts were impulsive (primarily self-defined) versus not impulsive. One quarter (26%) described their attempts as impulsive. The impulsive attempters had lower levels of suicidal ideation and depression, but did not differ in age, sex, motives, intention or trait impulsivity. Most attempters (61%) described their suicidal intention as fluctuating.

Adults with Psychopathology

In a study of elderly individuals (>50) with major depression and a suicide attempt in the prior month, Conner, et al. (2007d) measured the degree of planning with a suicidal intent scale. Lower cognitive functioning, younger age, living with others and impaired physical self-care were associated with lower levels of planning. Sex, hopelessness and depression score were not associated with planning.

Berk, et al. (2007) compared recent attempted suicides with and without borderline personality disorder (BPD) . Attempted suicides with BPD had greater severity of overall psychopathology, depression, hopelessness, suicidal ideation and past suicide attempts, and had poorer social problem solving skills than those without BPD. No differences were found in the intent to die or the lethality associated with the index suicide attempt.

In a sample of psychiatric outpatients, Diaconu and Turecki (2007) found that patients with only panic disorder had a significantly lower number of suicide attempts compared to either those with depressive disorders or depressive disorders plus panic disorder. The three groups did not differ in suicidal ideation or suicide intent or lethality in their attempts or in impulsivity, aggressive behavior or state-trait anxiety measures.

Substance Abuse

In a sample of adolescents and young adults (aged 16-30) with cannabis dependence, Arendt, et al. (2007) found that both attempted suicide and suicidal ideation were associated with being female, childhood physical abuse and parental alcoholism. The sample sizes in their report do not add up correctly, but there do not appear to be linear tends from no suicidality, ideation and attempted suicide and their statistical analyses do not address linearity.

Sher et al. (2007a) compared high and low-lethality drug-free depressed suicide attempters with comorbid alcoholism. The high lethality attempters had lower CSF 5-HIAA levels (i.e., lower serotonergic activity), but did not differ in HVA or MHPG levels.

Sher, et al. (2007b) studied depressed attempted suicides in 18-26 year-old with and without comorbid alcohol use disorders. Those with comorbid alcohol use disorders had higher aggression and impulsivity scale scores, were more likely to be tobacco smokers and had a trend towards higher lethality of suicide attempts. The groups did not differ in triggers for the attempt.

Discussion

It is encouraging to see studies in which suicidal intent is measured. Let me list the variables that are associated with suicidal intent in these studies.

Positive associations	Negative associations
Psychache	Other-oriented perfectionism
Internal perturbation	Acute stress
Suicidal ideation	Religiosity
Number of prior attempts	Married
Chronic stress	Younger
Major depression	Living with others
Low quality of life	Impaired physical self-care.

Suicide in relatives & friends
Escape motivation
Sex (twice)
Loneliness
Life events
Repetition
Older (twice)
Living alone
Worse mental disorder
Perceived gender inequality (for women)
Lower serotonergic activity
Comorbid alcohol use

Not significant
Psychopathology scores
Testosterone levels
Sex
Hopelessness
Depression

Perhaps we can generalize from these associations found with suicidal intent (or the lethality of the attempt) to completed suicides?

Attempted Suicide versus Suicidal Ideation

In a sample of rumination in patients with major depression, Crane, et al. (2007a) compared non-suicidal patients with ideators and attempters. There was a linear decline in reflection and a linear increase in brooding.

In a sample of the Nigerian population, Gureje, et al. (2007) found that attempted suicide was associated with psychiatric disorders (especially mood disorders), childhood adversities of long separation from biological parents, being raised in a household with much conflict, being physically abused, or being brought up by a woman who had suffered from depression, anxiety disorder or who had attempted suicide. Among ideators, being unemployed was a risk factor for transiting to attempts. Transiting between one suicide outcome and another was related to the period elapsing between the outcomes. An elevated risk of transitions was more likely when the period was less than 5 years. Among ideators with a plan, the risk of making an attempt was increased within the first year of having a suicide plan

In a study of a large European sample of adults, Heider, et al. (2007) found associations between low maternal and paternal care and suicidal ideation and attempted suicide. Comparing the ideators and attempters, the attempters more often had mood disorders, alcohol abuse, poor paternal care and were female, but did not differ in age, income, education or marital status.

Discussion

It appears, therefore, that we perhaps learn more about suicide by studying suicidal intent in attempted suicides than by studying suicides!

RESEARCH OF NO USE FOR UNDERSTANDING SUICIDE

Physiological Research

Wasserman, et al. (2007a) reviewed their own research on the genetics of suicide and the research of others. Mann and Currier (2007) reviewed research on biological predictors of suicide. Pandey and Dwivedi (2007) reviewed research on noradrenergic functioning and suicide.

DST Suppression

In a sample of depressed psychiatric inpatients, Jokinen, et al. (2007a) found that DST suppression did not distinguish who later died by suicide from those still alive, although prior attempted suicide did predict later suicide. However, among those who had attempted suicide, non-suppression status predicted subsequent suicide.

Coryell and Schlesser (2007) studied psychiatric inpatients with major or schizoaffective depressive disorders and found that non-suppression on the dexamethasone suppression test and low fasting serum cholesterol levels had the highest rate of subsequent suicide.

Brain

Monkul, et al. (2007) found that depressive disorder patients who had attempted suicide had smaller right and left orbitofrontal cortex gray matter

volumes compared with healthy comparison subjects. The attempted suicides had larger right amygdala volumes than non-suicidal depressive disorder patients.

Using MRI, Pompili, et al. (2007a) found that the prevalence of white matter hyperintensities was higher in subjects with past suicide attempts, even after controlling for controlling for age, sex and several clinical risk factors.

Dwivedi, et al. (2007) compared the brains of suicides and normal controls:

> "In the hippocampus of suicide subjects, we observed that catalytic activity of Extracellular signal-regulatedkinase5 [ERK5] was decreased in cytosolic and nuclear fractions, whereas catalytic activity of [MAPKkinase5: MEK5] was decreased in the total fraction. Further, decreased mRNA and protein levels of ERK5, but no change in protein level of MEK5 were noted. A decrease in MEF2C-DNA-binding activity in the nuclear fraction was also observed. No significant alterations were noted in the [pre-frontal cortex] of suicide subjects" (p. 2338).

Pandey, et al. (2007) found that the CRE–DNA binding and the protein expression of cyclic AMP response element-binding protein (CREB) were significantly decreased in the PFC of teenage suicides compared with controls. There was also a significant decrease in mRNA expression of CREB in the prefrontal cortex of teenage suicides compared with control subjects. However, there were no significant differences in CRE–DNA binding or the protein and mRNA expression of CREB in the hippocampus of teenage suicides compared with control subjects.

Lalovic, et al. (2007a) found that fatty acids did not differ in the orbitofrontal cortex and the ventral prefrontal cortex of people who had completed suicide with and without major depression and in control subjects with no current psychopathology and whose cause of death was sudden.

Schlicht, et al. (2007), in a study of the prefrontal cortex of suicides, found that "proteins, being involved in glial function, neurodegeneration and oxidative stress neuronal injury, might also have an impact upon the neurobiological cascade leading to suicidality" (p. 493).

Sequeira, et al. (2007) found that gene ontology analysis with differentially expressed genes in suicides with and without major depression and psychiatrically normal controls revealed an over representation of transcription and metabolism-

related genes in the hippocampus and amygdala. It is not clear whether this was found for depression or for suicide.

Lalovic, et al. (2007b) found no significant differences in cholesterol content between male suicides and controls (deceased from other causes) in the frontal cortex, amygdala or hippocampus. Violent suicides were found to have lower grey-matter cholesterol content overall compared to non-violent suicides in the frontal cortex (specifically the orbitofrontal cortex and the ventral prefrontal cortex).

Karege, et al. (2007) compared suicides with controls and found no differences in either in GSK-3α/β and Akt-1 protein levels or in lithium-inhibitable total GSK-3α/β enzyme activity of the ventral prefrontal cortex.

Cerebrospinal Fluid

Jokinen, et al. (2007) found that the HVA/5-HIAA ratio was significantly associated with scores on a suicide intent scale, but not with depression or anhedonia.

In a sample of patients who had attempted suicide, Brundin, et al. (2007a) found that CSF levels of orexin-A were significantly lower in patients with major depressive disorders than in patients with adjustment disorder and dysthymia. Brundin, et al. (2007b) found negative correlations between CSF-orexin and the symptoms of lassitude (difficulty in initiating activities) and slowness of movement, as well as the ratings of global illness.

Plasma/Blood

Diaz-Sastre, et al. (2007) found that attempted suicides had lower serum cholesterol levels than blood donors matched for sex, age and BMI (significant only for men).

