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PSYCHOLOGICAL RISK AND PROTECTIVE FACTORS FOR SUICIDAL BEHAVIOR IN SUBSTANCE USE DISORDERS

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Abstract: The present article reviews research psychological risk and protective factors for suicide in substance use disorders (SUD) including impulsivity, stress, anxiety, depression, social support, resilience, and mattering constructs and their impacts on suicide and SUD. The present article is important for public health, prevention, and policy making; and also, provides opportunities for major advances in the formulation of new public health interventions. The article highlights the need for special attention to prevention, early diagnosis, dual diagnosis and concurrent treatment of SUD and mental health problems. Regarding psychological risk and protective factors for suicide in SUD, the integration of addiction and mental health services with primary health care (PHC) is recommended.

Keywords: impulsivity, stress, anxiety, depression, social support, resilience, mattering, suicide, SUD, PWSUD

Introduction

Suicide is a complex public health problem (Centers for Disease Control and Prevention of the United States [CDC], 2021; Lester & Dadfar, 2025a, World Health Organization [WHO], 2021). Suicidal behavior is defined as actions or preparations for suicide attempts that include any evidence of intent to die (Jacobs & Kleinbenheim, 2023; Lester & Dadfar, 2025b, 2025c). There are three types of suicidal thoughts and actions that play the most important role in predicting suicidal behavior: suicidal ideation, suicide planning, and suicide attempt (Lester, 2021).

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Addiction is a complex multidimensional phenomenon (Bayanzadeh, et al., 2004; Saberi-Zafarghandi, et al., 2017; Saberi-Zafarghandi, 2011). The risk of addiction in an individual is usually the result of a complex interaction between various psychosocial factors, including risk and protective factors at both the proximal and distal levels. Psychosocial factors contribute to higher levels of substance-related harm for certain groups of people (Dadfar, 2023).

The relationship between substance use disorders (SUD) and suicide is multifaceted and multidirectional. SUD independently increase the risk of suicidal behavior (Bohnert, et al., 2017). Suicide rates increase following SUD (Jomehpour, et al., 2025; Shokfateh, 2025; Yuodelis-Flores & Ries, 2019). Suicide risk may be increased in people with substance use disorders (PWSUD) with a history of suicidal thoughts or suicidal attempts when they experience acute stressful life events (Suicide Prevention Resource Center, 2021; World Health Organization and United Nations Office on Drugs and Crime [WHO & UNODC], 2020). Wong, et al. (2013) found that use of any substance was associated with an increased likelihood of suicidal ideation. The relationship between opioid misuse, opioid use disorder (OUS), and suicidal thoughts and behaviors is complex (Bohnert & Ilgen, 2019; Khanjani, et al., 2023; Luo, et al., 2022).

PWSUD and people with alcohol use disorder (PWAUD) are at increased risk of suicidal thoughts and attempts. There is a strong association between SUD and the risk of suicidal behavior (Abdalla, et al., 2019; Armstrong, et al. 2014; Legas, et al., 2020). SUD pose a risk of suicide that is 10 to 14 times higher than the suicide rate in the general population (Esang & Ahmed, 2018). SUD are associated with an increased risk of death by suicide (Lynch, et al., 2020; Santo, et al., 2021). While all SUD have an elevated risk for suicide, this risk is greater for OUS and alcohol use disorder (AUD) (Esang & Ahmed, 2018; Rizk, et al., 2021).
Suicide is a significant clinical concern in PWSUD and requires careful consideration of the involved factors. Suicidal ideation is a significant clinical concern among people seeking treatment for SUD (Armoonet, al. 2021). Morgan, et al. (2022) found that the risk of suicidal behavior may increase at any stage of treatment for SUD.

A possible explanation for high rates of suicidality among PWSUD could be that SUD treatment focusing on cessation and relapse prevention may not pay sufficient attention to underlying psychosocial risk factors of SUD (Espinet, et al., 2016). While a lack of attention to suicide risk factors may explain part of the association between SUD and suicidality in treatment, other factors at the individual and socio-contextual levels play a role.

Risk and protective factors are the primary targets of effective prevention programs that are implemented in various settings. At the selective prevention level, identifying risk and protective factors has great importance. Interventions at the selective and indicated prevention levels are based on the most important risk and protective factors (Comprehensive Document on Primary Prevention of Addiction, 2021). The National Institute on Drug Abuse (NIDA) has considered several principles for designing and delivering prevention programs. The most important of these principles are: localizing programs, identifying risk and protective factors, and exploring unidirectional and multidirectional relationships between these factors (NIDA, 2003).

Risk factors increase the likelihood that PWSUD will engage in suicidal behavior, including hopelessness, defeat, entrapment, interpersonal needs, acquired capability for suicide, stress, anxiety, depression, loneliness, impulsivity, and aggression/hostility (CDC, 2024). Some risk factors for suicide overlap with risk factors for SUD (DSM-5-TR, American Psychiatric Association [APA], 2022). Risk factors are positively correlated with suicide rates in SUD. Risk factors are often described as static (long-term) or dynamic (acute) (Simon, 2006). In suicidal patients with comorbid SUD, clinicians should pay attention to dynamic (acute) risk factors that impact the individual's life. These factors can change rapidly, but are easily targeted for therapeutic intervention (Esang & Ahmed, 2018).

Protective psychological factors reduce the likelihood that PWSUD engage in suicide, increase the PWSUD’s ability to cope, and protect against suicide in SUD (Chehil & Kutcher, 2012). Protective factors include reasons for living, resilience, mattering, social support, love of life, having a positive self, satisfaction with life, happiness, religiosity, and physical health (CDC; 2024; Dadfar, et al., 2021). Protective factors are negatively correlated with suicide rates in SUD.

Psychological Risk and Protective Factors

Variables associated with suicidal behavior, suicide risk factors and suicide protective factors fit a multidimensional model and path (Dadfar, et al., 2023). Psychosocial constructs are, in a sense, psychological risk and protective factors. Psychosocial constructs are derived from psychological theories and models of suicide such as hopelessness theory, defeat-entrapment theory (Gilbert & Allan, 1998), the interpersonal psychological theory of suicide (Joiner, 2005), the integrative motivational-volitional model (O’Connor & Kirtley, 2018; O'Connor, 2011, 2013), the three-stage suicide theory (Klonsky & May, 2015), variable

susceptibility theory (Rudd, 2006) and other psychological approaches. Turecki's biopsychosocial model combines and integrates a variety of distal, developmental, and proximate factors as risk factors for suicidal attempts (Turecki, et al., 2019). Given that each theory and model is somewhat different from other theories or models, to explain psychological risk and protective factors for suicide in SUD, synergy and integration of the theories and models are necessary.

What is shared in suicide and SUD is the desire to escape pain, suffering, and discomfort. Substance use may increase the risk of suicide. Jha, et al. (2023) reported that some of risk factors associated with suicide include AUD, SUD, smoking, impulsivity, depression, negative life experiences, adverse life events, low social support, etc.

Suicide in PWSUD is often a stress response or reckless risk-taking. Additionally, in individuals without a diagnosed mental health condition, suicide is often a response to a loss of identity or security (Connery, et al., 2019, 2022). SUD and substance intoxication are also both correlated with novelty seeking and other impulsive behaviors, as well as the occurrence of more lethal suicidal behavior. The risk of suicide and death is increased in people with opioid use disorder (PWOUS) who also have alcohol misuse (Connery, et al., 2019; Rizek, et al., 2021). In general, polysubstance use (having more than one SUD) has been shown to increase the risk of suicide (Lynch, et al., 2020).

Substance use can cause depressive states and low mood. Substance use may also be an attempt to cope with negative emotions such as depression, low self-esteem and anxiety. Although substance use may help suppress bad feelings in the short term, it can worsen a person's emotional state over time. When the effects of a substance dissipate, painful feelings emerge, and the person may become depressed and consider suicide as an option. Although relapse is considered by most experts to be a natural part of the addiction recovery process, it can lead to deep emotions of shame or self-hate. Such emotions can lead to suicide for some addicted persons, especially those without a strong support system (Dadfar, 2023). PWSUD use maladaptive coping strategies, such as substance use or alcohol use in stressful situations to reduce their stress or depression. Therefore, the most common coping strategies of PWSUD are emotion-focused and avoidant coping styles (Faraji, et al., 2015).

PWSUD are likely to have depression, and depression is a major risk factor for suicide. Even transient depression is a strong risk factor for suicide among PWSUD. PWSUD are more likely to have comorbid depressive disorders. Having

a depressive disorder, particularly bipolar disorder, is a major risk factor for both substance use and substance intoxication (Baldessarini, 2021; Connery, et al., 2019, 2022). Substance use is associated with mental health disorders (Yildirimer, 2022). The association between SUD and suicidality may require special consideration for patients who have problems with both depression and suicidality. For example, depression, impulsivity, and low social support may both exacerbate and be exacerbated by substance use and suicidality (Galway, et al., 2016; Gorlyn, et al., 2005). Depression is a common comorbid diagnosis among PWSUD that increases the risk of suicidal behavior. Even transient depression is a strong risk factor for suicidal behavior among PWSUD, and other psychiatric disorders are also implicated (Izometsa, 2022; Queloz & Mathieu, 2022).

Impulsivity has been cited as a key factor in why some people who think about killing themselves and attempt suicide (Ali, et al., 2024; Milner, et al., 2020). Impulsivity can result in a tendency to have suicidal thoughts, and SUD impair impulse control. PWSUD tend to exhibit impulsive and aggressive behaviors that contribute to stress and interpersonal conflict, thereby increasing the risk of suicide. Impulsive and aggressive tendencies contribute directly to life stressors (interpersonal problems, negative life events, and substance-related problems) (Conner & Duberstein, 2004; Lamis, et al., 2014). Life stressors and anxiety are conceptualized as increasing suicide both directly and indirectly through promoting depressive symptoms.

If they have social support, individuals perceive themselves as belonging to a network of mutual connections and commitments. Social support increases psychological well-being, facilitates health-promoting behaviors, and moderates the impact of stress on the individuals (Dadfar, et al., 2024). Social support can be a strong predictor of suicide in PWSUD.

Resilience contributes to having healthy coping mechanisms, optimism, and a more positive outlook, which reduce the risk of suicidal behavior. This key concept in the suicide field has three dimensions: internal protective factors, external protective factors and emotional stability. These dimensions have a wide range of cognitive and emotional components, and each of these dimensions can be related to suicidal behavior in SUD.

Resilience may reduce the likelihood of suicide (CDC; 2024; Hammond & Zimmerman, 2012). Several psychological risk and protective factors, such as depression, anxiety and resilience, have complex interrelationships that influence suicidal ideation (Delgadillo, et al. 2023). Holman and Williams (2022) found that

depression was the main risk factor, while social support and resilience were protective factors for suicidal ideation.

Mattering is a social, psychological, emotional and cognitive concept. Mattering is an important part of a person's self-concept. Mattering is related to the important construct of "self" in theories of personality, social, developmental and cognitive psychology, and psychopathology, in addition to other psychological concepts. Mattering has three basic elements or categories: Attention (awareness), Importance, and Dependence (reliance). It is applied in three domains: at the individual level, at the relationship level, and at the societal level. Mattering to others (actual or perceived mattering) is felt as mattering at home, at school, at work, at university and in the community (Dadfar, 2020; Dadfar, Lester, & Sanadgol, 2021).

Suicide and SUD in Iran

In Iran, comorbid mental disorders, SUD and AUD are major factors in the increase of suicides. According to statistics, in 2022, about 6,918 people died by suicide, and nearly 100,000 people attempted suicide. Reports from the Iran's Forensic Medicine Organization show that a significant percentage of deaths are related to SUD and AUD. A study at the Tehran University of Medical Sciences also showed that 25% of people who attempted suicide had a history of SUD, with young people aged 18 to 30, especially methamphetamine and alcohol users, at the highest risk. These statistics emphasize the need for targeted interventions, special attention to high-risk groups, and the implementation of prevention and treatment programs in Iran. Addiction is associated with social isolation, family rejection, and loneliness, which exacerbates hopelessness. Depression, anxiety, and loneliness are often experienced simultaneously with addiction and can lead to suicidal behavior. In Iran, SUD and AUD also play a significant role in the increase of suicides, and this is recognized as a serious public health problem and a mental health concern in this country.

In Iran, there are emergency telephone numbers for the crisis intervention of suicide. If persons are in a crisis situation, they can call one of the following numbers:
110 – Police (national number)
115 – National Medical Emergency
123 – Social Emergency (for psychological and social interventions)
1480 – Iranian Welfare Organization's Counseling Line (answered from 6 am to 9 pm nationwide)

To receive online counseling and services, and to find the nearest counseling centers, individuals can visit the Welfare Organization's website (www.behzisti.ir). Also, individuals can register for online systems for support of addicts on the Welfare Organization's website (www.behzisti.ir). Also, In Iran, there is a comprehensive National Suicide Prevention Program (Hajebiet, al., 2011; Saberi-Zafarghandi, et al., 2012; Souresrafil, et al., 2024).

