

# The Effect of War on Suicide Rates

## A Study of France from 1826 to 1913

David Lester

Center for the Study of Suicide, RR41, 5 Stonegate Court, Blackwood, NJ 08012, USA

Received November 5, 1992

**Summary.** An analysis of suicide rates in France from 1826 to 1913 indicated that suicide rates were lower during years of war than during years of peace. This effect was stronger for female suicide rates than for male suicide rates and seemed to hold both for major and minor wars.

**Key words:** War – Suicide – France

In his classic work on suicide, Durkheim (1897) noted that suicide rates declined during wartime, as they do during other types of crises. He documented this with data from the Denmark-Saxony war of 1864, the Austria-Italy war of 1866 and the France-Germany war of 1870–1871.

To explain this phenomenon, Durkheim used to two broad social characteristics he had previously defined: social integration (the degree to which individuals in a society are bound together by social ties) and social regulation (the degree to which members of the society have their desires and aspirations controlled by social norms and expectations). Durkheim noted that wars typically increase the level of social integration in a society since the members group together in support of one another and against the common enemy. In the typical society, therefore, this increase in social integration would reduce the level of egoistic suicide (the type of suicide which occurs at a high rate in societies where the level of social integration is too weak).

More recent research has supported Durkheim's observation and theory (Lester, 1992). Suicide rates decreased during the Second World War in both men and women and in both nations at war and those remaining neutral (Rojcewicz, 1971). Using the relative size of the armed forces as a measure of war involvement, Lester and Yang (1991) found that military involvement was associated with a reduced suicide rate in the USA from 1933 to 1986 (which covered the Second World War, the Korean War and the Vietnam War) but not significantly.

An opportunity to test Durkheim's observation is provided by data published by Chesnais (1976). Chesnais provides French total suicides rates from the period 1826 to 1913 from the *Comptes de la Justice*, and for men and women separately for 1835 to 1913. (The series is interrupted from 1914 on.) The present study explored the association of suicide rates with war in France during the period of 1826–1913.

### Method

Chesnais lists all "guerres" during the period, both major and minor. The major wars were: 1830 Révolution de juillet, 1830–1831 Conquête de l'Algérie, 1848 Révolution de juin, 1851 Insurrection à Paris, 1854–1856 Guerre de Crimée, 1859 Guerre d'Italie, 1861–1867 Guerre du Mexique, 1870–1871 Guerre franco-allemande, 1871 Insurrection des Communards, 1882–1883 Expédition au Tonkin, and 1895 Expédition à Madagascar. The minor wars were: 1827 Intervention en Grèce, 1831–1832 Guerre contre la Hollande, 1834–1837 Poursuite des combats en Algérie, 1838–1839 Intervention au Mexique, 1844 Guerre contre le Maroc, 1845 Intervention en Uruguay, 1851 Combats en Algérie, 1856–1860 Guerre contre la Chine, 1857 Combats en Algérie, 1858–1862 Expédition en Cochinchine, 1862–1864 Répression de la rébellion des Tai-Pings, 1867 Intervention à Rome contre Garibaldi, 1884–1885 Guerre contre la Chine, 1890–1892 Expédition au Dahomey, 1900–1901 Combats en Algérie et expédition en Chine, and 1907–1908, 1911 Combats au Maroc.

Two variables were used to measure war. First, each year was coded 1 if a major war was taking place in that year and 0 if no major war was taking place. Second, each year was coded as 1 if any war (major or minor) was taking place and 0 if no war (major or minor) was taking place.

The suicide rates were observed to increase steadily during the period, and so year (measured from 1 for 1826, 2 for 1827, etc through to 88 for 1913) was introduced as a second variable to see whether participation in wars added a significant predictive amount beyond the simple yearly increase in suicide rates. (The Pearson correlation between year and the suicide rate was 0.98, indicating a strong linear increase over time during this period. The incidence of major wars and all wars was much less strongly associated with year, Pearson  $r$ 's =  $-0.17$  [not significant] and  $-0.21$  [two-tailed  $P < 0.05$ ] respectively.)

The time series regression analyses were conducted using RATS (Doan, 1990), with the Cochrane-Orcutt method to correct for serial autocorrelation.

**Table 1.** Results of the time-series regressions

	Suicide rate					
	Total		Male		Female	
	b	<i>P</i> <	b	<i>P</i> <	b	<i>P</i> <
Constant	75.40	0.0005	79.22	0.0002	17.00	0.0006
Major wars	-0.35	0.05	-0.47	0.14	-0.43	0.002
Constant	3.40	0.002	8.15	0.0001	2.74	0.0001
Year	0.26	0.0001	0.42	0.0001	0.11	0.0001
Major wars	-0.36	0.06	-0.50	0.12	-0.45	0.0009
Constant	71.97	0.0004	82.39	0.0003	16.96	0.002
All wars	-0.28	0.05	-0.46	0.08	-0.24	0.04
Constant	3.47	0.003	8.16	0.0002	2.69	0.0001
Year	0.26	0.0001	0.42	0.0001	0.12	0.0001
All wars	-0.26	0.08	-0.47	0.08	-0.25	0.04

## Results and Discussion

The results are shown in Table 1. It can be seen that involvement in war was associated significantly with a lower suicide rate in all twelve regression analyses and reached statistical significance in six. Interestingly, the effect for female suicide rates was more often statistically significant than the effect for male suicide rates despite the greater involvement of men in actual fighting. The impact of war on suicide rates was found in those regressions when the time trend was not included and in those when the time trend was included, though the effect was more often statistically significant in the former instance. The impact of war was found for major wars and for all wars.

Thus, it can be seen that, despite an increasing suicide rate during the 19th Century, France experienced a

slightly lower suicide rate during years of war than during peaceful years, confirming Durkheim's observation using modern statistical techniques.

## References

- Chesnais JC (1976) *Les mortes violentes en France depuis 1826*. Paris: Presses Universitaires de France
- Doan T (1990) *Regression analysis of time series*. Evanston IL: Var Econometrics
- Durkheim E (1897) *Le suicide*. Paris: Felix Alcan
- Lester D (1992) War and personal violence. In G. Ausenda (ed) *Effects of war on society*. San Marino: AIEP Editore pp 211-222
- Lester D, Yang B (1991) The effect of war on personal aggression. *Medicine & War* 7:215-218
- Rojciewicz SJ (1971) War and suicide. *Life-Threatening Behavior* 1:46-54