Marčinko, et al. (2007) found that platelet 5 HT and serum cholesterol concentrations were significantly lower in suicidal (undefined) than in non-suicidal patients in the first episode of psychosis, and also lower than in healthy controls.

In patients with major depression, Iga, et al. (2007) studied brain derived neurotrophic factor (BDNF) and found that the BDNF Val66Met polymorphism was associated with suicidal behavior.

Zouk, et al. (2007) studied the genetic variation in the 5-HT1B receptor gene in suicides and normal controls. They found that suicides differed from controls in distribution of variants at the A-161T locus, perhaps as a result of the genetic variation impacting impulsive aggression.

Chen, et al. (2007a) found no differences in the 5-HTTLPR polymorphism between methamphetamine abusers who had or had not attempted suicide.

In a sample of depressed patients, Fiedorowicz and Coryell (2007) found that low serum cholesterol levels did not predict subsequent suicide attempts. The high cholesterol group was associated with increased risk of suicide attempts in the younger patients. The low cholesterol group had more suicide attempts preceding index hospitalization and more remote lifetime attempts.

Deveci, et al. (2007) found that serum brain-derived neurotrophic factor levels were significantly lower in attempted suicides and those with major depressive disorder than in healthy controls.

Genes

A meta-analysis of 39 studies by Li and He (2007) found a significant association between the serotonin transporter (5-HTT) gene and suicidal behavior.

De Luca, et al. (2007a) studied families where at least one member had bipolar disorder. Family-based association analyses in the suicide attempters using FBAT yielded no difference in the distribution of the alleles for all three polymorphisms of the corticotropin-releasing hormone receptor 2 gene. There was, however, an association between haplotype 5-2-3 and higher severity (meaning making a violent suicide attempt).

De Luca, et al. (2007b) measured the allele-specific expression of the 5-HT2A gene, and found that the ratio of C/T allele expression in the pre-frontal cortex of heterozygous suicides was significantly decreased in comparison with those dying from other causes. There was no evidence that the parent-of-origin affected the inheritance of suicidal behavior.

Baud, et al. (2007) studied functional polymorphism on the human catechol-O-methyl transferase (COMT) gene. The high activity genotype (Val/Val) was more frequent in suicide attempters than in normal blood donors. The Val/Val

genotype markedly affected the scores for trait anger and anger control in female suicide attempters.

Serretti, et al. (2007) found no differences between suicides, attempted suicides and healthy controls in the gene variants of the serotonin 2C (HTR2C) and 1A (HTR1A) receptors.

Giegling, et al. (2007) found no association of TACR1 gene variants in attempted or completed suicides versus healthy controls.

Zill, et al. (2007) found that neither single nucleotide polymorphism nor haplotype analysis could detect significant associations with alcohol dependence or suicidal behavior in alcohol-dependent patients.

In a sample of adults with childhood-onset mood disorder, McGregor, et al. (2007) found no differences between attempted suicides and the non-attempters in the p75NTR S205L polymorphism.

Sáiz, et al. (2007) found no association between endothelial nitric oxide synthase (NOS3) gene polymorphisms and suicide attempts.

de Lara, et al. (2007) found two upstream and two intronic SNPs associated with suicide in depressed patients, but no associations with impulsive-aggressive behaviors. Two SNPs (rs4448731 and rs4641527) significantly predicted suicide, along with cluster B personality disorders and family history of suicide

Gietl, et al. (2007) found no differences between suicides, attempted suicides and healthy controls in ABCG1 transporter genes or alleles.

In a study of bipolar patients who had attempted suicide and their first degree relatives, Willour, et al. (2007) found that the strongest covariate-based linkage signal was seen on 2p12 at marker D2S1777.

In a sample of attempted suicides, Wasserman, et al. (2007b) measured the serotonin transporter promoter polymorphism (5-HTTLPR) in the blood plasma of attempted suicides. They found a higher prevalence of the SS genotype in suicide attempters with high medical damage scores but not SL+LL genotypes.

In a study of alcohol dependent patients, Wojnar, et al. (2007) found that those with the G/G genotype in the 5HTR1A gene polymorphism more often had a history of attempted suicide.

Other Foci

Furgal-Borzych, et al. (2007) found pituitary microadenomas more often in suicides than in those dying from accidents or unexpected deaths and a tendency to less often have immunopositive (secreting) microadenomas.

In a study of families in which one member had a bipolar affective disorder, Lopez, et al. (2007) found an association between genetic variation in tryptophan hydroxlyase 2 and attempted suicide.

Attempted Suicide

Li, et al. (2007) found that male attempted suicides had a higher prevalence of poor iron status while female attempters had better iron status compared with those without a history of attempted suicide.

In a sample of abstinent male African-American substance-dependent patients, Roy, et al. (2007a) found that lifetime attempted suicide was associated with low expression5-HTTLPRgenotypes and above-median childhood trauma.

Discussion

Sigh! This physiological research will not be reviewed in the review for 2008.

Studies of Attempted Suicide

Adolescents

In a study of high school students, Klomek, et al. (2007a) found that suicidal ideation and attempted suicide were associated with being bullied *and* with being a bully.

In a national sample of adolescents and young adults, Silenzio, et al. (2007) found that LGB adolescents reported higher rates of suicidal ideation and attempts than heterosexual adolescents. Drug use and depression were associated with

attempting suicide for the heterosexual adolescents but not for LGB adolescents. Problem drinking and depression predicated suicidal ideation for both groups.

In a sample of hospitalized suicidal adolescents, Huth-Bocks, et al. (2007) found that suicidal ideation, depression and hopelessness scores predicted attempting suicide in a six-month follow-up study.

Muehlenkamp and Gutierrez (2007) compared adolescent with non-suicidal self-injury (NSSI) who attempted suicide with those who did not. Those who attempted suicide had higher scores for suicidal ideation and depression and fewer reasons for living.

(Note that the variables used in these two studies [Huth-Bocks, et al. and Muehlenkamp and Gutierrez] have long been known to be relevant to suicidal behavior, and there is no need to continue to study them.)

Radobuljac, et al. (2007) compared adolescent attempted suicides admitted to a psychiatric unit in Slovenia in 1975-1977 and 2002-2004. The post-independence attempters were better educated, had fewer siblings, less often were smokers and less often abused non-prescribed psychoactive medications and more often made repeated attempts, but did not differ in sex, age, nationality, method of attempting suicide, whether living with both parents or had suffered the loss of important people in their lives.

In a sample of Native American adolescents, Walls, et al. (2007) found that past year suicidal behavior (ideation or attempts) was associated with several strains/stressors, including coercive parenting, caretaker rejection, negative school attitudes, and perceived discrimination, along with depressive symptoms and anger.

In a sample of 6-year-olds followed for 18 years, Brezo, et al. (2007b) found that attempted suicide was associated with sex, disruptive disorders, childhood anxiousness, physical abuse, and suicidal thoughts

In a sample of American youth (aged 11-17), Roberts, et al. (2007) found that European American youths were at greater risk of suicidal thoughts in the past year than Mexican American youths and at greater risk than African American youths for suicidal attempts and thoughts. European American youths were at increased risk for thoughts and attempts than African Americans.

Riala, et al. (2007b) found that adolescent psychiatric inpatients who smoked heavily (>15 per day and within 30 minutes of waking up) were more likely to have attempted suicide but not more likely to have suicidal ideation (time period not specified).

Bilgin, et al. (2007) compared adolescent Turkish girls who had attempted suicide with normal controls. Using a complex inventory to measure the parent-child relationship, the attempters scored higher on four of the 25 subscales: general stress level, mothers as the mediators between the father and daughter, and somatic concerns of both parents.

In a study of Hispanic girls sentenced to probation, Cuellar and Curry (2007) found that past attempted suicide was associated with self-mutilation, parental abuse and drug use (marihuana, inhalants and total drug use) but not the type of offense or gang membership.

In a sample of 9-13 year-old New Zealand adolescents, Fleming, et al. (2007) found that attempting suicide in the prior year was positively associated with depression, alcohol abuse, having a friend or family member attempt suicide, family violence and non-heterosexual attractions and negatively associated with parents caring, other family members caring, teachers being fair, and feeling safe at school. Caring friendships, attending worships frequently, possible sexual abuse and anxiety symptoms were not associated with attempting suicide.

In a sample of high school students in Hong Kong, Cheng and Chan (2007) found that suicidal behavior (having a plan or attempting suicide) was associated with attraction to death, depression and substance use, along with stressful life events positively and family and friend support negatively.