Expected Achievements of Research on Suicidal Behavior in PWSUD

The expected achievements of research on suicidal behavior in PWSUD focusing on risk and protective factors include:

1. Identifying psychological risk and protective factors, and the cognitive processes that lead to suicidal behavior, will be effective in preventing, screening, assessing, and treating suicide.
2. By identifying psychological risk and protective factors associated with suicidal behavior. Research will potentially help professionals understand the causal factors involved in influencing the increase in levels of suicidality.
3. The strength of the relationships between psychological risk and protective factors, will contribute to an initial framework for assessing suicide risk in PWSUD who access maintenance treatment centers e.g., opioid agonist drugs (OAT) maintenance treatment.
4. Multivariate designs will identify the interactive and concurrent relationship between psychological risk and protective factors and help select the best point for intervention.
5. Understand what makes PWSUD vulnerable to suicide, as well as known protective factors against it, to better understand and develop interventions.
6. Provide practical implications for prevention and public policy
7. Discover clinical implications, enhance recovery, help relapse prevention, and offer suggestions for future research
8. Provide a comprehensive view of the different domains of psychological risk and protective factors and their interrelationships for mental health professionals and enhance their understanding of suicide and its causes, especially the root causes, for the development of suicide prevention technologies among PWSUD
9. Reduce the challenges facing researchers in trying to understand the problem of suicide and its causes among PWSUD

10. Provide a guide for the goals of clinical interventions focused on suicide prevention among PWSUD
11. Provide intervention plans and prepare educational packages based on Iranian models focused on psychosocial etiology and identified psychological risk and protective factors in suicidal behavior among PWSUD
12. Gain knowledge about the psychological and interpersonal processes of suicidal behavior among PWSUD. Therefore, the findings will emphasize the importance of assessing psychological and interpersonal constructs when working with PWSUD
13. Potential to inform and expand current theoretical models of substance-related suicide
14. Impact clinical approaches to the management of substance use and suicide, with important implications for public health policy

Conclusions

The association between SUD and suicidal behavior is complex, multifaceted and multidirectional. Suicide can be a serious risk factor in PWSUD and interfere with the process of treatment programs. Suicidal behavior among PWSUD is a serious challenge and requires comprehensive prevention and treatment programs. Providing appropriate services and social support can help reduce the risk of suicidal behavior in these patients.

Investigating the psychological risk factors that make PWSUD vulnerable to suicide appears to be essential for better understanding and developing interventions. Suicidal ideation may provide an important clue for understanding key risk factors for suicide in PWSUD and allow for the development of timely adaptive interventions in these people. The more risk factors, the greater the risk of suicide and other self-destructive behaviors such as substance use.

Investigating the protective psychological factors that protect PWSUD against suicide is necessary to better understand and develop more timely and appropriate adaptive interventions for these people. The simultaneous effects of social support and resilience on suicide will provide evidence on how to reduce suicidal behavior rates among PWSUD. Investigating the relationship between suicide and protective psychological factors, such as social support and resilience, and modeling to predict suicidal behavior, can lead to appropriate policymaking in the field of providing preventive programs and programs related to mental health promotion in PWSUD. It may also be useful for preparing prevention guidelines

and clinical interventions for suicide with a focus on ethnic identity in these people.

Mattering has many correlates, antecedents and consequences, and it is fundamental to well-being and psychological health, but the concept of mattering has been largely ignored by researchers, psychologists, counselors, and clinicians. Mattering is a key part of suicide, SUD and mental health. Mattering is a protective factor, and anti-mattering is a risk factor for suicide and SUD and mental health. Mattering, as a strong and unique predictor of behavior, is measurable at several levels. It is useful to use multiple measures of mattering for assessing this concept and the individual's "mattering profile". Psychoeducational interventions focused on mattering are useful and effective for individuals.

The present article is important for public health, prevention, and policymaking; and also, provides opportunities for major advances in the formulation of new public health interventions. Developing prevention programs at the second and third levels to improve treatment and reduce self-harm requires serious attention to suicide in PWSUD. Regarding psychological risk and protective factors for suicide in SUD, integration of addiction and mental health services with primary health care (PHC), is recommended.

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A STUDY OF MARRIED SERIAL KILLERS

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Abstract: There are many theories that attempt to explain why a person kills repeatedly, but no theory is universally accepted. Serial killers possess multiple traits that could partially explain why they commit their murders. The present study found that six variables differed by marital status: gender, use of alcohol, use of drugs, types of victim, family members as victims, whether the crimes were classified as organized or disorganized, and trends toward type of first contact with the victims and whether they died by suicide.

Empirical research into serial murder is an important task for several reasons. First, any information that sheds light on serial murder may increase the ability of investigators to catch serial murderers. Second, as the FBI pointed out in a training memo for law enforcement agencies (Morton, 2008), much of what is known about serial killers both by the general public and by law enforcement officials comes from the media, either in sensationalized stories or in media "experts" giving their opinions on cases.

Although there have been various definitions of serial murder over time, serial murder today is defined by the FBI as "the unlawful killing of two or more victims by the same offender(s) in separate events" (FBI, 2005). Serial murder is an uncommon occurrence and is "…. estimated to comprise less than one percent of all murders committed in any given year" (FBI, 2005). Scott (1996) categorized serial murderers into four types: serial sexual killers, team killers, family killers, and institutional killers.

Research into serial killers has suggested some traits that may characterize them. For example, Schlesinger (1998) suggested that serial killers may be characterized as having narcissistic personality disorder. Several researchers have suggested that sexual fantasies play a role in motivating serial killers and shaping their behavior (e.g., Davis, 1998; Hazelwood & Warren, 2001). For example, Davis (1998) proposed that sexual fantasies played a strong role in Jeffrey Dahmer's murders, while Hazelwood and Warren (2001) proposed that, "Fantasy

is the link between the underlying motivations for sexual assaults and the behaviors exhibited during the crimes. Such an understanding can help to determine linkages between offenses perpetrated by a serial offender" (p. 94).

Some researchers are looking toward neuroscience to help explain the phenomenon. One of the first psychologists to study the intricacies of serial murder was Joel Norris (1988) who believed that serial murder was a neurological dysfunction. Adrian Raine suggested that serial murder may be the result of malfunctioning brain interactions between the frontal lobes and subcortical areas such as the limbic system (Raine, 2013; Glenn & Raine, 2014). Baron-Cohen (2011) believed that lack of empathy, a prime characteristic of serial murderers, was primarily a dysfunction of certain neuroanatomical areas. Pincus (2001) describes how violent behavior is the result of abuse, neurological damage, and mental illness.

It has been noted that socio-demographic variables may impact serial killing. For example, Harrison, et al. (2019) found that male serial killers stalk victims who are strangers whereas female serial killers more often target victims whom they know. The present study sought to explore whether serial killers who are married during the series of killings differ in the characteristics of their murders from those who are not married.

Method

Seven criminal justice graduate students collected data on 500 serial killers using true crime books, encyclopedias of murderers, newspaper accounts and court records, and coded the data using a predetermined coding sheet. Sixteen major encyclopedias and handbooks were used to gather the names of serial killers, in particular, Lane and Gregg (1992) and Newton (1990, 2006). In addition, information from books (especially true crime books of which we located 143 relevant to the data set), court records and articles on them (identified from newspapers, Internet sources, Westlaw and LexisNexis, among others) was collected, read and coded. The project stopped after 500 serial killers were identified because, after that number had been reached, the names of additional serial killers who had sufficient information about them in published documents were becoming very difficult to locate. It is possible, of course, that one or more major encyclopedias or handbooks may have been missed, but it is very unlikely that many serial killers have been omitted from the data set.

The coders met once a month for over a year to discuss the criteria for the variables and any problems that arose. They used at least three different sources for each variable for each serial killer. There were 73 different variables based on the life history of the serial killer and the circumstances of murders. For the purposes of this study, dichotomously coded variables (yes/no) were used primarily. All serial killers were suspected of killing at least three people with a cooling-off period between each of their murders. There was no time period restriction, only a cooling-off period. All the murders in this data set occurred after the year 1900.

Inter-rater reliability was not assessed since the coders were not making judgments about the cases, but coding facts. For instance, a variable such as kill-site different from dumpsite had to be explicitly stated in at least three sources. However, the codings may not have been valid since different sources may have copied from one another so that, rather than there being three independent sources for each variable, there may have been only one original source from which the "facts" of the case were copied by other sources.

The cases for the present study were restricted to 312 serial killers who killed their victims in the United States after 1950. Data for almost all of the variables were missing for some of the murderers. Ninety-one murderers in the sample were listed as married during the period of their murders, leaving 186 as not married and 35 with missing data. Of those with marital status coded, 87.5% were male. Because of the small number of females in the sample, the results were examined for only the male serial killers.

Two-tailed tests of statistical significance were used, but differences with $p<.10$ are presented in order to provide ideas for future research.

Results

The results for male serial killers are shown in Table 2, with a typical result shown in detail in Table 1. The married men during the commission of the murders and not married men did not differ in sexual abuse in childhood, cruelty to animals, fire setting, having a psychiatric disorder, prior sex crime arrests, or previous criminal arrests. Regarding the killings, the two groups did not differ in having a partner in the murders, mutilating victims, torturing victims, cannibalism, necrophilia, having victims escape, setting some victims free, or type of crime (con, blitz or surprise).

Table 1: The association between marital status and suicide for men

	married	not married	total	
died by suicide	7 (10.4%)	7 (8.1%%)	14	χ^2 = 3.60, two-tailed p=.06
not suicides	60 (88.6%)	166 (96.0%)	226	
total	67	173	240	

Table 2: Marital status and significant crime variables for men

		married	not married	
took trophies/souvenirs:	yes	29 (69.0%)	50 (47.6%)	χ^2 = 5.54, p-.02
	no	13	55	
victims:	male	6 (8.7%)	31 (17.9%)	χ^2 = 5.75, p-.02
	female	38 (55.1%)	69 (39.9%)	
	both	25 (36.2%)	73 (42.2%)	
victims: strangers		30 (44.8%)	119 (69.6%)	χ^2 = 12.73, p<.001
known		14 (20.9%)	21 (12.3%)	
both		23 (34.3%)	31 (18.1%)	
victims family members:	yes	19 (27.5%)	10 (5.9%)	χ^2 = 21.58, p<.001
	no	50	160	
dumpsite different	yes	30 (47.6%)	60 (35.9%)	χ^2 = 3.00, p=.08
crime site:	some	14 (22.2%)	38 (22.8%)	
	no	19 30.2%)	69 (41.3%)	
organized crime		33 (50.8%)	51 (30.4%)	χ^2 = 8.59, p<.01
disorganized crime		21 (32.3%)	71 (42.3%)	
both		11 (16.9%)	46 (27.4%)	
physically abused:	yes	22 (53.7%)	28 (35.4%)	χ^2 = 3.69, p=.06
	no	19	51	
frequent use of alcohol		25 (62.5%)	72 (76.6%)	χ^2 = 2.79, p=.09
no		15	22	
frequent use drugs		18 (41.9%)	52 (57.8%)	χ^2 = 2.96, p=.09
no		25	38	

The married male serial killers more often took trophies/souvenirs, killed females, knew their victims and family members, and committed organized

murders. There were trends toward the serial killers dying by suicide, using a dumpsite different from the site of the killing, to have more often been physically abused in childhood and to less frequent use alcohol and drugs.

Discussion

It was hypothesized that there would be a relationship between marital status and suicide, with married perpetrators dying by suicide instead of facing their spouses or that being married would be a protective factor against suicide. The present results were in the direction of this expectation (one-tailed $p<.03$). Alleged serial killers Herbert Baumeister (Weinstein & Wilson, 1998) and Mack Ray Edwards (Monroe, 2021) both died by suicide and were married during their murders. Sean Vincent Gillis (Mustafa & Israel, 2011; *State v Gillis*, 2008) and alleged serial killer Israel Keyes (Callahan, 2020) were both living with a paramour while they murdered others, and they both died by suicide.

Of the male serial killers, 28% were married during the killings. Serial murder is about power, control, domination, and manipulation (Hazelwood, 2001; Ressler & Shachtman, 1992) and, if the theory of behavioral consistency across all social domains is correct, many spouses would not want to become involved in a long term relationship with such a dominating individual. John Wayne Gacy (Maiken & Sullivan, 2000; Lindecker, 1993) and Gary Ridgway (Green River Killer) (Reichert, 2005) had wives that left them during their murders, but not all wives left the marriages. Darcie Brudos, who was made to wear high-heeled shoes and otherwise be naked while performing household chores, remained with Jerry Brudos (Rule, 1983).

