

A reanalysis of the impact of non celebrity suicides

A research note*

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Summary. Previous work on suicide and the media has neglected theoretical issues. Some work has implied that only celebrity suicides can be expected to trigger additional suicides in the real world. The present study focuses on non celebrity suicides. Correcting coding errors in a previous work, it finds that the suicides of non celebrities are associated with increases in the national suicide rate. An index of publicized celebrity suicide stories was, however, more closely associated to increases in suicide than the publicized non celebrity stories. The model explains 90 percent of the variance in monthly suicide rates.

The literature on media impacts on suicide has been marked by a number of recurrent findings. First, stories on fictional suicides while thought to have an impact in early studies (Phillips 1982; Gould and Shaffer 1986), have been found to be unrelated to suicide in replications of the original inquiries, replications that corrected some of the flaws (Kessler and Stipp 1984; Phillips and Paight 1987). An interpretation of these findings is that stories must be about real, not fictional, people in order to spark enough audience identification with the suicide victim (Stack 1987a). Second, turning to real stories, research has tended to find an increase in suicide following a publicized story (see Phillips 1986 for a review). This literature has, however, been criticized for being theoretically naive. All manner of stories, those about villains, celebrities, and common folk are lumped together in undifferentiated indexes (Baron and Reiss 1985 a, b; Stack 1987b). It would seem reasonable to expect that some stories would ignite more audience identification with the suicide victim than other stories. In addition, some stories, being marked by "positive definitions" of suicide including legitimate rationalizations, would be more apt to trigger imitative suicides than their opposites (Akers 1985, pp 303–304). Third, re-

search has documented a strong relationship between publicized stories about celebrity suicides and increases in the suicide rate (Wasserman 1984; Stack 1987b). Stack (1987b) interprets this from the standpoint of Tarde's (1903) theorem that imitation follows the law of the inferior imitating the behavior of the superior. Research has, however, not often included terms for both celebrity and non celebrity suicides. Thus, it has been difficult to measure the relative importance of the two types of stories on suicide rates.

The present study focuses on the effect of publicized suicide stories concerning non celebrities on the suicide rate. While Wasserman (1984) reports that only celebrity stories have an imitative effect, a check on this work may be needed. A replication of that work as it applies to celebrity stories found a substantial degree of measurement error (Stack 1987b). Given that the previous work missed three quarters of the celebrity stories, it may have missed a substantial proportion of the non celebrity stories as well. If so, its conclusions are problematic and replication is needed.

Methodology

The dependent variable is the monthly rate of suicide. This is measured as the number of suicides per 100,000 population. The suicide data are from U.S. Public Health Service (1950–1980). The population data were derived from a computer tape obtained from Citibank. The time frame under study is 1948–1980. The year 1948 is chosen as the beginning of the series since it is the first year a data source, Facts on File, for publicized suicide stories, published a suicide listing. The series ends with 1980 only because that was the latest year for which data were available at the time of data collection.

The selection of the month as the unit of analysis has advantages and disadvantages. A key advantage is that the present study is essentially a replicative exercise of a previous work which used the month as its temporal unit (Wasserman 1984). In addition, however, the use of the month as the unit of data aggregation allows for the intro-

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duction for controls for other variables which may contaminate any bivariate relationship between suicide and publicized stories about suicide. In particular, we can control for economic conditions. Also, use of monthly data allow us to collect data on a large number of stories since we can go back to 1948. In contrast, daily data only go back to 1972. As such, the use of daily data results in a much smaller number of stories. Nevertheless, daily data allow us to test for short term increases in suicide following suicide stories (Phillips and Bollen 1985).

Caution should be exercised in interpreting the results of this study for two reasons. First, it uses official data which may underestimate the incidence of suicide. A recent study by Pescosolido and Mendelsohn (1986), however, finds that the measurement errors involved do not affect the significance of sociological determinants of suicide. Still, that study was based largely on cross sectional data, while the present one is based on time series data. Second, given the use of aggregated data, we have no way of determining the extent to which an increase, if any, in suicide is due to the publicized story. Nevertheless, given that suicide victims are not available for after the fact interviews, that many lead relatively isolated lives leading to problems in post mortem 'psychological autopsies', and other problems (see Stack 1987a for a review), increases in suicide due to publicized stories may only be observable, indirectly, at the aggregated level. Kleck (1979) and Gibbs (1975) have made the same point for studies on the deterrence theory of crime; deterrence is an "inherently" unobservable phenomenon, by and large, which can only be dealt with at the aggregated level.

The rules for defining a publicized suicide story are the same as in a previous study (Phillips 1974). The source of a basic list of potential, nationally-publicized suicides was created from the annual lists of stories in the New York Times Index. Second, the names of the suicide victims were looked up in the annual issues of Facts on File (FOF), an index to the international news. It is assumed that the stories that made both page 1 in the NYT and were listed in FOF are the ones most apt to make national news (Phillips 1974; Stack 1987b).