In a sample of adolescents, Eisenberg, et al. (2007) found that experience of sexual abuse resulted in an increased rate of suicidal ideation and attempted suicide, but was mitigated to some extent by family connectedness, teacher caring, other adult caring, and a safe school environment.

In a study comparing adolescent attempters with medical controls, Menti, et al. (2007) found that the attempters more often had a psychiatric disorder, smoked, and had relational problems (with parents) than the controls but did not differ in alcohol or coffee drinking.

Using the Self-Injury Implicit Association Test (SI-IAT), a reaction-time measure of implicit associations between self-injury and oneself, in a sample of adolescents, Nock and Banaji (2007) found that nonsuicidal adolescents showed a negative association between self-injury and themselves. Suicide ideators showed a small positive association, and suicide attempters showed large positive associations on this performance-based test.

Kerr, et al. (2007) studied acutely suicidal adolescents and found that self-reported aggression did not predict future attempted suicide. In the more aggressive adolescents, internalizing symptoms predicted later attempted suicide.

In a national sample of American adolescents, Waldrop, et al. (2007) found that suicidal ideation was positively associated with female sex, age, family alcohol and drug problems, violence exposure, lifetime depression, and PTSD. Suicide attempts were associated with female sex, age, sexual and physical assault, lifetime substance abuse or dependence, PTSD, and depression.

In a sample of Canadian youths aged 12-13, Afifi, et al. (2007) studied the role of health risk behaviors included disruptive behavior (shoplifting, physical fighting, damaging property, fighting with a weapon, carrying a knife, and gambling), sexual behavior (petting below the waist and sexual intercourse), and substance use behaviors (smoking cigarettes, consuming alcohol, marijuana or hash, and inhaling glue or solvents). All health risk behaviors were associated with suicidal ideation and attempted suicide in boys and girls. “In adjusted models, only damaging property, sexual intercourse, and smoking cigarettes remained statistically associated with suicidal ideation, while smoking cigarettes and using marijuana or hash remained statistically associated with suicide attempts among adolescent boys”. “In adjusted models, only carrying a knife remained statistically associated with suicidal ideation, while shoplifting and gambling remained statistically associated with suicide attempts among adolescent girls” (p. 666).

Silviken and Kvernmo (2007) compared predictors of attempted suicide in Arctic Norwegian Sami adolescents and majority adolescent Norwegians. Attempts were equally common in both groups. In both ethnic groups, suicidal ideation, anxiety/depression and eating disorders were associated with suicide attempts. For Sami adolescents, diverging from the traditional cultural norms were associated with suicide attempts, such as alcohol intoxication, single-parent home and paternal overprotection. For majority adolescents, vocational studies, not living together with parents, current smoking and experience of sexual intercourse were associated with suicide attempts.

Chagnon (2007) studied a group of adolescents in juvenile justice and child welfare services. Those who had attempted suicide had experienced different life stressors (fewer interpersonal losses and more interpersonal conflicts) and engaged is poorer coping mechanisms (more negative cognitive reframing and less talking about their feelings).

In a study of American high school students, Cho, et al. (2007) found that earlier onset of hard drug use among boys was associated with suicidal ideation and past attempts. For girls, earlier onset of regular cigarette smoking, getting drunk, and hard drug use were associated with suicidal ideation and past attempts.

In a national sample of American adolescents, Swahn, and Bossarte (2007) found that both suicidal ideation and attempted suicide were associated with pre-teen alcohol initiation use and to a lesser extent with teen alcohol initiation for both boys and girls.

In a sample of adolescents in Hong Kong, Wong, et al. (2007b) found that attempted suicide was predicted by socio-economic status and substance use.

Salzinger et al. (2007) compared adolescents (ages 10-17) who had been physically abused with controls. In multiple regressions, suicidal ideation and attempts were both associated with physical abuse, attachment to parents and internalizing problems. It is odd that the researchers did not compare the two groups or conduct multiple regressions on the two groups separately.

Kidd and Carroll (2007) studied homeless youths aged 14-24 in New York City and Toronto. Current suicidal ideation was predicted by experience of abuse and neglect and use of drugs and alcohol, but not by coping techniques. Attempting suicide while on the streets was predicted only by the use of drugs and alcohol. Kidd and Carroll claim that avoidant coping and social withdrawal were coping tactics that predicted suicidal behavior, but these variables are not statistically significant in their tables.

In a 7 year follow-up study of adolescents, Thompson, et al. (2007) found that delinquency predicted later suicidal ideation and attempts after controlling for risk factors (i.e., depression, self-esteem, problem drinking, impulsivity, and religiosity).

Klomek, et al. (2007b) compared suicidal (ideation or attempt) and nonsuicidal adolescent inpatients and healthy controls. The suicidal adolescents differed from both the nonsuicidal psychiatric and healthy controls in negative self and parental descriptions, but they did not differ assigning positive traits. When describing themselves and their parents using a list of adjectives, the suicidal adolescents described themselves as being less differentiated from both their father and mother in negative traits but not in positive traits.

In a study of Turkish adolescents aged 13-18, Eskin, et al. (2007) found that depression and low self-esteem were the most consistent predictors of suicidal ideation and past attempted suicide in boys and girl, but grade point average, divorced/widowed parents, and assertiveness occasionally played a role.

In a sample of 15-24 year-olds seen at a psychiatric clinic for youths, Cosgrave, et al. (2007) found that past year suicidal ideation and attempted suicide were associated with having an Axis 1 diagnosis, especially mood disorder and anxiety disorder. Suicidal ideation and attempts were more common among females and associated with poorer psychosocial functioning and an increased likelihood of having tried cannabis, but not with aggressive behavior or other illicit substance use.

In a sample of depressed adolescents in primary care, Fordwood, et al. (2007) found that attempted suicide was associated with psychopathology (depressive symptoms, externalizing behaviors, anxiety, sub stance use, mania, and posttraumatic stress disorder symptoms) and psychosocial variables (a recent romantic breakup or being assaulted).

In a study of adolescents, Kwan and Ip (2007) found that immigrants to Hong Kong who had been in Hong for 10+ years had higher rates of attempted suicide and suicidal ideation than those born in Hong Kong. This was not true for more recent immigrants. Rates of these behaviors were also higher in girls, not living with parents, poor physical health, poor mental health and having three or more siblings.

Joe, et al. (2007b) compared inpatient suicidal white and black adolescents (ideation and attempts). The two groups were similar in many aspects (psychiatric history, psychopathology), but the black adolescents did report more parental support.

Adults

In a follow-up study of a birth cohort in New Zealand to the age of 25, Fergusson, et al. (2007) found that the longer the period of unemployment (6+ months) the more likely suicidal ideation and attempts even after adjusting for other risk factors for suicidality.

In a national survey of Americans aged 15-54, Belik, et al. (2007) found that, after adjusting for sociodemographic factors, lifetime physical and mental disorders and three or more mental disorders, physical abuse, serious neglect, and being threatened with a weapon remained significantly associated with suicidal ideation for men, while suffered great shock, rape, sexual molestation, physical attack and physical abuse were significantly associated with suicidal ideation for women. For men, all interpersonal traumatic events (e.g., physical attack and rape, as well as fires, floods and natural disasters) had significant associations with suicide attempts, The majority of interpersonal traumatic events were also significantly associated with suicide attempts for women (e.g., sexual molestation, physical abuse, rape and physical attack).

In a survey of households in six European countries, Bernal, et al. (2007) found that female, being younger and divorced or widowed were associated with a higher prevalence of suicide ideation and attempts. Psychiatric diagnoses were strongly related to suicidality. including major depressive episode, dysthymia, PTSD and alcohol dependence.

In a study of people with a history of attempting suicide, Jollant, et al. (2007) found that decision-making performance (on the Iowa Gambling Task) was negatively associated with interpersonal difficulties in the affective domain (marital and family), but not with interpersonal difficulties in other social contexts, stressful life events or somatic health problems.

In a sample of patients attending their GPs or a clinic for psychosomatic problems, Hardt, et al. (2007) found that a history of attempting suicide was associated with poor parent-child relationships, especially the combination of high maternal control and low perceived love and also high maternal control and high role reversal.

Jeglic, et al. (2007) compared college students who had attempted suicide with controls matched for their SCL-90 Global Severity Index. The attempters obtained a higher score for borderline personality scores and current suicidal ideation, but did not differ in depression, hopelessness, substance abuse, antisocial

personality, perfectionism, anger, stressors, social support or coping/problem solving. The role of borderline personality scores in predicting current suicidal ideation was validated in a larger sample of college students.