Alcohol is known to affect changes in mood states, psychomotor performance, planning, and can lessen inhibitory control (Eckardt, 1998). Regarding the use of alcohol among serial killers, the married serial killers tended to use both alcohol and drugs less often during the period of their murders. Alcohol may have been used to lower inhibitions, as it did for unmarried killers Jeffrey Dahmer (Norris, 1992; Davis, 1998), Ted Bundy (as told to TIM by Elizabeth Kendall, Bundy's girlfriend), Dean Corll (Olsen, 1974; DeLong, 2022), and Lawrence Bittaker (Van Sambeck, 2021). Likewise, substance abuse can also be used to lower inhibitions and increase impulsivity (Aaron, 2007). Charles Manson used drugs to loosen the inhibitions of several of his followers, and Jack Unterweger suggested that several of his attacks on women could have been fueled by drug induced blackouts (Leake, 2009).

Previous research has identified differences in serials killers by the sex of the serial killer (White & Lester, 2012), their ethnicity (Lester & White, 2014) and the sex of the victim White, et al., 2015). Obviously, not all serial killers are alike, and awareness of differences by socio-demographic variables may help investigators profile serial killers and researchers to understand their motivations.

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IS THERE LIFE AFTER DEATH?[4]

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In a study of college students, Lester, et al., (2001-2002) found that ninety-five percent believed that they would reunite with their family and friends (the most commonly held belief), but only 6 percent believed that the quality of their afterlife would be determined by rituals carried out after their death (the least frequently held belief). There were some interesting discrepancies in the answers of the students. Seventy-four percent of them believed in Hell, but only 12 percent believed that there was pain in the afterlife. Hell might be a pleasant place after all!

Fifty seven percent believed that the spirit has a human form, but this raises the question of what the form might be. Is the human form the same we had in the days before we died? If so, let us say that we are blind by the time we die. Will we be blind in the afterlife? Thirteen percent of my students believed that the physical state is the same in the afterlife as they were at death, so they believe that such a person would be blind.

But if you say, "No, the person would not be blind," what form would the spirit have? At what age would the form be? If you died at the age of, say, ninety, would your form be the one you had at ninety, or at some earlier age? Say you had a baby that died at the age of two when you were twenty years old. Now you die at the age of ninety. How will your baby recognize you? Your baby saw you at age twenty when you looked very different from the ninety year-old you were when you died. These questions are impossible to answer, but fun to speculate about. Perhaps there will be extra-sensory perception, and we will automatically "know" who each spirit is, or perhaps each spirit will wear a name-tag saying, "Hello, My name is David Lester, 1942-2xxx"?[5]

We will not answer these questions in this essay. Instead, we will examine some of the evidence that pertains to the question of whether there is a life after death. After all, if the answer is no, then we do not have to worry about those questions listed above.

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[4] See also Lester (2005).

[5] I'm too superstitious to forecast the year of my death!

Phenomena I Will Not Consider

There are lots of phenomena that appear to be critical in answering the question of whether there is life after death that I am not going to consider. What are these, and why am I ignoring them?

There are poltergeists, energy sources that move objects around in houses. There are mediums who are in communication with deceased spirits and who pass on messages from these spirits to the living. There are apparitions which appear to people, sometimes in the form of ghosts in haunted houses, sometimes in the form of deceased loved-ones, either as we mourn their loss or when they come to comfort us as we approach our own death. There are people who become "possessed" by the spirits of deceased persons. Why am I not going to consider any of these phenomena?

There are three main reasons for leaving them out of this essay. First, many skeptics do not believe that these phenomena exist. Thus, most of the writing about them is directed toward an effort to proving or disproving the existence of the phenomena. For example, the majority of mediums do not pass on messages from the dead that provide information that can be checked for its accuracy. Typically, the spirits pass on messages of comfort which are not factual. Those mediums that do pass on information from the dead that can be checked, especially those mediums that attain fame and publicity, are often suspected of fraud. For example, Jaroff (2001), writing in *Time Magazine*, suggested that John Edwards, a medium whose shows have appeared on television, uses fraudulent methods, such as deceptive editing of the show when it is broadcast.

Second, even if you do believe in these phenomena, they rarely provide any information which can be checked for its accuracy. People who are possessed be dead spirits often act in bizarre ways, but they do not provide specific information about the life of the spirit. Indeed, they rarely provide a name!

Finally, there is a research to show that these phenomena are not "real." For example, Lange and Houran (2001) have analyzed cases of poltergeists and of hauntings (and conducted some studies themselves) to show that both of these phenomena can be explained as a result of several factors. First, the vague perceptions that percipients report are often indirect and hazy, and the interpretation given to them is affected by the contextual variables in the

environment, the demand characteristics of the situation and characteristics of the percipient.

Second, attention plays an important role. In one of their studies of a non-haunted house, Lange and Houran found that the couple who lived there reported 22 "anomalous" events in a thirty-day period, and the pattern of the reports was similar to those reported by people living in "haunted" houses.

Third, in another study, Lange and Houran (1997) found that telling some subjects that a house was haunted increased the number of anomalous perceptions as compared to subjects who were not told that the house was haunted. The *expectations* of the people played a role in their perceptions. Perceiving stimuli was associated with sex and age (most were young women) and an intolerance of ambiguity, and Houran and Thalbourne (2001) have argued that there is "an encounter-prone personality trait" that is stronger in some people at times of need and which increases their tendency to "perceive" such phenomena.

Phenomena I Will Consider

There are two phenomena that undeniably exist. Both are reports from living humans, and no one doubts that the reports are common. The debate is over whether they provide evidence for life after death.

The first set of reports are those from people who are close to death, perhaps because of a heart attack or a car accident, and who, when they recover, report what we now call a near-death experience (NDE). These reports often involve the experience of entering into a strange region where they meet spirits and deceased loved-ones, spirits who sometimes tell them to return back to life for it is not yet their time to die. Are these experiences those that we will have when we eventually die and is the experience a glimpse into our life after death?

The second set of reports comes from those who spontaneously recall a previous existence which could be evidence for reincarnation. In the Western world, many of the publicized reports of reincarnation experiences involve previous existences from hundreds and even thousands of years ago, and often involve previous existences as famous people, such as those reported by Shirley MacLaine (1988). These are not common. Most reincarnation reports come from young children, two to six years old, who remember previous existences in nearby places in which their previous incarnation died a few years earlier. Again, these reports do exist. It is their implication that is debatable.

We will not consider reincarnation reports obtained through hypnosis. Hypnosis is a state of consciousness that causes great debate among scholars. Is it is really different level of consciousness or is it merely a highly suggestible state? If it is the latter, then the role of the hypnotist is critical, and perhaps the hypnotist suggested some of the material that the subject reported. In cases of multiple personality, for example, a psychiatric disorder in which a person has two or more "personalities" which are not aware of one another, modern research does not permit hypnosis of the subjects for the findings to be considered valid.

Let us begin by considering NDEs.

Near-Death Experiences (NDEs)

Some people, when they come close to death, perhaps as a result of illness, during surgery or in an accident, have an experience which seems to be remarkably uniform. It has well-documented features, such as moving through a tunnel, that most of those who have the experience report, and some of the features seems to anticipate the possibility of a real existence after death. Although those who report NDEs did not die, but instead recovered and were able to tell us about the experience, it is possible, had they not recovered, that their NDE was the beginning of their life-after-death. Could this be true?

Although people have described NDEs in previous centuries, the first formal description of what people experience as they approach death was provided by Moody (1976, 1977) based on descriptions given to him by people whom he interviewed. It consisted of fourteen elements.

(1) The experience is characterized as inexpressible, that is, it cannot be put into words.

(2) The person hears doctors or bystanders pronounce him or her dead.

(3) There is a pleasant feeling of peace and quiet.

(4) Unusual auditory sensations are experienced which may be unpleasant, such as a buzzing, ringing, or tinkling of bells.

(5) There is the sensation of being pulled through a dark tunnel.

(6) There is an out-of-the-body experience in which the mind seems to float out of the body and looks down upon it.

(7) People often encounter spiritual beings who are there to ease the transition to death or to tell them that they must return to their bodies.

(8) The people encounter a very bright light which is experienced as a "being."

(9) There is a review of life's experiences.

(10) They may approach a border or a limit such as a body of water, a mist, a door or a fence.

(11) The people experience coming back to their bodies.

(12) There is a reluctance to tell others about their experience after they have recovered and are back among the living.

(13) People report that the experience has a profound effect on their lives, usually positive.

(14) The experience changes people's attitudes toward death, typically making them less fearful of death.

A composite account sounds like the following.

> A man is dying and, as he reaches the point of greatest physical distress, he hears himself pronounced dead by his doctor. He begins to hear an uncomfortable noise, a loud ringing or buzzing, and at the same time feels himself moving very rapidly through a long dark tunnel. After this, he suddenly finds himself outside of his own physical body, but still in the immediate physical environment, and he sees his own body from a distance, as though he is a spectator. He watches the resuscitation attempt from this unusual vantage point and is in a state of emotional upheaval.
>
> After a while, he collects himself and becomes more accustomed to his odd condition. He notices that he still has a "body," but one of a very different nature and with very different powers from the physical body he has left behind. Soon other things begin to happen. Others come to meet and to help him. He glimpses the spirits of relatives and friends who have already died, and a loving, warm spirit of a kind he has never encountered before -- a being of light -- appears before him. This being asks him a question, nonverbally, to make him evaluate his life and helps him along by showing him a panoramic, instantaneous playback of the major events of his life. At some point he finds himself approaching some sort of barrier or border, apparently representing the limit between earthly life and the next life. Yet, he finds that he must go back to the earth, that the time for his death has not yet come. At this point he resists, for by now he is taken up with his experiences in the afterlife and does not want to return. He is overwhelmed by intense feelings of joy, love, and peace. Despite his attitude, though, he somehow reunites with his physical body and lives.

> Later he tries to tell others, but he has trouble doing so. In the first place, he can find no human words adequate to describe these unearthly episodes. He also finds that others scoff, so he stops telling other people. Still, the experience affects his life profoundly, especially his views about death and its relationship to life. (Moody, 1977, pp. 5-6)

Other elements in NDEs have occasionally been reported. For example, Ring (1988) noted that a small percentage of near-death accounts have perceptions of the future. These may be personal (*flash forwards*) or planetary-wide and global (*prophetic visions*), and they are usually found in those who have a full NDE.

Although most research into NDEs has focussed on the pleasant experiences, some people do have unpleasant experiences. Some writers have documented cases which seem more like Hell. For example:

> ....Then I saw that I was getting out of my body. The next thing I remember was entering this gloomy room where I saw in one of the windows this huge giant with a grotesque face that was watching me. Running around the windowsill were little imps or elves that seemed to be with the giant. The giant beckoned me to come with him. I didn't want to go, but I had to. Outside was darkness but I could hear people moaning all around me. I could feel things moving about my feet. As we moved on through this tunnel or cave, things were getting worse. I remember I was crying. Then, for some reason the giant turned me loose and sent me back..... (Rawlings, 1978, p. 106)

Greyson and Bush (1992) collected fifty accounts of distressing NDEs and found that there were three types:

(1) the typical near-death experience which is reacted to with distress (that is, the person does not enjoy the experience at all),
(2) experiences of nonexistence or eternal void, and
(3) experiences with hellish imagery.

The Frequency Of NDEs

One of the first questions to ask about NDEs is how many people have had them. In a national survey, Gallup and Proctor (1982) found that 15 percent of

Americans had been “on the verge of death or had a close call which involved any unusual experience at that time.” This was more common in men than in women (17% versus 13%), in nonwhites, in those not going on to high school, in the West, in those over 50 years of age, in the poor, and in Protestants.

Of these 15 percent, the most common experiences were an overwhelming sense of peace and painlessness (11%), a fast review or re-examination of the individual's life (11%), a special sensation or feeling, such as the impression of being in an entirely different world (11%), an out-of-body sensation (9%), an acute visual perception of surroundings and events during the incident (8%), a feeling that special beings were present during the incident (8%), the presence of a blindingly bright light or series of lights (5%), perception of a tunnel (3%), premonitions of some future event or events (2%), and a sense of hell and torment (1%).

In one of the few good studies on NDEs because he interviewed the people immediately after their medical emergency, Greyson (2003) interviewed 1595 consecutive patients in a cardiac care unit. Two percent reported NDEs, but ten percent of those who had a *cardiac arrest* reported these experiences. Those who had a near-death experience were matched with those who did not for age, sex and medical diagnosis, and those with the experience had more often lost consciousness, reported themselves as closer to death (although objective measures did not confirm this), had greater acceptance of death and had experienced more prior paranormal phenomena and altered states of consciousness in the past, before they had a cardiac problem.

Are NDEs Tied to The Dying Process?

Ring (1984) noted that many accounts have been recorded of NDEs that did not occur during any near-death incident or dying process. He reported the case of a woman who had such an experience while delivering a eulogy for a friend at a funeral service. Sutherland (1990) reported an NDE which occurred in a murderer sitting in his prison cell, induced by the murderer putting himself in his victim's position.

