

Original research

The Birthday Blues

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Abstract: Data from 10,884 suicides, whose dates of birth and death were posted on a suicide memorial wall, were examined for whether they were more likely to die by suicide on their birthdays than expected. Sixty-three suicides died on their birthdays as compared to an expected number of 29.8, significantly more than would be expected by chance.

Keywords: birthday blues; suicide; anniversary reaction

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The question of whether suicides have a tendency to choose their birthdays for their suicidal act has received a great deal of attention. Several studies have found no significant increase of suicides on birthdays: Wasserman and Stack (1994) for elderly suicides in Ohio, Panser, et al. (1995) for a small sample of suicides in Minnesota, Chuang and Huang (1996) for suicides in Taiwan, Lester (1997) for a sample of famous suicides, Lester (2005) in small sample of 74 suicides among those who played in the major leagues in the United States, and Lester (1986, 1988) for a small sample of 208 suicides in Philadelphia (USA)¹.

However, Christoffel, et al. (1988) found an excess of suicides on and around their birthdays, while Barraclough and Shepherd (1976) found that elderly suicides were more likely to die by suicide in the 60-day period around their birthday (but not so for younger suicides).

Kunz (1978) found an excess of suicides in the three months after their birthday than in the three months before their birthdays. Shaffer (1974) found that children who died by suicide were more likely to do so within two weeks of their birthday. Hagnell and Rorsman (1980) found that seven of the 27 suicides in their sample died with 30 days of their birthdays.

More recently and using large samples, Jessen and Jessen (1999) analyzed 32,291 suicides in Denmark and found a decrease in suicides in the week prior to the birthday and an increase in the week after the birthday. Williams, et al. (2011) studied 50,160 suicides in England and Wales and found an excess of suicides on the individuals' birthdays among men, especially for those aged 35 years and older. Zonda, et al. (2016) analyzed all suicides (n=133,421) in Hungary for the period 1970-2002 and found that more suicides occurred on birthdays for men of all ages and for women over the age of 60. This birthday blues phenomenon was found for urban and rural suicides, for those of all marital statuses, and for both violent and nonviolent methods for suicide. In contrast, Reulbach, et al. (2007) found no birthday blues effect in 11,378 suicides in Bavaria, Germany.

¹ Unusually, this study had comparison groups of homicidal and natural deaths.

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The present research was designed to further examine the birthday blues effect using a large sample of over 10,000 suicides listed on a suicide memorial wall.

Method

The suicide memorial wall (www.suicidememorialwall.com) allows the significant others of those who died by suicide to post the name, age, and dates of birth and death on the wall. At the time of downloading the contents of the wall (April, 2014), there were 11,253 names on the wall. The postings were downloaded using EXCEL and transferred to an SPSS data file.

The sex of the people was checked automatically using genderchecker.com. Many names are ambiguous, and so the sex of many individuals remained unknown (11.2%). Of the remaining people, 79.3% were men and 20.7% women. The mean age was 31.4 years ($SD = 13.7$, range 9 to 94), median 28 and mode 18. The year of birth ranged from 1823 to 2002, with a mean of 1970 ($SD = 16$; median 1974 and mode 1983) and the year of death ranged from 1848 to 2014, with a mean of 2003 ($SD = 8.6$; median 2004 and mode 2005). Ninety percent of the dates of birth were 1949 or later, and 90% of the dates of death were 1994 or later.

All entries were checked for discrepancies, such as the age of the person not matching the distance between the dates of birth and death. Any impossibilities in the month (for example, not in the range of 1-12) were identified. A search was made for duplicate names, as well as possible reversals for date of birth and date of death. These were resolved or, when this was not possible, switched to missing data. Some of the suicides had missing data. After the data set had been cleaned, data remained for 10,884 suicides with a date of both date of birth and date of death. The majority of the suicides were from the United States, but a few were from other countries.

Results and Discussion

For the examination of how many individuals died by suicide on their birthday, data were available for 10,884 suicides. For 10,884 suicides over a long period of time, the expected number of suicides is $10,884/365.25$ (using a correction for leap year) which equals 29.8. The number observed was 63 ($\chi^2 = 37.09$, $df = 1$, $p < .0001$).

For those whose sex could be determined, 45 (81.8%) of the people who died on their birthday were men and 10 were women, not significantly different from the sample of suicides

as a whole. Similarly the mean age of the suicides occurring on birthdays (32.8) was similar to that of the sample as a whole (31.4). There seemed to be no particular age at which the birthday suicides peaked. The modal age (with only six suicides) was 23. None occurred at age 21, and only two at age 40 and one at age 50.

For month of birth and month of death separately, data were available for 11,058 suicides. There was no variation for month of birth ($\chi^2 = 16.05$, $df = 11$, $p = .14$) but there was a significant variation over month of death ($\chi^2 = 26.02$, $df = 11$, $p = .005$) with March having the most (8.91%) and October (7.95%) and fewest in December (7.42%), replicating the commonly reported Spring and Fall peaks in suicides (Lester, 1979).

Although the present sample of suicides is not the type of sample that is typically used for research (a consecutive series of suicides in a region of the world), the sample did show the typical pattern of a Spring and Fall peak, and a greater proportion of men. Although the birthday blues effect was found for the present sample, the fact that only 63 of the 10,884 suicides died by suicide on their birthdays (versus an expected number of 29.8) indicates that the birthday blues effect, if it exists in a population, requires a large sample for it to be detected.

Most researchers who study the birthday blues effect use the broken promise effect described by Gabennesch (1988) to explain the phenomenon. Gabennesch suggested that people typically hope that their lives will improve but, when their lives do not improve, feel let down and are more likely to choose to die by suicide. This proposed effect has been used to account for the Spring peak in suicides and the Monday peak in suicides since, when Spring comes after Winter and the new week starts, and people's lives continue to be miserable, those who are already depressed may experience increased hopelessness and be more prone to choose to die by suicide. Birthdays are often viewed as "the first day of the rest of your life" and, if life continues to be miserable, then depressed people may be at greater risk for suicide. However, although macrosociological studies have been conducted to test the broken promise effect (such as those on the birthday blues), no psychological studies of individuals have appeared that test the effect directly.

There are some data that suggest that mortality from all causes might increase on or around birthdays (e.g., Abel & Kruger, 2009), and so any peak in suicides on birthdays may be part of a broader phenomenon, perhaps the increased salience of mortality and the resulting anxiety on

ceremonial occasions, which would fit in with terror management theory (Greenberg, Pyszczynski & Solomon, 1986).

The study is limited by the fact that it was not a complete sample of all suicides in a given region in a given time period, and neither is it a random sample, but the suicides listed on the memorial wall were not placed there with the intent of testing any psychological or sociological hypothesis about suicide, and so the suicides on the memorial wall should not be biased in favor or against the hypothesis. Previous research has examined the impact of variables such as marital status and the method chosen for suicide, but these data were not posted on the memorial wall. Abel and Kruger (2006-2007) noted that official records may misstate the actual day of death. Missing data are often assigned to dates such as the 1st or 15th of the month. However, this is less likely to be the case in death dates posted by relatives of the deceased.

The inconsistencies in the results of the present study and past studies is perplexing, and more research is needed to identify the conditions under which the birthday blues phenomena for suicidal deaths is found versus those under which the effect is not found.

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