Baca-Garcia, et al. (2007a) studied a sample of attempted suicides presenting at a hospital for a family history of attempted or completed suicide. With 101 variables, they could not distinguish the attempters with a family history of completed suicide versus no history. A family history of attempted suicide was predicted by a family history of completed suicide and the use of alcohol *in the intent* – which is never defined!

In a study of American Latinos, Fortuna, et al. (2007) found that any lifetime DSM-IV diagnosis was associated with an increased risk of lifetime suicidal ideation and attempts among Latinos. In addition, being female, acculturation (born in U.S. and English speaking) and high levels of family conflict were positively correlated with suicide attempts, even among those without any psychiatric disorder. Unfortunately, they did not compare the ideators with the attempters and, incidentally, their statistical tests are bizarre (e.g., F tests with 1,39 df instead of 2-by-2 chi square tests).

In a 25-year follow-up study of a birth cohort in New Zealand, Boden, et al. (2007) found that both suicidal ideation and attempted suicide were more common among those with phobias, general anxiety disorder and panic disorder even after controls for comorbid disorders and stressful life events.

In a national sample, Kessler, et al. (2007) found that smoking in the prior year was associated with suicidal ideation and attempted suicide in the prior year, but not after controls for psychiatric disorder.

In a sample of attempted suicides, Sjöström, et al. (2007) found that 89% had sleep disturbances and that nightmares predicted more serious current suicidality.

In a national survey in the Ukraine, Bromet, et al. (2007) found that suicidal ideation was associated with female sex, younger age, trauma, parental depression, and prior alcohol, depressive and intermittent explosive disorders, especially the presence of comorbidity. Among ideators, young age, smoking and prior psychiatric disorders were risk factors for planning and attempting suicide.

Carter, et al., (2007) compared attempted suicides in community individuals versus attempted suicide in psychiatric patients compared to normal community controls. Attempted suicides had similar risk factors for both groups: for the community attempters, current unemployment and anxiety disorders and, for the clinical attempters, current unemployment and affective disorders.

In a sample of Hong Kong residents, Fu, et al. (2007) found that suicidal ideation, hopelessness and anxiety predicted later suicidal behavior (ideation and attempts).

In a community sample of elderly people, Pfaff, et al. (2007) found that attempted suicide was associated with less frequent drinking of alcohol but in greater quantities (binge drinking) along with depression scores. Binge drinking was not associated with suicidal ideation.

In a national sample of Mexican adults, Borges, et al. (2007) found that suicidal ideation and attempts were associated with having a psychiatric disorder and an early onset of a psychiatric disorder. The risk of transition from ideation or planning to attempt was greatest in the first year of suicidal ideation.

In an American national sample, Kalist, et al. (2007) found that suicide attempts and suicidal ideation were negatively related to personal income and the probability of employment. The size of the effects differs by sex and ideation versus attempt. Men and women who attempted suicide had mean earnings lower by 16% and 13%, respectively, and attempting suicide reduces the probability of fulltime employment by 20% for men and 17% for women.

Cheung, et al. (2007) found that various version of a depression scale were associated with suicidality (ideations and attempts).

In a community-based survey in a Chinese city, Lee, et al. (2007) found that progression from ideation to plan and attempt was highest during the first year after onset. Suicide attempt was predicted by young adulthood, being unmarried, recent onset of ideation and plan, and the presence of mental disorders, especially mood disorder.

In a 10-14 year follow-up of Dutch children, Herba, et al. (2007) found that childhood suicide ideation predicted suicide ideation in adulthood and a history of suicide attempt (as well as an increased likelihood of later psychiatric disorder).

O'Connor, et al. (2007) followed-up self-harm patients for two months, classifying them as having suicidal intent or not, but they never compared these two groups! Focusing on those with suicidal intent, they found that for those who had a history of repetitive attempts, the outcome among low social perfectionists changed as a function of positive future thinking such that outcome was better for those high on positive future thoughts compared with those low on positive future thoughts. There was no such positive change in outcome among the high social perfectionists. There were also no significant interactive effects evident among the non-repetitive self-harmers (p. 1543).

In a study of attempted suicides in Saudi Arabia, Al Modayfer and Khair (2007) found that 16% attempted suicide on their birthday, more common in non-Saudis than in Saudis (40% versus 12%) especially in non-Saudi females.

In a study of low-income African American women, Reviere, et al. (2007) found that attempting suicide was associated with worse general coping, poor behavioral strategies in response to interpersonal violence, less effective use of resources, poor use of social support, and more substance use.

In a small sample of Chinese elderly with suicidal ideation, Wu and Chan (2007) found that prior attempted suicide was associated with medical problems, while suicidal ideation was associated with stressful life events and the severity of depression.

Andover, et al. (2007) found that depressed individuals with a history of suicide attempts are more likely to report histories of childhood physical and sexual abuse, but there was no difference in reported abuse between single and multiple suicide attempters.

Baca-Garcia, et al. (2007b) compared attempted suicides with blood donors and found that the attempters scored higher for psychosocial stressors (partner conflicts and other interpersonal conflicts, modification of life habits and adult physical abuse) and Cluster B traits, as well as two protective factors - living with a partner and currently working.

In a poorly analyzed and presented study of prostitutes in Hong Kong, Ling, et al. (2007) appeared to find that suicidality (ideation and attempts combined) was associated positively with the social support received and the stress of having their ID checked regularly, and negatively with being beaten.

In a study of female sex workers in China, Hong, et al. (2007) found that suicidal ideation was associated with dissatisfaction with life, abuse of alcohol, being deceived or forced into commercial sex, and having stable sexual partners. Attempted suicide was associated with having multiple stable partners, experience of sexual coercion, and worry about an inability to make enough money, and negatively with entering commercial sex because of financial needs or being influenced by their peers.

In a national sample of Americans, Joiner, et al. (2007) found that childhood physical and violent sexual abuse predicted the number of lifetime suicide attempts, as did molestation and verbal abuse, along with age, sex, parental conflict, paternal attempted suicide and some psychiatric disorders.

Hirsch, et al. (2007b) found that optimism was inversely associated with suicide ideation, even after controlling for age, gender, depressive symptoms, and hopelessness, in a sample of college students. In a sample of college students, Hirsch, et al. (2007c) found that suicidal ideation was associated with depression, hopelessness and stressful life events positively and optimism negatively. Depression, hopelessness and stressful life events also predicted a history of attempted suicide.

Psychopathology

In a sample of adolescent psychiatric inpatients, Becker and Grilo (2007) found that scores on a suicide risk scale were predicted by female sex, low self-esteem, depression, drug abuse, and violence risk. Male sex, younger age, hopelessness, impulsivity, drug abuse, and suicide risk made independent contributions to violence risk.

In a sample of adolescent psychiatric patients, Kirkcaldy, et al. (2007) found that attempted suicide was associated with scores for depression, anxiety, anger-hostility, paranoid ideation and psychoticism, obsessional compulsion and interpersonal sensitivity. On the Behavior Checklist, attempted suicide was associated with anxiety-depression, social inhibition and aggressiveness.

In a study of female psychiatric inpatients, Sansone, et al. (2007) found that attempted suicide was associated with experience of domestic violence.

In admissions to an acute psychiatric unit, Bisconer and Gross (2007) found that those who had made suicidal attempts or who were considered at risk scored

higher on measures of hopelessness, depression and anxiety, along with suicidal risk scales, but that no scales predicted suicidal risk without significant error.

In a study of psychiatric inpatients, Floen and Elklit (2007) found that suicidal thoughts in the month prior to hospitalization were associated with PTSD, bipolar disorder, borderline personality disorder and anxiety disorders. Previous suicide attempts were found to be significantly associated with schizoaffective disorder, borderline personality disorder and anxiety disorders but not with PTSD. Suicidal ideation in the previous month was associated with having experienced incest or sexual molestation, having witnessed someone being seriously injured or killed, and having had other terrifying experiences. There was an association between previous suicide attempts and rape and being threatened with a weapon.

Affective Disorders

In a sample of bipolar disorder patients, Romero, et al. (2007) found that those with a family history of completed suicide more often had cluster C personality disorders and more often a history of attempting suicide.

Simon, et al. (2007b) studied outpatients with bipolar disorder. Past attempted suicide was associated with lifetime anxiety disorders. Patients with current anxiety disorders had more severe suicidal ideation, a greater belief that suicide would provide relief, and a higher expectancy of future suicidal behaviors. These associations were influenced by current bipolar severity and age at onset.

In a study of bipolar 1 and bipolar 2 patients, Perroud, et al. (2007) found that social phobia was the only anxiety associated with attempted suicide, and social phobia preceded the onset of bipolar disorder.

Roškar, et al. (2007) found that depressed suicide attempters and a depressed psychiatric control group did not differ in hopelessness and poor problem solving, but both groups were worse than non-clinical volunteers.