Comment

Grosso (1981) claimed that NDEs are consistent and universal, and any theory of NDEs must explain these two characteristics of the phenomenon. We have already uncovered the possibility that NDEs are not consistent. First of all,

not every NDE contains all of the elements, and we have to account for this in any theory of the NDE.

Second, some researchers find people who report only the typical, pleasant NDE while other researchers manage to find people who report deviant experiences and, in particular, unpleasant experiences. This raises the possibility that each researcher may be biasing the type of people who report NDEs. Moody, for example, who is famous for his books on NDEs, may attract only those who have experiences similar to those he writes about. Those who have hellish experiences may not care to tell them to Moody.

This raises one problem with the research on NDEs. Much of the research is based on reports volunteered to the researchers, often by members of organizations devoted to the study of NDEs. Only Gallup and Proctor (1982) surveyed random samples of people, and good research uses such random samples in order to eliminate the bias introduced by volunteers.

The Impact of NDEs

People who have an NDE often report that the experience had a great impact on their lives. Flynn (1982) surveyed 21 people who had an NDE and found an increased concern for others, a reduced fear of death, an increased belief in life-after-death and religious interest or feeling, and a reduced desire for material success and approval from others. Musgrave (1997) surveyed 51 NDEers and found that they reported being more helpful toward others after the experience, compassionate and understanding, open-minded in general, spiritually or religiously open, intuitive, and aware of guidance by a higher power.

Ring (1984) reported on the results of a questionnaire and interview study of over one hundred people who had NDEs. They reported, on the whole, an increased appreciation of life, concern for others and a quest for meaning and less concern with impressing others and materialism. They became more religious in a spiritual sense than those who did not have NDEs, although they did not change their attitudes toward the institution of the church. They also came to believe more in life-after-death and to have more paranormal experiences in their lives.

Sutherland (1989) interviewed people who had NDEs at least two years earlier. According to their subjective opinion, they reported an increase in psychic experiences of all types after the NDE, including clairvoyance and telepathy, but also an increase in the frequency of more ordinary phenomena such as intuition

and dream awareness. Their belief in life-after-death increased, and they felt less afraid of death.

Greyson (2001) examined 194 people who had near-death incidents, of whom three-quarters had an NDE. He found that those who had the near-death experience had higher scores on a tests of post-traumatic stress disorder than those who did not have such an experience. Thus, it is not surprising that it is sometimes reported that those who have an NDE occasionally have difficulty adjusting or coping with life (Furn, 1987) and relating to family members (Insinger, 1991). Of course, many of these individuals were close to death, which in itself may cause psychological problems. Immediately after the experience, the person may feel a sense of loss at leaving "life-after-death" behind, they may feel frustrated in trying to communicate the experience in words, and they may feel ridiculed by others if they report the experience. Often, medical staff ignore or minimize their experiences, and it has been helpful to have their experiences professionally legitimized and validated as our knowledge of NDEs has spread in recent years. The long-term effects are, in contrast, more positive (as noted above), and so counseling is most appropriate soon after the experience.

Critical Research on NDEs

There has been much research on NDEs which is critical to answering the question of whether these experiences provide evidence of life after death.

Children

Research on the NDEs of children is critical because the reports of such experiences from adults can easily be affected by what they have read or heard about NDEs during their lives. Children have been less influenced (but by no means un-influenced) by such reports.

Cases have been reported of children reporting NDEs when near death. Some of these are reports from adults who remember an NDE that they had in childhood. Much better would be reports from children at the time of the NDE.

Bush (1983) reported on seventeen NDEs in children, two of which were reported by the subjects when they were children -- the others were adults when they reported their memories of a childhood NDE. The two reports by children were both by four year-olds to their mothers. Here is one of the reports from the boy when he was five years old as told to his mother who reported it to Bush:

> When I drowned, I didn't want to come back. I saw something real pretty in the sky. I saw you and Josie and another lady working on me. I was sitting on the roof and I could see you.
>
> Then it got real dark and I walked down a tunnel. There was bright light at the end, and a man was standing there.
>
> I asked him, “Who was the man?”
>
> He said, “It was God.” And I said I wanted to stay. But God said it wasn't my time yet and I had to come back. I put my hand out and God put his hand out and then God pulled his hand back. He didn't want me to stay.
>
> On the way back, I saw the devil. He said if I did what he wanted, I could have anything I want
>
> I said, “You know God is good and the devil is evil.”
>
> He said, ""”The devil said I could have anything I wanted, but I didn't want him bossing me around.”(Bush, 1983, p. 187)

In this child, however, we see the tremendous influence of the Christian religion in which he had been raised. Nevertheless, further of the near-death experience in children would be of great interest. Furthermore, the mother did not tape-record the child’s story, but rather recalled it from memory.

The Blind

Reports of NDEs from the blind, especially those who have been blind from birth and who have never had any visual experiences, are critical because we would not expect those without vision to report the same visual experiences as.

Recently, Ring and Cooper (1997) studied 21 people who had NDEs, ten of whom had been blind from birth. One of these, Vicki had two NDEs. The second, at the age of 22 during a car crash which involved a skull fracture and concussion, included an out-of-the-body experience at the crash scene and at the hospital. She saw herself in the hospital from the ceiling of the room:

> ….I recognized at first that it was a body, but I didn’t even know that it was mine initially. Then I perceived that I was up on the ceiling… (p. 110)

Vicki reported being sucked into a tube head-first, moving toward light, ending up on some grass, surrounded by trees, flowers and people. She met five specific people from her life, including her grandmother who had raised her. She was overcome by a sense of total knowledge, met a Christ-like figure who told her

that she must go back, and had a life review before returning to her body. Ring and Cooper did not present a statistical description of these experiences in the blind, but they claimed that they are identical to those reported by "seeing" people, and indeed the reports do resemble the traditional NDEs closely. Ring and Cooper noted that the subjects reported having sight in these experiences. They reported fine-grained details with sharp acuity. They also said that they did not "see" in their dreams and that the NDEs were very different from their dreams. Vicki saw color in her NDE, but had never "seen" color in her dreams.

NDErs and UFOers

Ring (1992) studied people who claimed to have encountered aliens (UFOers) and those who claimed to have had NDEs (NDEers),[6] together with comparison subjects[7] who had an interest in these phenomena but who had not experienced them. The UFOers and NDEers differed from the comparison subjects in having had more psychic experiences as children (such as predicting the future) and being more sensitive to alternative realities (such as seeing fairies), but did not differ on the tendency to be prone to fantasy as children (such as having a vivid imagination). Both groups also had more experience of childhood abuse and trauma than the comparison subjects, including physical mistreatment, psychological abuse, sexual abuse, neglect and a negative home atmosphere. This finding is important because such childhood experiences have been found to be associated with later psychiatric symptoms such as dissociative symptoms (such as amnesia) and conversion symptoms (such as sensory loss or hypersensitivity). In line with this, both NEDers and UFOers did have higher scores on a measure of dissociative tendencies than did the comparison subjects.

After the experience, both groups of experiencers showed increased physical sensitivities (e.g., to light and hearing), physiological changes (e.g., decreases in metabolic rate and blood pressure), changes in energy (e.g., a decrease in the time spent asleep), emotional changes (e.g., more mood swings), expanded mental awareness and an increase in psychic abilities. They were also more likely to become electrically sensitive, that is, causing electrical and electronic malfunctions (for example, their wrist watches often stopped working correctly). Those who had these experiences also showed a greater appreciation for life, self-acceptance, concern for others and spirituality. These changes seemed to persist for long

[6] The experiences are almost diametrically opposite -- for example, NDEs are usually positive experiences while the alien encounters are negative.

[7] Psychologists traditionally call the people they test "subjects."

periods after the experience. Ring concluded that both of these experiences seem to produce radical biological and psychological changes in both groups.

Ring suggested that a common neurological mechanism may underlie both experiences, perhaps greater sensitivity in the temporal lobe of the cortex. Ring also suggested that this neurological sensitivity was not necessarily a cause of the experiences, but rather facilitated the receipt of the experience and its transmission. Perhaps the people who have these experiences are sensitive to a different realm of experience than others, and the experiences are a prophetic revelation of the state of our civilization?

Testing the Out-Of-Body Experience

Ring and Lawrence (1993) reported two cases of patients who, during the out-of-body experience in their NDEs, saw objects outside of the hospital (a shoe on the roof and a shoe on a ledge) which were found where indicated and which were not visible from the patients' beds. Ring and Lawrence urged researchers to keep working on the possibility that those who have out-of-the-body experiences may in fact report accurately on objects not visible to them in the hospital. More recently, Morris and Knafl (2003) reported the case of a patient who reported the existence of a penny on top of one of the cabinets in the room where she had an NDE that proved to be there but which could not be seen by people standing in the room.

Holden and Joesten (1990) set up an experiment in a hospital room in which certain visual symbols would be visible only to a "spirit" which had floated up to the ceiling. Ensuring that no-one else in the hospital knew what the symbols were was quite difficult and, having set up the experiment, no patient had an NDE in the room in a six month period. Parnia, et al. (2001) set up a similar test but, of 63 consecutive patients with cardiac arrest, none reported an out-of-the-body experience and so none could report what was on boards suspended from the ceiling with figures on the top side.

The Effect of Culture

If NDEs are evidence of life after death, then there should be few differences in the reports of those experiences from people in different cultures. We would not expect the life after death to be different for Americans as compared to Africans or Indians, and so the NDEs of the three groups should not differ.

Pasricha and Stevenson (1986) reported sixteen cases of NDEs from India. These reports are very different from the typical American NDE.

> Four black messengers came and held me. I asked, "Where are you taking me?" They took me and seated me near the god. My body had become very small. There was an old lady sitting there. She had a pen in her hand, and the clerks had a heap of books in front of them. I was summoned...One of the clerks said, "We don't need Chhajju Bania (trader). We had asked for Chhajji Kumhar (potter). Push him back and bring the other man. He [meaning Chhajju Bania] has some life remaining." I asked the clerks to give me some work to do, but not to send me back. Yanraj was there sitting on a high chair with a white beard and wearing yellow clothes. He asked me, "What do you want?" I told him that I wanted to stay there. He asked me to extend my hand. I don't remember whether he gave me something or not. Then I was pushed down [and revived]. (p. 167)

The Indian accounts of NDEs resembled American accounts in that sometimes deceased acquaintances and beings of light or religious figures were seen. However, only the Indian accounts had messengers to take the person to the other realm and to bring him back, had men with books, and involved the person not being scheduled to die or being the wrong person. There were no instances in these Indian experiences of seeing one's own body, experiencing a life review or being sent back by loved ones.

This account appears to me to have very few of the elements of the NDE listed by Moody. The same is true of reports I have read from NDEs in Thailand, Zambia and Melanesia in the South Pacific.

The Type of Near-Death Incident

It would be difficult to accept NDEs as evidence for life after death if the report varies depending on the near-death event which precipitated the experience. Greyson (1993) classified the components of the NDE into cognitive, affective (that is, emotional), paranormal and transcendental components. Those who had the NDE after a sudden incident (such as an accident) had a stronger cognitive component, suggesting to Greyson that the unexpectedness rather than proximity to death led to such features as time distortion, thought acceleration and life review. Those who had cardiac arrest had a fuller NDE, with stronger affective, paranormal and transcendental components, suggesting that proximity to death leads to more profound experiences.

Noyes and Slyman (1978-1979) found different frequencies of the elements of the NDE depending on whether the experience occurred during a fall, drowning, automobile accidents, or illness. Noyes and Slyman identified (by means of statistical analysis) three components of the experience: mystical consciousness, depersonalization and hyper-alertness. The frequency of the elements was affected by whether the subjects believed themselves about to die (those who did more often experienced a revival of memories), loss of consciousness (those who did lose consciousness more often felt detached from their body), and their age at the time of the experience (those under the age of 21 more often saw sharp and vivid images).

Twemlow and Gabbard (1984-1985) found that the presence of a fever during the near-death out-of-the-body experience increased the probability of hearing noises; that those who were told that their hearts had stopped beating were more likely to have a sense of power during the experience and to be aware of other beings; that those who were in an accident at the time were less likely to want to return to their body and were more likely to experience joy; that those under general anesthesia were more likely to see a brilliant light and to wish to keep the experience a secret; that those under the influence of a drug were less likely to experience part of their mind as back in their body, and were more likely to be aware of other beings and to feel that these beings were trying to communicate with them; and that those who were in severe pain felt less attached to their physical body, and were more likely to feel confused about the experience, have a sense of freedom, see their body from a distance, and be in the same environment as their body. Those under the influence of a drug had greater "attention absorption" (a cognitive style conducive to experiencing altered states of consciousness) and those in severe pain were less hysteroid on personality tests.

Comment

This research is quite poor. Good research would demand that one investigator (or a team of investigators) interview in the same way large samples (50 to 100) of NDEers and compare the elements reported using sound statistical techniques. The NDEs should be collected soon after the experience, within a day at least. The investigators should also take care not to bias their data collection by asking leading questions. Only a few recent studies have attempted this (e.g., Greyson, 2003; Parnia, et al., 2001).

Alternative Explanations for the NDE

Many alternative explanations have been for offered to "explain away" NDEs, that is, to argue that they do not provide evidence for life-after-death.

It's the Medications Given to the People

NDEs could be the result of the medications administered to the people by the attending medical personnel. For example, people given anesthetics sometimes report a sensation of being drawn down a dark tunnel. One of the drugs suggested as inducing experiences similar to NDEs is ketamine. Ketamine appears to block the receptors in the brain whose functioning is controlled by the neurotransmitter glutamate. Jansen (1997) who has taken ketamine and has had a near-death experience claims that the experiences are similar.

Here is one account of a ketamine-induced hallucination:

> .....My first memory is of colors. I saw red everywhere, then a yellow square on the left grew and crowded out the red. My vision faded, to be replaced with a black-and-white checkerboard which zoomed to and from me. More patterns appeared and faded, always in focus, with distinct edges and bright colors.
>
> Gradually I realized my mind existed and I could think. I wondered, "What am I?" and "Where am I?" I had no consciousness of existing in a body; I was a mind suspended in space. At times I was at the center of the earth, in Ohio (my former home), on a space-ship or in a small brightly-colored room without doors or windows. I had no control over where my mind floated. Periods of thinking alternated with pure color hallucinations. (Johnstone, 1973)

This description does not resemble the NDE, and those cited by Jansen (1997) do not resemble the NDE either. I think it highly probable that quantitative research comparing the two types of experiences would find them to be quite different.

NDEs are a Result of Oxygen Deficits

Or epileptic seizures, or the use of recreational drugs (such as marijuana or LSD), or the sensory deprivation that occurs as we move through the dying process. NDEs could be a result of these factors, but there is absolutely no evidence that they are.

Physiological Explanations

A large number of physiological explanations have been proposed to account for NDEs. The NDE could be a result of endorphins (morphine-like substances) which are released by the brain, when we are under stress, in order to alleviate pain. For example, Carr (1982) suggested that the stress of a near-death event leads to the secretion of endorphins and enkephalins which provoke hippocampal activity which, in turn, triggers activity in the limbic lobe which is the physiological basis of the NDE. Carr produced no research to support his idea, however. It was proposed merely as a speculative hypothesis.

Whinnery (1997) suggested that those who are put in gravity accelerators (such as a centrifuge) and lose consciousness have an experience similar to an NDE. Does the acceleration cause an NDE or is an NDE caused by the same physiological process as those which cause loss of consciousness in a centrifuge? However, I don't see the similarity of the two experiences. Here are two reports of the experience from Whinnery:

> I was floating in a blue ocean, on my back...kind of asleep but not asleep. I knew the sun was up...like someone was trying to wake me up. Finally, I woke up and I was on the centrifuge! I did not want to wake up...I could see myself on the water and also look at the sun; the sky was very blue, the sun very yellow. (Whinnery, 1997, p. 246)

> I was in the grocery store going down one of the aisles. I was...being propelled by something like a magic carpet, although I could not make movements. I wanted to reach out and get a carton of ice cream but could not move my arm or even my eyes to look for it. It was intensely frustrating to hear the warning horn and not be able to get me arm down to turn the darn thing off. (Whinnery, 1997, p. 246)

These experiences are not like NDEs.

Are NDEs Hallucinations

Siegel (1980) has argued that NDEs are very similar to descriptions given by people who are hallucinating, whether drug-induced or otherwise (such as by anesthetics, fever, and exhausting diseases, as well as by the dying process). Ineffability is commonly reported by those having peak religious and mystical

experiences. Hearing voices is common in surgical patients recovering from anesthesia. Seeing a bright light or cities of light are similar, according to Siegel, of hallucinatory experiences resulting from stimulation of the central nervous system, as is the out-of-the-body experience and perceiving a border or limit. Seeing deceased relatives are simply retrieved memory images of those people.

Unfortunately, Siegel's assertions suffer from two limitations. First, Siegel did not produce any quantitative comparisons of the reports of a sample of NDEs and a sample of hallucinations to support his contention. Thus his assertions are speculative. Secondly, Siegel has to resort to a different explanation for each element of the NDE, which breaks the scientific rule that the best theories are those which are parsimonious. Siegel admitted that people who have experienced both NDEs and hallucinations claim that they are very different.

Untestable Explanations

Some of the elements, such as moving through a dark tunnel toward a light, may simply be the result of the re-arousal of the birth experience, a flashback or a retrieval of the memory (Roedding, 1991), and this may be especially true for the NDEs that are frightening to the person.

In Carl Jung's theory of the mind, we have a set of conscious elements and a set of elements in a personal unconscious (desires and thoughts which stem from infancy and childhood years which were punished and forbidden expression by our parents). However, Jung believed that, in addition, we have a set of unconscious elements in our mind which we share with other humans, inherited in some way, which he called the collective unconscious, elements of which were called archetypes. The similarity of the NDE in people from different cultures and in different eras suggests to Jungian analysts that, at times close to death, a particular archetype is stimulated and intrudes into the conscious mind (Heaney, 1983).

Interesting though these hypotheses are, there is no way to test their correctness. The same goes for hypotheses that NDEs are visions from God or from the Devil.

Comment

The research conducted on NDEs has been, in general, quite poor. Many methodological weaknesses are found in the research. However, those who do not believe that NDEs are evidence for the existence of a life after death have not even

attempted to do any research. They simply propose an alternative explanation and assert that it is true. As we have seen above, if you examine their hypotheses, some are found to be false. Ketamine-induced experiences are not like NDEs. Spinning people in a centrifuge does not produce an experience similar to an NDE. Other "explanations" are found to be untestable by scientific research!

Are NDEs Evidence for Life After Death?

What do I conclude? Perhaps I should not tell you my opinion. But this is my essay, so why not? There are several features of the research on NDEs which I find troubling.

(1) There appears to be huge impact of culture on the NDE. Despite the opinions of those publishing the accounts of NDEs from different cultures that they are similar, to me the differences are striking. If NDEs are evidence for life after death, they should be the same in every culture.

(2) The role of the features of the near-death incident in affecting the NDE is disturbing. The tunnel experience may be more common in those who have cardiopulmonary arrest. Panoramic review may be more common in those who are in accidents. Twemlow and Gabbard (1984-1985) found evidence for the influence of fever during the near-death incident, heart stoppages, accidents, general anesthesia, drugs and medications, and severe pain in affecting the nature of the near-death experience. These studies were not completely methodologically sound, but future research, to be convincing, must study and eliminate the impact of these kinds of variables.

(3) Ring's (1992) research comparing NDERs and UFOers is quite disturbing. It suggests that both groups have similar childhood experiences, personality traits, and even psychiatric symptoms. Since UFO encounters do not provide evidence for life after death, it seems that NDEs may not either, and both may be products of eccentric minds.

On the other hand, if reports of NDEs in very young children and in those blind from birth could be obtained immediately after the near-death incident and were found to be similar to those of adults, then this would contribute evidence for the validity of the near-death experience as evidence for life after death. But good research on these two groups has not yet appeared.

Thus, at the present time, I remain unconvinced that NDEs do provide evidence for life after death.

Reincarnation

Reincarnation is a phenomenon in which, after a person dies, the soul or spirit survives and waits for a period of time before entering the mind of a newly conceived baby. This baby then possesses memories of some of the life experiences of the previous person from which the soul or spirit came. Reincarnation then, if it can be proven, would provide strong evidence for life after death.

There is one good researcher in this field, and he has stimulated research into the phenomenon -- Ian Stevenson.

The Typical Case

Stevenson (1977) has collected many hundreds of reports of reincarnation, often personally interviewing the people involved. He describes the typical case as follows. A child, two to six years old, begins to tell his parents about a previous existence. The child may show unusual behavior from the point of view of his family, but this behavior later proves to be consistent with the previous existence.

The child asks to be taken to the place where he lived previously, and his family tries to identify the previous incarnation. The search for the previous family is successful, and the child is found to be correct and accurate in about 90 percent of the statements he made about the previous existence. After the age of five or six, the child talks less about the previous existence, and his memories fade.

Stevenson reported that he and his colleagues had collected more than 1,600 such reports, mainly from India, Sri Lanka, Burma and Thailand, Turkey, Lebanon, Syria, and northwest America. These are regions and cultures where the inhabitants believe in reincarnation. Reports from Europe and much of America, where belief in reincarnation is rare, tend to be less numerous and poorer in quality.

Who Has Reincarnation Experiences?

Haraldsson (1995) compared 23 children aged 7 to 13 in Sri Lanka who reported previous lives with 23 who did not. The two groups of children did not differ in intelligence, suggestibility, or confabulation (making up stories). The

children who reported previous lives were more cognitively mature (for example, they had better memories of recent events and did better in school). As rated by parents, these children were also more argumentative, stubborn, talkative, nervous, tense, and concerned with neatness and cleanliness. They had a stronger need to be perfect but showed off less. Overall, they seemed to have more problems than the comparison group of children.

Beliefs about Reincarnation

Stevenson (1985) reported on the reincarnation beliefs of the Igbo of Nigeria. The Igbo believe that a person may improve his status from incarnation to incarnation, and this belief comforts those who have not raised their status in their present life. It becomes important for the Igbo to identify the deceased person of whom a new baby is the reincarnation for then the baby assumes the status of that person.

At death, the person's soul goes to a realm of discarnate beings, a joyless limbo from where the souls yearn to escape. Thus, the Igbo have no aversion to being reincarnated (unlike the Hindus and Buddhists). In order to calm the discarnate soul and ease the transition to a new body, there is a special ceremony, the second burial, which takes place from one week to one year after the physiological death of the person. Those who die young are believed to be reincarnated sooner than those who die in old age.

Good behavior in your life leads to a higher status in the discarnate realm and in the next reincarnation. Bad conduct could lead to reincarnation as a twin or being born feet first (both taboo conditions), an unhappy reincarnated life, or reincarnation as an animal. Those whose lives were worthless and those who died prematurely or by suicide may never be reincarnated, and the survivors can prevent a person from reincarnating by denying burial to the corpse or by burying it face downwards.

The Igbo expect to reincarnate in the same family. Changing sex is possible if the soul desires to. A soul may also reincarnate into two or more (even twelve) new bodies. On rare occasions, a part of the soul may reincarnate into a new body before the former body dies. The former incarnations of babies are identified by such things as birthmarks or defects, specific behaviors shown by the child and memories of the child of former lives, or by an expert on these matters in the community.

Some souls do not wish to be reincarnated, and they die quickly after reincarnation into a new body. These ogbanje children can be saved sometimes through the intervention of a native doctor with special skills. If this fails, the parents may mutilate the child, before or after death, because they believe that the ogbanje tribe expels disfigured persons and so their baby's soul may now become normal.

Many native American tribes believe in reincarnation. Mills (1988) described the beliefs of the Bulkley River Carrier, the Gitksan and the Beaver Indians in British Columbia (Canada). All three groups believe that people are born again into the same families from which they come and, incidentally, that animals are reincarnated into the same species. The beliefs are stronger in older Indians than in the younger generation.

Before being reincarnated, the spirits dwell in the land of the dead. The Carrier Indian spirits spent an average of 180 months in the land of the dead before reincarnating whereas the Beaver Indian spirits spent only 12 months. The identity of the newborn baby is "discovered" by the mother having a dream prior to the birth, by birthmarks on the baby and similarities of personality and behavior to the deceased person, by the child speaking from the point of view of the deceased person, or by an expert in the community (a kaluhim). Mills gave an example of a kaluhim announcing that a new baby, Jeffrey, was his uncle Will (his mother's brother), after which an aunt had a dream that this was so. When Jeffrey was five, he was taken to where his uncle had had an accident, a place which he seemed to recognize, and he announced that he was Will. He then went to live with his grandparents as their child.

The beliefs of the three neighboring Indians groups differ in some ways. Only the Gitksan believe that a spirit can be reincarnated simultaneously in several living people, while only the Beaver believe that a change of sex can occur. The reincarnated Gitksan spirits were older at death than the spirits of the other two groups (69 years on the average versus 22 for the Carrier and 30 for the Beaver). Both the Gitksan and the Beaver believe that the spirit can choose the new parents for the reincarnation. There is no goal of escaping from the cycle of death and rebirth as in Hindu traditions.

Since babies are reincarnated relatives, they are treated with great consideration and as if they were quite mature. After all, parents may be raising their own cherished parents or grandparents. They are more willing to tolerate a person's shortcomings.

Objections

Stevenson (1988) has documented many cases of fraud, deception and self-deception in claims of reincarnation. For example, in one case of an Israeli for whom it was claimed he spoke ancient Hebrew dating from the time of King David, Stevenson decided that the journalist who first reported the case had invented the case.