Lizardi, et al. (2007) followed up depressed patients for two years after discharge. High scores on the Reason for Living scale were negatively associated with attempting suicide during follow-up for women but not for men.

Raust, et al. (2007) tested psychiatric patients who had attempted suicide but who were now euthymic (low depression and mania scores) and healthy controls. The attempted suicides showed executive function deficits (visuospatial

conceptualization, spatial working memory, inhibition and visual attention), suggesting prefrontal cortex dysfunction.

In a study of patients with major depression, Chakraborty and Chatterjee (2007) found that prior attempted suicide was associated with more past suicidal attempts, suicidal ideation, early onset of insomnia and depression score.

Claassen, et al. (2007) compared patients with major depressive disorder who had attempted suicide with those who had not done so. The attempters had more current general medical conditions, more current suicidal ideation, more current alcohol abuse, and missed more work missed in the prior week, and their MDD had started earlier and involved more episodes.

Agargun, et al. (2007) studied depressed patients with and without melancholy and without and without a prior suicide attempt. Melancholic attempters had higher rates of nightmares and insomnia than melancholic non-attempters. There were no differences between non-melancholic patients with and without suicidal attempts in terms of the frequency of all types of insomnia and nightmares.

Dervic, et al. (2007) compared depressed psychiatric inpatients with and without Cluster C personality disorders (CCPD). Those with the disorders had higher levels of suicidal ideation but not more previous suicide attempts. Greater suicidal ideation in depressed patients with CCPD was associated with more hostility.

In a sample of bipolar outpatients, Simon, et al. (2007c) found that suicidal behavior (ideation or attempts) was associated with anxiety symptoms (panic, phobic avoidance, anxiety sensitivity and worry, but not with fear of negative evaluation). Suicidal behaviors were also predicted by depressive rumination positively and emotional processing negatively.

In Taiwan, Cheng, et al. (2007a) studied patients with depressive disorders reacting to reports of a celebrity suicide in the news. Suicidal ideation/attempts were more common in those under the age of 55, in those with a history of suicidal ideation and attempted suicide, and in those for whom the depression was not in full remission. This impact was found only up to 180 days after the celebrity suicide and strongest in the first 90 days.

Melhem, et al. (2007) followed for ten years a sample of 20-year-olds whose parents had mood disorders. The offspring who attempted suicide more often had mood disorders and depressive disorders, and scored higher on hopelessness and aggression, and had a tendency to impulsivity. A history of sexual abuse and self-reported depression in their parents predicted an earlier time to the attempt.

Pompili, et al. (2007d) compared patients with major affective disorders for their history of attempted suicide. The attempters were less likely to be married and less likely to have a physical illness.

In a sample of patients with bipolar disorder, Chaudhury, et al. (2007) found that, if the first episode was depressive rather than manic, the likelihood of lifetime attempted suicide was higher, but the depressed first-episode patients had less alcoholism and psychosis.

Dilsaver, et al. (2007) studied adolescent psychiatric patients and found that those with bipolar disorder had a greater comorbidity with PTSD. Attempted suicide (and to a lesser extent suicidal ideation) was more common in those with bipolar disorder and major depression than in those with other disorders and, furthermore, those patients with PTSD had a greater likelihood of both suicidal ideation and attempted suicide.

In outpatients with major depression, Chellappa and Araújo (2007) found that current suicidal ideation and past attempts were associated with insomnia (and excessive sleepiness).

In a sample of Hungarian adolescents with major depression, Tamás, et al. (2007) found that both suicidal ideation and attempts were associated with maladaptive emotional self-regulation, while attempted suicide was associated with maladaptive emotional self-regulation, shyness and the severity of the depression.

Cavazzoni, et al. (2007) studied families in which some members had bipolar disorder. Of 78 patients with 461 first degree relatives, 20 had attempted suicide. The attempters and non-attempters did not differ in the lifetime risk of affective disorder in their relatives, but the risk of bipolar disorder was higher in the relatives of the attempters. There were no differences in the lifetime prevalence of suicidal behavior between affected first-degree relatives of the attempters and non-attempters.

In a sample of bipolar patients, Valtonen, et al. (2007) found that hopelessness predicted suicidal ideation and attempts during the depressive phase, whereas a subjective rating of severity of depression and younger age predicted suicide attempts during mixed phases.

In a sample of patients with unipolar depression, Sarchiapone, et al. (2007) found that those who had attempted suicide had significantly higher scores on a childhood trauma scale, specifically for emotional abuse and emotional neglect, and higher lifetime aggression scores. Logistic regression found that being female, unemployed, childhood emotional neglect, and high aggression scores predicted making a suicide attempt.

In a study of rural Chinese with affective disorder, Ran, et al. (2007) found that attempted suicide was associated with a higher level of family economic status, a higher rate of lifetime depressed mood, hopelessness, and delusions.

Schizophrenia

In a study of patients with schizophrenia or schizoaffective disorder in five regions of the world, Altamura, et al. (2007) compared attempted suicides and non-suicides. The presence of comorbid substance abuse disorder and smoking was associated with suicide attempts in all the geographical groups. There were differences only in the age at the first suicide attempt (earlier in the North American sample) and the number of lifetime suicide attempts (higher in the North American sample).

Sevincok, et al. (2007) found that schizophrenics with comorbid obsessive-compulsive disorder were more likely to have attempted suicide and have suicidal ideation than those without comorbid obsessive-compulsive disorder.

In a sample of recent onset schizophrenia patients, Tarrier, et al. (2007) found that emotional withdrawal, but not blunted affect, was negatively associated, and depression positively associated with suicide behavior (poorly defined).

Kasckow, et al. (2007) compared psychiatric outpatients with schizophrenia and depression over the age of 40. Patients with suicidality (not defined) scored lower for quality of life, but not for performance-based skills, social skills performance or medication management ability.

In a study of patients with psychosis, Huguelet, et al. (2007) found that those who had attempted suicide did not differ in religiousness from those who had not. Roughly 25% of the patients saw religion as a protective factor, while roughly 10% saw religion as an incentive.

Borderline Personality Disorder (BPD)

Links, et al. (2007) studied a sample of BDP patients with a history of suicidal behavior. Their current mood was reported six times each day for three weeks. Negative mood intensity predicted prior suicidal behavior but not mood amplitude, dyscontrol or reactivity. Current suicidal ideation was predicted by depression score and negative mood intensity.

Substance Abuse

Conner, et al. (2007a) studied a large sample of alcohol dependent adults and looked at transitions from suicidal ideation to planning to planned and unplanned attempts. Their presentation of the results is not at all clear. Therefore, I will present their conclusions in their own words.

> Female gender is uniquely associated with transitions to unplanned and planned attempts. Independent depression and substance-induced depression are associated with transitions to ideation and planning, whereas alcohol-related aggression is correlated with transitions to unplanned attempts. Analyses of suicide-related outcomes show that women are at higher risk for unplanned and planned attempts. Substance use and impairment are related to suicidal plans and attempts but not ideation. Independent and substance-induced depressions are associated with each suicide-related outcome, whereas alcohol-related aggression is uniquely related to un planned attempts. (p. 654)

Maloney, et al. (2007) compared opioid dependent patients with normal controls. The substance abusers had more suicidal ideation, past suicide attempts and repeated suicide attempts. Predictors of attempted suicide in the substance abusers and controls were borderline personality disorder, PTSD and suicidal ideation as well as childhood abuse and neglect.

In a sample of methamphetamine abusers (MAP), Chen, et al. (2007a) found that attempted suicide was associated with female gender, history of MAP-induced

psychotic disorder, history of MAP-induced depressive disorder, and family history of psychotic disorders.

In a sample of heroin-dependent patients, Kalyoncu, et al. (2007) found that attempted suicide was associated with higher addiction severity scores and, for the females, an earlier age at starting to use heroin. The violent attempters had lower total cholesterol and high-density lipoprotein cholesterol.

Bakken and Vaglum (2007) followed up a sample of substance dependent patients (drugs or alcohol) for six years. Nineteen percent attempted suicide during the follow-up, with no differences between abuse of drugs versus alcohol and sober versus non-sober. At baseline, lifetime eating disorders, agoraphobia with and without panic disorder, and major depression were associated with having attempted suicide. Attempting suicide during the follow-up was predicted only by lifetime dysthymia, whereas lifetime generalized anxiety disorder reduced the risk. Neither Axis I nor Axis II disorders predicted suicide attempts during the follow-up.

In a sample of heroin addicts, Brädvik, et al. (2007) found that unintentional heroin overdoses were associated with attempting suicide (by methods other than heroin).