The existence of fraud in some cases, of course, raises doubts about all cases. But it is very unlikely that all of Stevenson's 1,600 cases of reincarnation are fraudulent!

Unsound Investigation

In addition to fraud, there are also incompetent investigators. In the famous case of Bridey Murphy (Bernstein, 1956), Virginia Tighe, a housewife in Pueblo, Colorado, was hypnotized by Morey Bernstein and began to recall an existence in Ireland as Bridey Murphy. The book on the case became a best-seller, but even a superficial investigation would have revealed (and eventually did reveal) that the "facts" recalled by Mrs. Tighe could all be found to stem from childhood experiences in Chicago where she lived across the street from a woman whose maiden name was Bridie Murphy (Murphy, 1957). This type of case is not so much a fraud as a result of incompetence on the part of the investigators.[8]

Cryptomnesia

One common objection raised against reported cases of reincarnation is cryptomnesia. In cryptomnesia, the persons learns and remembers information about a dead person but later forgets the source of the information and the fact that he or she ever obtained it. Thus, it is also called *source amnesia*. Cryptomnesia can be called upon to explain all kinds of data which suggest life before and after death, as well as such phenomena as *déjà vu* and unintentional plagiarism.

An example of cryptomnesia is given by Kline (1956). He hypnotized a client who then spoke in a strange language which was eventually identified as Oscan (a language spoken in Western Italy and superseded by Latin). An example

[8] Commentators disagree on whether the "facts" revealed in this case could have been "learned" by Virginia Tighe in the course of her life.

of the language is in a 5th Century scroll which the client denied ever having seen. However, under hypnosis, he remembered being in a library when someone next to him was reading a book which had a reproduction of the scroll, and he was able to recall the words in detail under hypnosis.

Stevenson (1983b) reviewed the evidence for cryptomnesia. He noted the bind for investigators. If a source is found to verify the reincarnation report or "other-life" communication, then we have also found the possible source for cryptomnesia. Cryptomnesia can be eliminated as a possible explanation only when the person reports information which could not be derived from printed or other normally available sources. Perhaps the person is too young to read or has no access to television? Perhaps the corroborating evidence exists only in oral testimony or unpublished reports such as diaries? Or perhaps the person shows a level of skill so great that he or she could not have forgotten learning it, as in responsive xenoglossy (talking fluently in a foreign language unknown to the person)?

Paranormal Abilities

Some have suggested that reincarnation “memories” are the result of paranormal interactions among living people, in particular, supernormal extra-sensory perception (ESP) and clairvoyance. Anderson (1985) however, noted that there is little evidence for such “super-ESP.” If instead, such supernormal paranormal powers are credited to the deceased (who communicate with the living via ESP), then they display powers in death that they did not possess in life. Anderson also suggested that it would be impossible to provide evidence to support either of these explanations. Personally, I find the existence of super-ESP as difficult to believe in as reincarnation. So, to explain one unlikely phenomenon using another unlikely phenomenon is not progress.

The Effect of Culture

Stevenson (1983a) compared reincarnation reports from children in America and India and found many differences. The previous incarnation was identified in 77 percent of the Indian cases compared to only 20 percent for the American children. For the American children, the previous incarnation was almost always a family member (94%) whereas this was the case for only 16 percent of the Indian children. Both American and Indian children began talking of the previous life at the same age (37 and 38 months respectively), but the American children stopped talking about it sooner (64 versus 79 months).

Both groups made the same number of statements, but the Indian children more often mentioned the cause of death (78% versus 43%). However, when the cause was mentioned, the American children more often reported a violent death (80% versus 56%). For those who experienced a violent death, the incidence of phobias in the present life associated with the mode of death in the previous life was the same in both groups of children. More of the American children changed sex in their new life (15% versus 3%). Both groups of children had, on the whole, undistinguished previous lives.

Stevenson (1970) compared 52 reports of reincarnation experiences in Turkey with 28 from Sri Lanka and 47 from the Tlingit in Alaska. He noted that the Turkish cases came from Turkish Alevis in south-central Turkey, an offshoot of the Shiites, an Islamic sect which believes in reincarnation. The Turkish Alevis accept rebirth in animals, but do not believe that spirits can change gender. They believe that deformities at birth or downward changes in status are a result of misconduct in former existences, but not necessarily the most recent existence. Some believe that only those who die violent deaths are reincarnated, while others believe that everyone is reincarnated but only those who die violently remember previous existences. They also believe that reincarnation need not take place immediately after death.

The majority of the Turkish cases were male (85%), compared to 72 percent of the Tlingit and 54 percent of Sri Lankans. No Turkish cases reported being a different gender in a previous existence or an animal. The previous personality was identified in 87 percent of the Turkish cases, 96 percent of the Tlingit cases and 43 percent of the Sri Lankan cases. In cases where the identity of the previous existence was ascertained, in 93 percent of the Turkish cases, the previous personality was unrelated to the present personality; this was similar to the Sri Lankan cases (83 percent) but not to the Tlingit cases where 72 percent were related on the mother's side.[9]

Most of the deaths for the previous existence in the Turkish cases were violent (76%), unlike the Sri Lankan cases (48%) and the Tlingit cases (56%). Even after controlling for the gender of the person, this difference was still found for the Turkish cases versus the Sri Lankan cases.

[9] Membership in a Tlingit family comes through one's mother, and so this relationship is very important.

Birthmarks and deformities were more common in the Turkish cases (54%) and Tlingit cases (51%) than in the Sri Lankan cases (14%). Most of the birthmarks were related to fatal bullet or knife wounds on the previous personality, though a few were the result of surgical operations. Stevenson (1973) noted that, in more than 150 cases, he had found only one case where the birthmark was on the person who inflicted the wound – all the others were on the victim.

Dreams announcing the identity of the forthcoming baby, primarily dreamt by the mother while pregnant, were more common in the Turkish cases (44%) and the Tlingit cases (47%) than in the Sri Lankan cases (4%).

The median (or average) age of the previous personality at death was 30 years for the Turkish cases, 25 years for the Tlingit cases and 14 years for the Sri Lankan cases. The median interval between existences was 9 months for the Turkish cases, 48 months for the Tlingit cases and 21 months for the Sri Lankan cases.

Only two of the Turkish cases and one of the Sri Lankan cases selected their mothers for their present existence, as compared to ten of the Tlingit cases. Stevenson felt that Sri Lankan familes were more accepting of children's reincarnation tales than European and American families.

Xenoglossy

Occasionally, it has been claimed that someone can speak a foreign language without ever having any experience hearing, learning or speaking the language. This phenomenon is called *xenoglossy*. If the person can also write the language, it is called *xenography*. Xenoglossy is thought to provide evidence for reincarnation since one possible explanation is that the person knew and spoke the foreign language in a previous existence.

If the person can simply speak the foreign language, the phenomenon is called *recitative xenoglossy* but, if the person can also understand the foreign language, the phenomenon is called *responsive xenoglossy*. There have been reports of people supposedly speaking "dead" languages, such as ancient Egyptian (for example, Kautz, 1982), but these are much harder to authenticate since no-one living has knowledge of the sounds of "dead" languages.

Stevenson (1976) presented a case which others have also commented on. An American Methodist minister learned hypnotism and, in the course of his

practicing, hypnotized his wife who uttered German phrases while in the trance. The person who spoke German called herself Gretchen. Of the twenty-two sessions in which Gretchen spoke, nineteen were taped. For several of the sessions, Stevenson, who spoke German, and other German-speaking people who attended asked Gretchen questions.

Stevenson took great care to find out if the woman could have learned or heard German while growing up. He visited the region where she was born (Clarksburg, West Virginia), interviewed relatives and neighbors, and ascertained that the women had no experience with German speaking people. She also passed a polygraph test in which she was asked about her experience with German.

The story which Gretchen told, of being the daughter of the mayor of a German town, of religious persecution and of an early death, probably in the late 1800s, provided details which could perhaps have been checked. However, Stevenson was unable to authenticate her story by going to Germany and searching for such a person.

As far as her knowledge of German was concerned, Gretchen could speak responsively (that is, answer questions put to her in German). Her grammar was more defective than her vocabulary; her pronunciation sometimes good and sometimes inaccurate; the words that she wrote often misspelled. She did not speak with any specific German dialect.

In the nineteen transcripts, Stevenson counted 237 German words which Gretchen first introduced, that is, she spoke them before any of her questioners used them with her. She uttered 120 words before any German was spoken to her. (Her husband who hypnotized her did not speak or understand German.) Many of these words, of course, were similar to the English equivalent. However, about half were not, and Gretchen used a number of archaic and obscure German words.

Stevenson admitted that the woman may have learned some German without the knowledge of her friends and relatives and forgotten that she had learned it, but he doubted this after his checks in her home state. Stevenson suggested that her ability to speak German could be evidence of reincarnation (in which she spoke German in a previous life) or of possession in which, during the hypnotic trance, a disembodied soul was able to take over her mind. She thus might be acting as a medium for this disembodied soul. Stevenson felt unable to decide firmly on this, but he leaned toward feeling that this was a case of possession rather than

reincarnation. Either way, however, this case of xenoglossy, if authentic, provides evidence for life after death.

Thomason (1987) pointed out that Stevenson's report of this case is woefully weak. She argued that Gretchen (and other cases reported by Stevenson) showed no convincing knowledge of the language. First, even the most uneducated person soon develops a vocabulary of thousands of words and masters the grammatical rules of the language by age four or five. Gretchen spoke only 120 words, many of which were like the English (brown - braun). Gretchen did not converse. Much of the time she answered "yes" or "no" or repeated what the questioner asked. She responded much more fully to questions asked in English than to those asked in German. She spoke German about as well as someone who learned German for one year some twenty years ago. Finally, most people understand a language better than they can speak it (young children, for example). Gretchen did not – she understood it as poorly as she could speak it.

Thomason suggested a proper test of language skill. Almost all languages have lists of common words. Take the 200 most common words (such as mother and water). Have the subject translate those words into the language of the previous reincarnation (perhaps while hypnotized). Simple phrases can be presented too. After a month, repeat the test (without warning the subject that he or she will be retested). The performance should be identical the second time. Next, read the subject a simple short story in the foreign language and then have the subject answer simple questions about the story (preferably with a yes/no answer or content questions). And finally, have a linguistic expert, such as Thomason, involved in the conduct of the study.

Phenomena That Reincarnation Can Explain

There are many phenomena that reincarnation can explain, phenomena which are quite disparate and seemingly unconnected.

Abnormal Appetites during Pregnancy

Many pregnant women have abnormal appetites during pregnancy, often for very surprising foods. This may be a result of a food preference (or aversion) from the fetus's previous incarnation. For example, in some of Stevenson's (1977) cases, the mother carrying the child also reported having cravings for a food later found to be a favorite of the previous incarnation.

Unusual Skills

Sometimes children possess a skill which they have not learned, which could be a result of skills developed in the previous incarnation.

Unusual Interests

Similarly, children who report previous existences sometimes show interests and appetites which can be related to their previous existence. Stevenson reported cases where the interests were not socially acceptable in children, such as an appetite for alcohol or a desire to smoke cigarettes or bhang, an intoxicant.

Child Prodigies

Related to this phenomenon, child prodigies could be explained by the same process, that is, they had some remarkable skill in a previous incarnation which has carried over to the present reincarnation.

Birthmarks

Birthmarks might be the result of injuries sustained in the previous existence, as might congenital deformities and diseases. Children who remember previous incarnations sometimes related scars on their bodies to injuries received in the previous life. Stevenson located medical records in seventeen cases in which he could verify that the previous incarnation did indeed have the birthmark, deformity or disease claimed.

Phobias of Childhood

Stevenson reported that many cases of reincarnation have childhood phobias that the parents cannot attribute to any trauma which the children have suffered, but which can be related to aspects of the previous existence. For example, Stevenson found several cases of phobias of water in children who had been drowned in their previous lives.

Differences between Identical Twins

It is found that identical twins, although remarkably similar in most cases and in most ways, often do differ in some ways, even "Siamese" or conjoined twins. Stevenson suggested that the differences may be a result of the twins having

different previous incarnations. In one case of Burmese female twins, the twins recalled existences as their own grandparents and, indeed, the twin who had been the grandfather was more heavily built and muscular than the other twin.

Inequities in Fortune

Although Eastern religions often claim that future existences will involve retribution for bad behavior in present existences, Stevenson found no cases that fit this, that is, retributive karma.

Gender Dysphoria

In some cases where the previous incarnation was of the opposite sex to the present reincarnation, Stevenson found incidences of gender dysphoria and homosexuality. In one case, a Burmese girl recalled existence as a Japanese soldier stationed in Burma during the Second World War who was killed in battle. She remained resolutely masculine in outlook into adulthood and had no intentions of marrying a women or having children.