In a sample of patients on methadone, Conner, et al. (2007c) found that attempted suicide was associated with thwarted belonging, but not perceived burdensomeness or loneliness.

Roy and Janal (2007) compared alcohol-dependent patients who attempted suicide with those who had not done so. The attempters were more often female, report a family history of suicidal behavior, report more childhood trauma (in particular sexual abuse), greater levels of aggressive behavior, began heavy drinking earlier, and were more likely to have received antidepressant medication.

In a one-year follow-up study of patients admitted for substance abuse disorder, Ilgen, et al. (2007) looked for predictors of attempting suicide in the 30 days prior to the follow-up. Attempting suicide was associated with baseline elevated suicidal/psychiatric symptoms, more recent problematic alcohol use, and longer duration of cocaine use. Protective factors were contact with the criminal justice system and greater engagement in treatment.

In a follow-up study of heroin users, Darke, et al. (2007) found that attempted suicide was predicted by a lifetime suicide history, baseline suicidal ideation, social isolation and the extent of baseline polydrug use.

In a study of abstinent substance dependent patients, Roy, et al. (2007b, 2007c) found that those who had attempted suicide scored lower on a scale measuring resilience and higher on a depression scale. Resilience scores were not related to one-time versus repeated attempters.

PTSD

In a large Canadian community survey, Sareen, et al. (2007) found that, after adjusting for sociodemographic factors, mental disorders and severity of physical disorders, PTSD was associated with suicide attempts.

Conduct Disorder

Ilomäki, et al. (2007) studied attempted suicide in adolescents with conduct disorder. For girls, alcohol dependence increased the chances of having attempted suicide. For boys, alcohol dependence increased the likelihood of threatening suicide.

Other Disorders

In a sample of patients with eating disorders, Fedorowicz, et al. (2007) found that suicidal ideation and attempted suicide were most common in those with bulimia nervosa followed by anorexia nervosa of the binging/purging subtype. The strongest predictors within each type were drug use, alcohol use, and tobacco use.

In a study of patients with anorexia, Foulon, et al. (2007) found that attempting suicide was associated with major depression and switching from restricted eating to binging/purging.

In a sample of patients with obsessive-compulsive disorder, Kamath, et al. (2007) found that past suicide attempt was predicted only by worst ever suicidal ideation. For worst ever suicidal ideation, major depression, depression score, hopelessness score and a history of attempted suicide predicted worst ever suicidal ideation and current suicidal ideation.

Pathological Gambling

In a national sample of Canadians, Newman and Thompson (2007) found that pathological gambling in the prior year predicted attempted suicide in the prior year, along with major depression, alcohol dependence, mental health care, age, sex, education, and income.

Prisoners

In a sample of female prisoners, Chapman and Dixon-Gordon (2007) found that "anger was the antecedent emotion reported by the largest proportion of individuals who had engaged in deliberate self-harm (45.16%), suicide attempts (40.9%), or ambivalent suicide attempts (30%). Relief and other positive emotional shifts were more common in deliberate self-harm (41.94%) (involving no intent to die) than in suicide attempts or ambivalent suicide attempts, particularly for persons with borderline personality disorder" (p 543).

In a study of incarcerated youths, Freedenthal, et al. (2007) found that a history of inhalant use disorders were significantly associated with suicidal ideation and suicide attempt histories even after adjusting for general level of psychiatric symptoms, prior trauma, other substance use, gender, and additional potential confounders. Inhalant use without abuse or dependence was related to suicidal ideation, but this relationship was stronger for girls.

Studies of Suicidal Ideation

Methodological Issues

Klimes-Dougan, et al. (2007) interviewed adolescents about suicidal ideation and then again as young adults six years later. Only 38% of those who reported suicidality at baseline recalled correctly their earlier report of suicidality. Surprisingly, those who provided accurate reports of prior suicidal content were more symptomatic and were functioning more poorly.

Youths

In a sample of high school students experiencing difficulty with grades and/or attendance, Walsh and Eggert (2007) found that suicidality was associated with higher levels of drug involvement (except the use of alcohol and marijuana), emotional distress and stress, and lower levels of protective factors (such as self-

esteem, coping and support) as well as with hopelessness, depression, anxiety and anger.

In a national sample of American 14-22 year-olds, Joe, et al. (2007a) found that planning for suicide (and presumably suicidal ideation) was associated with greater acceptance of the decision to ends one's life, hardly surprising. Acceptance of suicide was highest in male and female non-Hispanic Asians.

In a national sample of teenagers, Bertera (2007) found that suicidal ideation was associated with being female and white, mood disorder episodes, and negative exchanges with family. For those aged 15-17, positive exchanges with family was a protective factor, and for those aged 18-19 positive exchanges with peers was a protective factor. The author's abstract does not match the table of results.

In a study of adolescents in Singapore, Wong, et al. (2007a) found that suicidal ideation was predicted by emotional distress, a negative self-concept, anger control and antisocial behavior. The strength of these predictors varied by sex with negative self-concept predicting suicidal ideation in males and emotional distress predicting suicidal ideation in females.

In a study of adolescents in rural Uganda, Rudatsikira, et al. (2007a) found that suicidal ideation was associated with loneliness and worry, as well as age, sex, smoking, drinking, and experience of having been bullied.

In a sample of adolescents in Guyana, Rudatsikira, et al. (2007b) found that suicidal ideation was associated positively with being bullied, depression and negatively with having close friends and understanding parents.

In a sample of Mexican adolescents, Tapia, et al. (2007) seemed to find that suicidal ideation was associated with low self-esteem and depression

Brausch and Muehlenkamp (2007) found that suicidal ideation in a sample of adolescents was predicted by sex, depression, hopelessness, past suicidal behavior, and body image (especially body attitudes/feelings) in both boys and girls.

In a study of adolescents, Orbach, et al. (2007b) found that suicidal ideation was associated positively with seeing solving problems in life as a threat and hopelessness and negatively with negative mood regulation.

In a study of homeless people in an American city, Fitzpatrick, et al. (2007) found that suicidal ideation was predicted positively by being male, stressful life events, criminal victimization and depression, and negatively by knowing that one has a mental illness and some measure of social ties (which is not at all clear[26]), but not by race, time spent without permanent housing or physical health,

In a study of young and old adolescents in Hong Kong, Sun and Hui (2007) found that family cohesion and a sense of school belonging, along with self esteem and depression, predicted suicidal ideation. Peer support was significant among girls and younger adolescents only, whereas peer conflict was significant among older adolescents only. Family conflict, teacher support and academic pressure did not add any significant contribution to the prediction.

Meehan, et al. (2007) studied South African adolescents and measured suicidal ideation with a badly designed scale that mixes suicidal ideation with many other constructs (such as hopelessness). They found a positive association between active coping (a functional coping strategy) and positive suicidal ideation scores (positive outlook on life) and between withdrawal (a dysfunctional coping strategy) and negative suicidal ideation scores (negative outlook on life). The results differed slightly for boys and girls.

In a sample of adolescents, Chabrol, et al. (2007) studied the association of four dimensions of depression : depressed affect, loss of positive affect, somatic and retarded activity, and interpersonal. For both boys and girls, depressed affect predicted suicidal ideation. For boys, loss of positive affect positively and somatic and retarded activity negatively predicted suicidal ideation.

In a sample of adolescents in Taiwan, Chang, et al. (2007) found that suicidal ideation was predicted by depression and a measure of the negative cognitive triad (View of Self, View of World, and View of Future).

In a sample of LGB Norwegians aged 16-24, Hegna and Wichström (2007) found that attempting suicide was associated with lack of parental contact, internalizing problems (depression/anxiety), low self-esteem, regular smoking, victimization. currently being in a steady heterosexual relationship, early

[26] whether or not they have close friends who are different from them in terms of their race, educational background, if the person owns their own business and whether or not they are seen as a community leader.

heterosexual experience (<16), early coming out (<15), infrequent contact with heterosexual friends, and openness to all heterosexual friends.

Adults

Zhang, et al. (2007) found that suicidal ideation was positively associated with idiocentrism (self-orientation) in both American and Chinese college students (only for females) and negatively (but less strongly) with allocentrism (group orientation).

Lester and Walker (2007) found that scores on measures of helplessness, hopelessness and haplessness all predicted suicidal ideation in a sample of college students.

In a sample of college students, Chioqueta and Stiles (2007c) found that suicidal ideation was positively associated with hopelessness and depression, and negatively with life satisfaction, self-esteem, family cohesion and social support. Their regression analysis identified the strongest predictors of suicidal ideation, but I suspect that all of the variables loaded on one factor.