The Excessive Births of Boys after Wars

Stevenson (1974) noted that the proportion of boy babies after wars is often greater than at other times. Perhaps nature compensates for the loss of men in battle, or perhaps a higher incidence of first-born or delayed marriages account for this excess? On the other hand, reincarnation would predict that more male spirits than female spirits are available for reincarnation after wars.

Child-Parent Relationships

Often children reject their parents, dislike them or feel alienated from them. Stevenson (1977) encountered reincarnation cases where these frictions were found primarily because the children claimed that their biological parents were not their real parents.

Déjà Vu

Déjà vu is French phrase meaning "already seen." A definition by Neppe (1983) is "Any subjectively inappropriate impression of familiarity of a present experience with an undefined past."

Déjà vu has been viewed as a disorder of memory (you have forgotten the source of the similar experience), a disorder of perception (you have misperceived the present scene), and a disorder of the sense of time. But, of course, those who believe in reincarnation see déjà vu as a result of the perception of a scene in your current reincarnation that reminds you of a scene in a previous incarnation.

Schizophrenic Hallucinations

Schizophrenia, a severe psychosis, is characterized by a cluster of symptoms including hallucinations. The hallucinations of schizophrenics are primarily voices. The voice heard by schizophrenics could also be voices generated inside their own minds from a previous incarnation.

Multiple Personality

Multiple personality is a phenomenon in which a person has two or more distinct personalities. The critical component in the definition of multiple personality, however, is that there must be amnesia, at least for one or more of the personalities, about what transpires when the individual is in one of the other personalities. Thus, multiple personality is a dissociative disorder, that is, a disorder involving psychologically-caused amnesia. From the point of view of reincarnation, however, multiple personality may result from possession of the individual by a spirit or from the individual unconsciously recalling and entering into one of the previous incarnations that he or she had.

Comment

One criterion for a good theory is that it makes useful predictions about human behaviors. A good theory makes few assumptions, that is, it is parsimonious. In this respect then, the notion of reincarnation is excellent since it provides explanations, without requiring further assumptions, about many phenomena. This ability does not, however, prove the validity of reincarnation. A theory can be "good," yet false!

Do Reincarnation Reports Provide Evidence For Life After Death?

Does the research on reincarnation support the conclusion that there is life after death? Let us look at some of the issues in deciding this.

Problems with the Cases

The problems with accounts of reincarnation are illustrated by a case reported by Pasricha and Barker (1981). They described the case of a five year-old boy in 1974 in India who described a man (a bus driver) from another town about 160 miles away, a town that he and his family had never visited. Eventually, the boy gave enough information to identify him as a man named Bithas Das, born in 1922, who died in 1955 by accidental electrocution. The boy's father took him to the town of his previous incarnation where the boy made several correct identifications. For example, he reported having been a carpenter, told of his death from electrocution, and described the house he had lived with some correct details. Barker and Pasricha investigated the case in 1976-1979, visiting the region and talking to the participants.

Barker and Pasricha discussed the case separately and came to different conclusions. Barker regretted that there was no written record of the initial statements made by the boy. Thus, the case depends on the memory of the informants. Barker also noted that the members of both families (the boys and those from the previous incarnation) had a deep emotional investment in viewing the boy as the reincarnation of Bithal Das. This throws doubt on the accuracy of their memory of what transpired for, as has been well-demonstrated by psychological research, memory is often faulty and is best viewed as a reconstruction in the present of what happened in the past, shaped by emotions and desires.

Barker noted that the case was full of discrepancies and contradictions. The witnesses could not agree on whether the boy mentioned the name of Bithal Das before he went to the town or only after people in the town recalled a carpenter who had died from electrocution. He described the house incorrectly, placed it in the wrong part of town, and he couldn't locate it himself in the town. He named Bithal's wife incorrectly at first, and may have misstated the number and sex of his children.

Barker noted that the accuracy of the boy's account of his previous incarnation improved dramatically over time, and so Barker concluded that boy came to identify with the person Bithal Das, particularly because the people around him supported him in this and rewarded him for this identification. Barker noted, however, that the recognition of the driver initially, along with the fact that the boy gave this man sufficient information to suggest who the previous incarnation might have been, cannot be explained by this interpretation, and Barker suggested that paranormal ESP might account for this.

In contrast, Pasricha felt that the boy had been quite accurate in his account of his previous incarnation, but Pasricha too could not accept a reincarnation hypothesis as the correct explanation for the case, preferring instead to suggest that the boy had extremely well-developed ESP which had provided him with the accurate information.

This case indicates what we need in order to be more convinced that reincarnation has occurred:

(1) The investigators must be present from the start. We need a case in which, when a child begins to recall a previous existence, the words that he says are recorded right from the beginning.

(2) The record should involve videos of the child, or at least auditory recordings, permitting verbatim transcripts and observations of whether coaching or prompting of the child took place

(3) Preferably, the investigators must be present continuously from this point on so that they can monitor what the child is told by his or her parents, relatives, friends of the family, and acquaintances.

(4) The desires of parents and others that the reincarnation is valid interfere with the case. The phenomenon of *experimenter bias* involves the experimenter biasing the results of his or her experiment. The results that the experimenter wants can influence how he reacts to the subject, how he communicates with the subject, and the inadvertent errors he makes in recording and analyzing the information. Parents, relatives, friends and the investigators can influence the results to be in line with their "hypothesis" and their desires. Thus, the investigators should include believers and skeptics, and they should take care to minimize the influence of the parents and relatives of the child.

(5) Cases for reporting should not be selected, but rather all cases should be recorded, examined and reported for others to examine.

(6) The child should not be allowed to visit the place of the previous incarnation or meet people who knew the previous incarnation prior to the arrival of the investigators.

So far, no ideal case has been studied.

Alternative Explanations

Before deciding whether reincarnation reports provide evidence for life after death, we need to examine alternative explanations for the phenomenon, explanations other than fraud by the parents of the child or by the investigators.

Explanations of reincarnation experiences include: (1) the person having the reincarnation experience obtained the information through normal means but has forgotten that the information was acquired in this way (cryptomnesia), (2) the reports of the reincarnation experience are modified (consciously or unconsciously) by the subjects and their friends and relatives to be more true to the "facts," and facts which are later discovered are mistakenly attributed to the subjects (paramnesia), (3) the subject acquired the information about a deceased person's life paranormally (by ESP) and then personifies this information into a secondary personality, (4) in cases where the subject is related to the previous personality, there is the possibility of inherited memory, and (5) it may be that the subject having a reincarnation experience has been possessed by the spirit of the deceased person.

Regarding explanation number (3) above, that the person acquires the information about the deceased person's life by ESP, if this were possible, there is no reason why the life recalled by the person having the experience should be of someone who is dead. ESP, followed by personification, should be possible, indeed it should be easier, if the other person were still alive. Thus, children should report other lives which are later found to be true for people still living at the time that the child reports the life.

I find it harder to believe in some of these alternative explanations (ESP plus personification, inherited memory and possession) than in reincarnation. Indeed, reincarnation seems like a more reasonable hypothesis, and there is no evidence to support these alternative explanations whatsoever. However, ruling out cryptomnesia and paramnesia is very difficult, especially if the investigators are called to the scene only after the child reports the previous existence.

Logical Problems with Reincarnation

There are many questions which those who believe in reincarnation need to answer.

(1) Investigators are not precise with what they assume is reincarnated. Stevenson (1974) noted that what reincarnates might include memories (which can provide facts to be checked), emotions (such as fears and phobias), behaviors (such as skills and preferences) and physical features (such as birthmarks) shown by the previous personality. Why do some cases have only some of these features and not all of them?

(2) Stevenson admitted that it was a problem that cases of reincarnation are reported more often in societies which believe in the phenomenon than in those which do not. If reincarnation is a valid phenomenon, why does the frequency of reports vary from society to society?

(3) Stevenson noted that his best cases involve reincarnations are cases where the previous personality lived in the same region as the current person. There should be more cases where the previous personality is from a different nation for there is no reason why deceased spirits should be constrained by space. So far no case involving a previous incarnation from a different country had produced sufficient information that the previous person could be traced. Why do reincarnation reports typically involved deceased people from the same region?

(4) Stevenson noted that rarely do cases report events from between lives. A child in India may recall meeting with Krishna or Lakshmi, or a Tlingit may recall crossing a lake in a canoe and returning across the same lake to be reborn, but such reports are rare. Why are events from the period between lives not remembered?

(5) Why doesn't everyone remember a previous life? Stevenson felt it was more pertinent to ask why anyone remembers a previous life. Isn't one life enough? Remembering a previous life does not make the person happier. The previous personality often died violently, died young, and their personalities are often greedy wealthy men and devout generous women. This is not convincing. Stevenson and others must explain why all of us do not remember a previous incarnation.

(6) Related to point (5), since there is no reason why people are reincarnated only once, why do the children remember only one previous incarnation rather than many?

Comment

Having reviewed all of the research and reports on reincarnation phenomena, I remain unconvinced that it provides evidence for life after death. In reviewing the evidence for near-death experiences as evidence for life after death, the cultural variation in the reports was disappointing. Similarly, in reincarnation reports, there are large cultural variations. The characteristics of Stevenson's cases vary significantly from culture to culture, and there is no reason why this should be so. The cultural variation in the reports suggests that the belief system of the culture determine the content of the reports. If a culture believes that sex change does not occur from one life to another, then it does not occur in the reports; if the culture believes that sex change is possible, then it occurs. If reincarnation is a valid phenomenon, then there should be no cultural variation at all.

Second, in the only cases examined by experts in the area, those involving xenoglossy, the experts indicated clearly that the investigators made errors in their investigation of the cases and that the evidence presented was not convincing. The experts in these cases suggested the way in which such cases should be approached, but no one has yet reported doing such an investigation.

Third, I find the absence of memories of existence between incarnations puzzling. Spirits should remember these times as well as times from the previous incarnation.

Finally, no adequate case has yet been reported. I find this puzzling. Many of the investigators are in India, a country where reports appear to be very common, yet no investigator has had a child of their own, or grandchild, or child with whom they are closely acquainted, report a previous life so that video recordings could be made from the beginning for inspection by others.

My conclusion is that people who report experiences from previous lives are shaped in this behavior by the beliefs of their culture and their own needs or those of their parents and relatives. Children in India report previous existences in nearby towns of recently deceased, ordinary people, just as their parents expect; children in Native American families in the Northwest report existences from the same family line, just as their parents expect; Shirley MacLaine reports previous existences as famous people from bygone eras, just as Westerners expect. The reports conform too closely to cultural expectations.

Final Comment

At the beginning of this essay, I said that there were only two good sources of data for determining whether there was life after death. The research on NDEs would confirm the existence of a life after death of the type believed in by Christians and Muslims, among others, but I found the research evidence unconvincing.

Research on reincarnation could provide evidence for a type of life after death that is very different from the Christian and Muslim notion. In reincarnation, there is no data at all on the "life" between existences. But the memory of a previous existence confirms that some part of our mind does survive death. However, I also found the research on reincarnation unconvincing.

I am, therefore, left with my anxiety about dying and death still high. What will happen to us after we die?

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HAVE THE CHARACTERISTICS OF SUICIDES CHANGED OVER TIME?

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Abstract: The research literature was searched for answers to the question of how the characteristics of suicides have change over time. Although we have found occasional research studies which suggest some changes, there is no substantial research at the present time to answer this question.

Given the changes in the world in the last 60 years, an interesting question is whether the characteristics of those dying by suicide have changed over time. There are hardly any research studies that examine such trends. There are, of course, reports of changes in suicide rates over time, typically by age and by sex, but rarely of the personal characteristics of the suicidal individuals.

During this period, there have been major changes in the socio-economic characteristics of national populations. In many countries, the average age of populations has increased, birth rates have declined, and couples have lived together as partners for longer periods of time before they marry. Many of these socio-economic trends are correlated with suicide rates (by age and by sex), and may impact (and cause) these changes in suicide rates (see Lester & Yang, 1998).

More importantly, the advent and development of the Internet has led to tremendous social changes, from the use of social media, which has replaced to some extent, face-to-face social interaction, to telecommuting in which people work from home and academics teach their courses online.

The present essay looks at the data that show that suicidal behavior has changed during this 60-year period, not simply suicide rates, but also the characteristics of suicidal behavior itself.

Changes in Suicidal Behavior since the 1960s

The Methods for Suicide

An easily documented change in the last 60 years is changes in the methods used for suicide. Some changes have been accidental. For example, the detoxification of domestic gas by replacing coal gas with natural gas resulted in a decline in the use of this method for suicide and, in some countries, a decline in the overall suicide rate (Lester, 1995) and similarly, the detoxification of car exhaust which was ordered for environmental reasons reduced its use for suicide (Lester, 1989). Some methods for suicide have been reduced in order to restrict their use for suicide and attempted suicide, such as stricter firearm laws in Canada (Lester, 2019) and the reduction in the size of packages of acetaminophen (Tylenol, paracetamol) in England (Hawton, et al., 2013).