In a sample of college students in Taiwan, Chiu, et al. (2007) found that past week suicidal behavior (mainly ideation) was positively associated with depression level and negatively associated with family income, but not with sex, age or past-year exposure to suicide news (all forms).

In a study of 18-30 year olds attending a primary care center, Carballo, et al. (2007) compared those and without alcohol misuse. Those with alcohol misuse were more likely to report suicidal ideation if suffering from depressive or anxiety disorders.

In Hong Kong, Fu and Yip (2007) interviewed a random sample of residents after a celebrity suicide. People who reported being affected by the suicide were more likely to report suicidal ideation, as were those with anxiety symptoms, less reason for living score and more focus on irrational values.

As far as I can understand their report, Bethell and Rhodes (2007) found that suicidal ideation was associated with depression!

Stallones, et al. (2007) studied low-income women in family assistance programs and found that emotional difficulties, substance abuse/dependence,

physical limitations, having been arrested, and the number of adversities and injuries were positively associated with suicidal ideation, while employment and pregnancy were negatively associated with suicidal ideation.

Vanderwerker, et al. (2007) studied elderly patients with substance abuse or medical frailty. Suicidality (probably ideation) was associated with lack of social support in the African Americans while younger age and anxiety disorder were associated with suicidality in whites in multiple regressions, although the simple correlations looked pretty much the same.

In a sample of depressed and formerly suicidal individuals, Holmes, et al. (2007) documented visual imagery about suicide in addition to suicidal ideation (thoughts).

In a community sample of adults, Miranda and Nolen-Hoeksema (2007) found that brooding but not reflection (both are aspects of rumination) predicated suicidal ideation, but in a follow-up one year later, both predicted suicidal ideation, along with depression.

In a sample of undergraduates, Pompili, et al. (2007b) found that, for those with high self-efficacy, aggression and impulsivity were associated with stronger reasons for living. Pompili, et al. (2007c) found that low scores for reasons for living in college students was associated with negative aspects of body image (body uneasiness).

In a sample in China, Zhang and Brown (2007) found that suicidal ideation was associated with trait anxiety, hopelessness, and a favor able attitude towards suicide.

Gençöz, et al. (2007) found that depression, hopelessness and attitudes toward the ownership of life (self versus God) predicted suicidal ideation in both Turkish and American college students. However, extrinsic religiosity was positively associated with suicidal ideation for the Turkish students while both intrinsic and extrinsic religiosity were negatively associated with suicidal ideation for the American students.

In a study of South African police, Pienaar, et al. (2007) found that suicidal ideation was predicted by low scores on conscientiousness, emotional stability, approach coping, and turning to religion and high scores on avoidance coping.

In a large sample in England, Dennis, et al. (2007) found that suicidal ideation was more common in younger adults than in those aged 55–74 years. The odds of depression in those with suicidal ideation was greater in the older people. Suicidal ideation was associated with a smaller social support group, being divorced/separated, poor medical health and limitations in daily activities. Being single and life events predicted suicidal ideation in the young people, and widowhood in the older people.

In a sample of undergraduate students, O'Connor and Forgan (2007) found that suicidal ideation was associated with goal reengagement (but not goal disengagement), socially prescribe perfectionism and behavioral sensitivity inhibition.

Ina sample of elderly primary care patients, Hirsch, et al. (2007b) found that depression and positive affect predicted suicidal ideation, but not age, gender, depression, negative affect, illness burden, activity, sociability, cognitive functioning, or physical functioning.

In a sample of undergraduates, Blankstein, et al. (2007) found that suicidal ideation was associated positively with socially prescribed perfectionism (but not self-oriented perfectionism, or with other-oriented perfectionism) in men, along with academic and social hassles and negatively with social support.

Vannoy, et al. (2007) followed up elderly patients in primary care for two years. The appearance of suicidal ideation during that period was predicted by older age, being male, no high school education, hopelessness, neuroticism, chronic disease, severe depression, and increasing depression.

In a sample of college students, Selby, et al. (2007) found that suicidal ideation was associated with angry memories, angry afterthoughts, and thoughts of revenge on an anger rumination scale, and maybe depression.

In a sample of elderly primary care patients at VA facilities, Ayalon, et al. (2007) found that suicidal ideation was associated with having poorer cognitive functioning, poorer health, and greater mental distress in addition to the typical demographic predictors of late-life suicide (age, marital status, and ethnicity). Younger age, female sex, poorer cognitive functioning, and greater mental distress were associated with active suicidal ideation.

In a community sample of Australians, Fairweather, et al. (2007) found that suicidal ideation was associated positively with younger age, childhood adversity, rumination, neuroticism, depression and anxiety, alcohol use disorders, current smoking, and, for the elderly, unemployment and negatively with viewing oneself as masterful. The correlates of suicidal ideation did vary by sex and age.

In a community sample of elderly Australians, McClaren, et al. (2007) found that suicidal ideation was associated with depression, lack of a sense of belonging, and a lack of antecedents for a sense of belonging (such as energy for involvement),

In a sample of elderly Japanese living in the community, Awata, et al. (2007) found that suicidal ideation was predicted by scores on the WHO-Five Well-Being Index and perceived social support.

In a sample of Norwegian military recruits, Chioqueta and Stiles (2007a, 2007b) found that scores on the two subscales of the Automatic Thoughts Questionnaire (Negative Self-Concept/Personal Maladjustment and Desire for Change/Negative Expectations) predicted suicidal ideation three months later, but none of the subscale scores of the Dysfunctional Attitude Scale did so.

In a study of university students in Hong Kong, Chan, et al. (2007d) found that: "suicidal ideation and perpetrating physical assault in the prior year were not associated. They found that: seven risk factors having significantly higher odds of physical assault and SI, namely, antisocial personality, borderline personality, criminal history, gender hostility, posttraumatic stress symptoms, social integration, and age. Neglect history and stressful conditions were common factors of male perpetration of assault and SI, whereas sexual abuse history was common to female perpetration of assault and SI. Factors such as anger management, communication problem, domination, jealousy, negative attribution, violence approval, and relationship length were unique to assault, whereas depressive symptoms, relationship commitment, and violent socialization were found to be significant factors to SI only. Several factors were not significant to assault and SI, including conflict, relationship distress, substance abuse, and SES" (p. 299).

In a sample of battered women in a shelter, Weaver, et al. (2007) found that past week suicidal ideation was associated with rape by an intimate partner, PTSD and depressive symptoms.

In a sample of college students, Kaplan, et al. (2007-2008) found that scores on the Suicide Probability Scale were not associated with sex or being religious. Suicidality was associated with zenoism (seeing a single misfortune as a sign of cosmic proportion) but significantly only for religious students.

In a sample of elderly adults under visiting nurse homecare, Raue, et al. (2007) found that past month suicidal ideation was associated with higher depression severity, greater medical comorbidity, and lower subjective social support.

Ron (2007) studied long term elderly residents of Israel and recent elderly Soviet Union immigrants. For both groups, depression and hopelessness were associated with suicidal ideation.

In a study of college students in Kuwait and the United States, Abdel-Khalek and Lester (2007) found that suicidal ideation had similar associations in both countries with anxiety, optimism, pessimism, death obsession, obsession-compulsion, and ego-grasping.

Patients with Psychopathology

Affective Disorder

Szanto et al. (2007) studied elderly patients receiving antidepressant medications. Suicidal ideation was more common in white patients, those with recurrent depression, with onset prior to age 60 and low self-esteem.

Franck, et al. (2007) studied depressed psychiatric patients with and without suicidal ideation and healthy controls. Only currently depressed patients with suicidal ideation had a discrepancy in self-esteem: high implicit and low explicit self-esteem. Non-suicidal depressed patients had low scores for implicit and explicit self-esteem while healthy controls had high scores for both.

In a sample of Vietnam combat veterans with chronic PTSD, Bell and Nye (2007) found that suicidal ideation was associated with the re-experiencing symptom cluster but not with the avoidance/numbing and increased arousal clusters, or scores on a measure of severity of combat exposure.

In a sample of patients with obsessive-compulsive disorder, Torres, et al. (2007) found that suicidal ideation was associated with depression scores and scores on an obsessive-compulsive scale.

In a sample of geriatric psychiatric patients, Heisel, et al. (2007) found that those with a narcissistic personality scored higher on a suicide item on the Hamilton Depression Scale even after controls for age, sex, depression and cognitive functioning.

In a sample of opioid addicts, Maremanni, et al. (2007) found that suicidal ideation was more frequent in patients with a bipolar spectrum diagnoses, in patients with depressive and aggressive symptoms, in patients receiving public welfare benefits, unemployed patients, those with early onset of heroin dependence, living alone, and experiencing problems in organizing social contacts and leisure time.