The advent of the Internet and the postings about suicidal behavior online have also had an impact on the methods for suicidal behavior. For example, the use of burning charcoal indoors in order to die by suicide became popular in Hong Kong, Japan and Taiwan after the first newspaper and Internet reporting (Chen, et al., 2016).

Suicide Notes

In the past, about one-third of suicides left a written suicide note, and these have been the focus of much research. Eventually, suicide notes began to appear online, sometimes running to hundreds of pages and even the diaries of suicides have been posted online (Lester, 2014a, 2014b), and this has permitted an in-depth understanding of the psychological state of mind and motives of these suicidal individuals.

Suicidal Behavior Online

After the advent of the Internet, occasional suicides announced their intention to die by suicide online. Lester, McSwain and Gunn (2013) presented the case of a 15-year-old who posted a video of herself holding up signs with messages on YouTube and who died by suicide 39 days later. Using a list of 10 signs for suicide, known by the mnemonic IS PATH WARM (suicidology.org/resources/warning-signs/) , her messages were rated as scoring at least 8 and possibly 9 out of 10, indicating a very high risk of suicide.

A recent public health concern is that of live-stream suicides, in which individuals allow social media users to watch their death as it happens (Klein, 2012). Cases of live-stream suicides have used methods of drug overdose, hanging and shooting, and they occur on many different types of social media, including Facebook, Periscope, Instagram, and You Tube. In these cases, the suicide may be construed as a dramatic performance (Lester & Stack, 2015).

Moir, et al. (2023) described three cases of suicide taking place online. These suicides were encouraged and baited by their audience as the audience doubted the legitimacy of the events, which resulted in pride issues for the potential suicide. The issue of excitement from the audience was also present in all three cases, suggesting that online communications feel more like entertainment than real life. Other themes noted in the three cases included social disorders, hesitation, manipulation, and attention seeking behavior related to low self-esteem.

Online Persecution Resulting in Suicide

Cyber-bullying can be defined as the use of information technology to bully a person by sending or posting text or images of an intimidating or threatening nature. Peck, et al. (2024) noted that research has indicated that being protective is the least prevalent form of bystander response and some bystanders reinforce the bullying behaviors. Surprisingly, Peck, et al. found that cyberbullying decreased during the COVID-19 lockdown in England.

Nilsson, et al. (2019) studied the use of sextortion and its impact on suicide. Sextortion involves behaviors such as online sexual coercion and extortion or exploitation and can involve sexting, non-consensual sharing of sexual images, online blackmail and revenge pornography. In a study of three cases of sextortion leading to suicide, Nilsson, et al. identified the common themes of fear, helplessness, hopelessness, shame, humiliation, self-blame and general distress in the suicidal individuals, typical antecedents of suicidal behavior.

HIn addition, the phenomenon of individuals directing this online aggression towards themselves has recently been described. The term digital self-harm (DSH) has been defined as "the anonymous posting, sending or otherwise sharing of hurtful context about oneself" (Patchin & Hinduja, 2017) and includes self-cyberbullying, cyber self -harm and self-trolling, and McLaughlin, et al. (2024) analyzed three cases of this behavior.

The Internet and AI Encouraging Suicide

In the late 1900s, in order to obtain information on how to die by suicide, a potential suicide had to buy a book such as Derek Humphry's *Final Ex*it (Humphry, 1991). Not long after, this information was available online by groups including *Exit International* (https://www.exitinternational.net/) (see also Nitschke & Stewart, 2025).

There have been several cases of ChatGPT encouraging users to die by suicide. In one case, the parents of a 16-year-old adolescent who died by suicide argued that ChatGPT bot coached their son to die by suicide.[10] In another case, a 23-year-old young adult with a Masters' degree shot himself after talking at length with a ChatGPT bot.[11] His parents are also suing OpenAI.

Is There Any Quantitative Research on these Changes?

The answer to this question is that there is very little quantitative research on changes in suicidal behavior over time, other than simple reporting of time trends in suicide rates by age and sex (e.g., Lester & Yang, 1998).

As an example of this, Raittila, et al. (2023) followed representative cohort of working men by type of occupation in Finland from 1970 to 2019. Overall, the suicide rates fell but at different speeds. There was a significant decrease, compared to 1970s levels, for managers and professionals already in the 1990s and for lower non-manual employees around 10 years later (in the 2000s). Manual workers reached the lower suicide rate of managers and professionals only in the 2000s and 2010s.

Psychological Autopsy Studies

The ideal research to explore whether the circumstances of suicide have changed over time is a psychological autopsy study. The first major psychological study of suicides in a country was based on a nation-wide sample in Finlandof 1,397 suicides in April 1, 1987, to March 31, 1988 (Sorri, et al. (1996). Unfortunately, no similar study of suicide nationally in Finland has appeared since, although there have been some studies on the northern region of Finland.

[10] https://www.nbcnews.com/tech/tech-news/family-teenager-died-suicide-alleges-openais-chatgpt-blame-rcna226147
[11] https://www.cnn.com/2025/11/06/us/openai-chatgpt-suicide-lawsuit-invs-vis

Therefore, we cannot see how the characteristics of suicides might have changed in Finland since the 1980s.

The problem may be that research is difficult to carry out. It typically requires funding, and often research papers are not possible for many years after the collection of data. The Finnish study mentioned about had ten years from data collection to the initial publication of the results. Researchers need quicker publications in order to get tenure in academia, promotion, and their next grant.

Minor Studies

For suicides, a study by Lester and Saito (1998-1999) used data provided by the National Police Agency in Japan that recorded the reason for suicides in Japan, which is rare for national governments to code (see Table 1). Lester and Saito found that, from 1978 to 1995, for men, the proportion of suicides motivated by illness/ailments, male/female relationship problems, and school problems, while the proportion due to job stress increased. For women, the proportion of suicides motivated by family problems and male/female relationship problems declined during the period, while the proportion due to alcoholism/mental illness increased.

Lester and Saito noted that it could be argued that the coding of the reasons for dying by suicide in Japan each year reported by the National Police Agency may not be reliable or valid. However, the fact that the proportions of suicides as a result of economic hardship was positively associated with the unemployment rate (0.64 [2-tailed $p < .01$] for men and 0.51 [$p < .05$] for women), a result which makes good sense, lends support to the possibility that the proportions reported in may be reliable and valid. It is a pity that more countries do not code their suicides for the major reason for the suicide.

Table 1: Reasons for suicide in Japan, 1978-1994
(percentages shown; the percentage for "other" is omitted)

	Family problems	Illness	Economic hardship	Job stress	Relationship problems	School	Alcoholism Mental illness
Men							
1995	8.0	34.3	16.9	7.7	2.4	1.2	15.1
1994	8.2	35.0	15.1	7.5	2.4	1.4	15.8
1993	7.9	37.4	15.7	6.7	2.6	1.1	14.9
1992	7.6	39.7	13.0	7.0	2.8	1.0	16.4
1991	8.1	40.8	11.3	6.8	2.3	1.2	17.6
1990	7.9	43.7	8.6	7.2	2.7	1.3	17.1
1989	8.1	43.4	9.0	7.4	2.7	1.2	16.4
1988	8.5	42.4	11.2	7.2	3.0	1.2	15.6
1987	8.5	40.9	13.1	7.4	3.1	1.1	15.0
1986	8.7	38.4	15.2	7.1	3.0	1.4	15.2
1985	9.3	37.6	15.5	6.9	3.5	1.2	15.3
1984	8.9	36.8	18.9	6.8	3.4	1.0	14.0
1983	8.8	36.6	19.4	6.2	3.6	1.2	13.8
1982	9.8	37.5	15.7	6.0	4.1	1.5	14.7
1981	9.4	38.0	13.9	6.4	3.8	1.4	15.9
1980	9.2	39.4	12.2	6.4	4.5	1.5	15.6
1979	9.0	39.8	10.5	5.8	4.9	2.2	16.7
1978	9.4	38.9	11.7	6.0	5.2	2.2	-
	Family problems	Illness	Economic hardship	Job stress	Relationship problems	School	Alcoholism Mental illness
Women							
1995	10.9	47.4	3.7	1.0	2.8	0.8	24.5
1994	10.8	48.2	3.1	1.4	2.9	0.7	24.2
1993	11.0	50.8	2.9	1.1	2.5	0.6	22.8
1992	10.3	52.7	2.6	0.9	2.8	0.6	22.7
1991	10.3	53.4	2.0	1.1	3.1	0.5	22.4
1990	10.3	55.3	1.8	1.1	3.0	0.6	21.2
1989	10.3	55.7	1.7	0.9	3.1	0.9	20.6
1988	10.7	55.6	2.0	1.1	3.2	0.9	20.0
1987	11.4	53.9	2.4	1.1	3.5	0.5	20.4
1986	11.8	51.0	2.8	1.3	4.0	0.9	21.3
1985	12.0	51.8	3.3	0.8	3.7	0.7	21.4
1984	12.2	52.2	4.1	1.1	4.4	0.7	18.4
1983	12.9	51.6	4.1	1.2	4.5	0.9	18.0
1982	13.0	52.2	3.1	1.0	5.2	0.8	18.5
1981	12.9	53.4	2.9	0.9	5.3	0.7	17.5
1980	12.8	52.4	2.7	1.0	5.7	0.6	18.3
1979	12.7	52.7	2.1	1.0	6.5	0.9	18.1
1978	13.0	52.8	2.4	1.1	7.3	1.0	-

For studies of suicidal individuals, the only one study was found that explored changes over time. Radobuljac, et al. (2007) compared adolescent attempted suicides admitted to a psychiatric unit in Slovenia in 1975-1977 and in 2002-2004 (see Table 2). The 2002-2004 attempters were

- better educated (less often drop-outs from primary school)

- had fewer siblings
- less often were smokers
- less often abused psychoactive medications
- more often made repeated attempts

but did not differ in sex, age, nationality, psychiatric diagnosis, method of attempting suicide, whether living with both parents or suffered the loss of important persons. The researchers thought that the changes were less than expected after the transition in Slovenia from a one-party socialist system to one of democracy and capitalism

Table 2: Adolescent attempted suicides in Slovenia
(percentages shown)

	1975-1977	2002-2004
Mean age	17.5	18.0
Female	72%	74%
Slovenian	85%	88%
Education:		
Primary	41%	14%*
Secondary	48%	74%
University	10%	12%
Parents together	60%	69%
2 or fewer siblings	76%	93%*
Smokes cigarettes	54%	35%
Prior attempts 1+	41%	59%*
Method used		
Medication	65%	58%
Cutting	15%	18%
Diagnosis		
Axis-I	42%	49%
Axis-II	52%	49%
Substance abuse:		
Medications	32%	17%*
Hard drugs	12%	7%
Soft drugs	24%	29%
Alcohol	35%	45%

- Significant difference

Research on Peripheral Issues

It is very rare to find a research study which measures the same variables years after that set of variables was first studied. This has been done in at least one study. The fear of death is an important construct in Joiner's (2005) theory of suicide, and Lester (1971) studied attitudes death in undergraduate students in 1970 and compared their responses to students in 1936 using the same questionnaire. The trend for male students was for the 1970 male students to think about death more often but to be less depressed by thoughts of death. Female

students in 1970 were much more preoccupied by thoughts of death and more likely to be depressed by those thoughts.

A construct that is regularly studied for its association with suicidal behavior is hopelessness, stimulated by the development of a scale to measure this construct by Beck, et al. (1974). Lester (2013) carried out a meta-analysis of studies of undergraduate students around the world for their scores on the hopelessness scale. Lester found 61 studies of American undergraduate students and 28 for university students in other countries. For the American studies, there was a significant trend for hopelessness scores to have increased from 1978 to 2010.

Changes in Suicide Prevention

As an aside, it should be noted that suicide prevention has changed over the years, primarily in two areas. First, suicide prevention centers with telephone access and sometimes walk-in clinics, were established by Chad Varah in 1953 in London England (the Samaritans) and by Edwin Shneidman and his colleagues in 1958 in Los Angeles. Soon thereafter, suicide prevention centers and crisis hotlines were established all over the world. More recently, in the United States, a toll-free telephone number (with texting possible) has been set up (988) so that people in crisis can call without charge 24/7.

A second change has been the development and prescription of anti-depressant medications, especially SSRIs. The increasing prescription of these medications has been found to lower suicide rates in countries (e.g., Nakagawa, et al., 2007).

Discussion

The ways in which the characteristics of suicides have changed over time is interesting question for which, however, there are no substantial answers at the present time. Holden and McLeod (2000) have developed an inventory to assess the reasons for attempting suicide but, unfortunately, this inventory has not been administered to samples of individuals over a long period of time. In fact, no articles using the scale have appeared in the past 15 years. Clearly, this is an issue for future research to explore.

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