In a sample of opiate injection drug users, Lloyd, et al. (2007) found that suicidal ideation in the prior six months was associated with lifetime emotional, physical and sexual abuse.

Maina, et al. (2007) found that patients with obsessive-compulsive disorder had less current suicidal ideation than obsessive-compulsive/major depression patients and major depression patients, but the three groups did not differ in lifetime attempted suicide.

In Italian adolescents, Miotto and Preti (2007) found that suicidal ideation was associated with scores on measures of eating disorders, bulimia and body attitudes, but not after controls for depression and aggressiveness.

In a sample of elderly depressed patients, Hirsch, et al. (2007d) found that suicidal ideation was associated negatively with age and future orientation and positively with depression and functional impairment in daily living, but not with hopelessness and the burden of physical illness.

Prisoners

In Austrian juvenile offenders, Plattner, et al. (2007) found that suicidality in boys was associated with major depressive disorder, ADHD and social phobia, while in girls suicidality was associated with PTSD.

Senior, et al. (2007) found that British prisoners judged to be at risk of suicide more often had psychiatric problems than the general population of prisoners.

Medical Issues

Shtayermman (2007) in a small sample of people with Asperger syndrome, found that 50% reported suicidal ideation.

Wang, et al. (2007) studied adolescents with chronic daily headache assessed for suicidal risk. Suicidal risk was higher for females, for those with major depression and anxiety disorders, but not with age. Those with migraines obtained higher suicidal risk scores but, after controls for age, sex and psychiatric disorder, only those with migraine with aura obtained higher suicide risk scores.

In a study of HIV+ people, Carrico, et al. (2007) found that past-week suicidal ideation was positively associated with being not heterosexual, severe HIV-related symptoms and medication side effects, regular marijuana use, and worse depression and negatively with Hispanic/Latino, in a primary romantic relationship, and self-efficacy for coping.

In a poorly analyzed study of pregnant women (mixing those seen at a psychiatric unit and those seen at an epilepsy unit), Newport, et al. (2007) found that suicidal ideation was associated with being unmarried, never attending college, an unplanned pregnancy, did not desire or had mixed feelings about being pregnant, with a current major depressive disorder, with comorbidity, and with a lifetime history of a mood disorder, an anxiety disorder or a substance use disorder.

Attitudes toward and Knowledge of Suicide

In a sample of British adolescents, Scourfield, et al. (2007) found that they viewed attempted suicide as a feminine behavior and had negative views of it (seeing it as motivated by revenge and manipulation).

Kõlves, et al. (2007) compared university students in Estonia (a high suicide rate country) and Austria (with a lower suicide rate). The Estonian students scored higher on their knowledge about suicide.

Ellis and Lamis (2007) found that female undergraduates scored higher than did males on several reasons for living; Survival and Coping Beliefs, Responsibility to Family, Child-Related Concerns, and Fear of Suicide.

Anderson and Standen (2007) found that British nurses and doctors who work with children who self-harm agreed on the Suicide Opinion Questionnaire on the Mental Illness, Cry for Help, Right to Die, Impulsivity, Normality and Aggression scales, but less on the Religion and Moral Evil scale. Only the scores for Mental Illness were statistically different. There were no significant differences in relation to gender, age clinical specialty and length of experience in current post.

Loibl and Voracek (2007) gave Lester and Bean's (1992) Attribution of Causes to Suicide Scale which measures lay theories of suicide (intrapsychic problems, interpersonal conflicts, and societal forces) to a sample of the general population in Austria. Societal causes of suicide were significantly less frequently endorsed than intrapsychic or interpersonal causes. Sex, intelligence, knowledge about suicide and scores on the Big Five personality factors and social desirability were largely unrelated to the three dimensions. Endorsing intrapsychic causes for suicide was correlated with older age, religiosity, and conservative political orientation, and the three dimensions were associated with locus of control.

Voracek, et al. (2007f) found that Austrian undergraduates agreed with all three causes of suicide on Lester and Bean’s inventory, suggesting that they believed that suicide has definite causes (regardless of type) versus that it is without causes (unpredictable).

Voracek, et al. (2007c) devised a scale to measure belief in the inheritance of risk factors for suicide. Scores on this scale were positively associated with knowledge about suicide but for the most part unrelated to lay theories of suicide, political orientation, religiosity or social desirability. Medical students scored higher than psychology students. Voracek, et al. (2007e) found that this belief was not associated with the Big Five personality dimensions, locus of control, social desirability, verbal intelligence, age, religiosity and knowledge about suicide, but not with sex, education or political orientation. Voracek (2007h) found, in samples from many countries, that it was widely disbelieved that adoptees’ risk for suicide resembles their biological relatives rather than their adoptive relatives.

Voracek, et al. (2007d) found that medical students did not know the seasonal distribution of suicides accurately, thinking that suicides peaked in the Autumn and Winter rather than in the Spring.

Sun, et al. (2007) studied the attitudes of casualty nurses in Taiwan to attempted suicides. Positive attitudes were stronger in those with a higher level of nursing education and those who did not have a religion, while those who had experience of suicide care experience with <10 patients had more positive attitudes towards suicidal patients than nurses who had nursed >10 patients

In Finnish hospital emergency room personnel, Suominen, et al. (2007) found that being female, older age and working in a hospital without routine psychiatric consultation were associated with more positive attitudes towards attempted suicide patients.

Physician-Assisted Suicide (PAS)

In a study of physicians in Vermont, Craig, et al. (2007) found that males were more likely than females to favor legalization of PAS. Physicians who did not care for patients through the end of life were more likely to favor legalization of PAS than physicians who do care for patients with terminal illness.

Wilson, et al. (2007) studied patients receiving palliative care for cancer. Their desire for PAS was associated with lower religiosity, worse functional status, a diagnosis of major depression, and greater distress on 12 of 22 individual symptoms and concerns.

In a sample of college students, Kaplan, et al. (2007-2008) found that men and non-religious students were more in favor of PAS, as were those with higher scores for zenoism (seeing a single misfortune as a sign of cosmic proportion).

The Language of Suicide

Silverman, et al. (2007) proposed a new nomenclature for suicidal behavior.

It is odd that in 2007, the physiological research still refer to *suicide victims* in their reports. Using PsycINFO, I found the term still present in the titles of papers in 2024 and 2025.

Discussion

Personal Comments

It is regrettable that researchers who measure both suicidal ideation and attempted suicide in the same sample do not compare the ideators and attempters so that we might be able to extrapolate to completed suicides. The use of the Suicide Behavior Questionnaire (SBQ) seems to always lead researchers to use only the total score which includes ideation and attempts combined. To put it bluntly, the SPQ is a bad (useless for purposes of research) scale to use.

There are other meaningless scales. The Positive and Negative Suicide Ideation Inventory includes constructs such as hopelessness. Yes, the authors get publications, but they do not advance our understanding of either suicidal ideation or attempted suicide.

It is surprising that good journals accept many articles that have been poorly analyzed statistically and poorly presented. This is a reflection on the editors and reviewers of the scholarly papers. Furthermore, some researchers obviously think that, why get one paper out of their study, when they could get two.

What Have We Learned About Suicide?

Several studies have found an association between smoking tobacco and suicidal behavior. The implications of this association are far from clear.

An increasing number of studies incorporate a measure of suicidal intent (or medical lethality of the attempt), thereby allowing us to extrapolate to completed suicide. The trends were noted above on page 112.

If you read my papers, you know that I urge the development of a good typology of suicide. There some suggestions for a typology from Fortune, et al. (2007), Séguin, et al. (2007) and Chen, et al. (2007b).

There were also some excellent studies. Two are worth noting here. Let me reprint my summaries of these studies.

Re suicidal intent and extrapolation to completed suicides.

In a sample of Chinese rural attempted suicides and community controls, Conner, et al. (2007b) did what Lester, et al. (1979) had suggested (but not citing them), dividing the attempters into low, medium and high in suicidal intent. By suicidal intent, higher intent was associated linearly with high chronic stress, low acute stress, major depression, low quality of life, and suicide in associates or relatives. Major depression and suicide in an associate or relative appeared to also

distinguish the attempted suicides from the controls, but this was not tested explicitly.

Re more complex sociological research designs.

Agerbo, et al. (2007b) compared adult suicides in Denmark with living controls. For the 267 municipalities, the suicide rate was higher in those where the proportion of people living alone was higher. At the individual level, suicide was more common in males, those not married, and those unemployed. Adjusting for individual level variables weakened the association with municipality. In contrast, individual-level associations with these risk factors were little changed when controlling for contextual (municipality) effects

This Discussion is more positive than my Discussions in previous reviews!

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