Given that stories that appear at the end of the month are apt to have their greatest impact on the suicide rate of the following month, some recoding is necessary. This study follows the past convention of coding stories that appear after the 23rd of the month as affecting the next month's suicide rate (Phillips 1974; Wasserman 1984; Stack 1987b). Finally, stories on suicides in the distant past are omitted as are stories on the subject or topic of suicide, as in the past research.¹

A total of fifty five stories concerning noncelebrity suicide met the present study's criteria for a publicized story. This list was compared to those in the previous work, and a surprising amount of measurement error was

found. Thirty three of the 55 stories which made both page 1 in the NYT and FOF were missed, an error rate of 60.0 percent. With such a high degree of measurement error, it is possible that the results of the previous work might not be replicated. For the details of the measurement errors, write the present author.²

A second measurement error, not as numerous as the first, was the inclusion of stories that did not meet the criteria. Five such stories were located, all from the 1972-1976 period which was added to the original Phillips' (1974) list by an update (Wasserman 1984).³ Given that these stories, in particular, did not make national news, their inclusion in a noncelebrity term would bias the coefficient of the term towards zero or insignificance.

In order to weight the importance of noncelebrity with celebrity suicide stories, a term representing the latter is incorporated into the analysis. A publicized celebrity suicide story follows the same definition as in the past research (Wasserman 1984; Stack 1987b). The results reported here include only entertainment and political celebrities in the celebrity suicide term.⁴

A control is also introduced for the state of the national economy. Unemployment has been the principal indicator of economic anomie used in the literature (see Platt 1984 for a review). The present study uses the unemployment rate as its measure of economic anomie. The data are taken off of a computer tape supplied by Citibank (1984).

Given strong associations between season and suicide, controls are introduced for month of the year (Wasserman 1984; Stack 1987b). Following past work, eleven dummy variables take care of the confounding effect of seasonal

² There were some patterns to the measurement errors. Some of the suicide lists in the NYT index instruct the reader to "see also" other categories such as murder, Vietnam, and so on. Not all suicides are listed under the suicide list. For example, many publicized suicides of Buddhist monks protesting the Vietnam War were missed, probably because of this oversight. This particular error, in itself, is not too serious since these protest suicides were clustered in just a few months, especially June 1966 when ten anti war suicides were reported in 8 publicized stories. Some suicide victims were not listed in the suicide list in FOF (which is very short in many years). Instead, however, they were listed under their names. This group often received large amounts of coverage in FOF. An example is Henri Niaux who suicided in prison just after his attempt to assassinate President DeGaulle of France failed. Many errors had unique apparent causes. For example, Ethel DuPont Warren was listed under "Warren" in the NYT, but was listed under her maiden name in the suicide subject list in FOF. In some cases there was no clear reason why the story was missed since the name was clearly in both suicide subject lists in both screening sources (NYT, FOF). An example is Vladimir Janko, Deputy Defense Minister of Czechoslovakia.

³ In four cases the stories made page one in the NYT, but were not in FOF. In one case, Bernard Ploscowe, the story was not in FOF and also was not on page one of the NYT. Instead it appeared on page 26. Curiously, Wasserman (1984, p 429) reports that Ploscowe was a "New York City Council candidate." In actual fact, however, the NYT story indicates that he was the Republican candidate for US Congress. He was running against NYC councilman Ted Weiss.

⁴ Stack (1987b) found that only these two categories of celebrity suicides were associated with the suicide rate. A preliminary analysis that included all celebrity stories in Stack's (1987b) list, found that the celebrity term was insignificant. Hence, it was restricted to only the two subtypes known to affect suicide rates.

¹ Only a few stories occurred in the distant past, a year or more back in time, so this is not a serious problem for the set of stories. Almost every story was reported a day or less after the suicide occurred. Suicide attempts were also excluded as in the past research, with one exception. In the case of Nicole Barrett, since news reports indicated that it was expected that she would die, she was included. The few other suicide attempts were far less serious, so they were excluded.

variation. Finally, a dummy variable representing the months of the Korean and Vietnam wars is introduced, as in Wasserman (1984).

The analysis

Two issues facing time series analysis are autocorrelation and heteroscedasticity (HS). Both problems, if present, violate cardinal assumptions of regression analysis regarding the error term (Johnston 1984). A first run through the data was made using ordinary least squares regression. The Durbin Watson *d* test for autocorrelation was, however, positive. A possible correction for autocorrelation is to introduce a lagged dependent variable (Johnston 1984). This technique was employed. It greatly reduced the autocorrelation coefficient, but significant autocorrelation remained. A series of annual dummy variables were next added to the equation in an effort to remove trending. This final solution to autocorrelation was successful. The results are given in Table 1. Note that the standard test, Durbin's *h*, for autocorrelation in such an autoregressive function was not calculable given that a square root of a negative number was involved. Durbin provides an alternative test for such circumstances. Here the residuals are regressed on the lag of the residuals, and the independent variables including the lagged dependent variable (Johnston 1984, p 318). If the lagged residual term is significant under a two tailed test, the equation is marked by autocorrelation. The results indicate that the coefficient is not significantly different from zero. The null hypothesis of no autocorrelation is accepted.

The results of this equation also need to be checked for HS. The Glesjer test for HS (Gujarati 1978, p 203). Here the residual term is regressed on the independent variables. If any are significant, under a two tailed test, HS is present. The results of a the Glesjer HS test are given in panel C of Table 1. None of the core predictor variables were marked by significant HS. Finally, the variables taken together might create a situation of HS. As a check on this possibility, the F-statistic for the entire set of predictors was calculated. It was, however, also insignificant. Hence, we can proceed with the interpretation of the findings in panel A.

Controlling for the other independent variables, months with a non celebrity suicide stories have significantly higher suicide rates. This includes a control for celebrity stories. The non celebrity coefficient is 2.2 times its standard error. The 95% confidence interval for the non celebrity coefficient is 0.02 to 0.27. In months with a publicized non celebrity story the suicide rate increases by 0.14 units. Celebrity stories, however, also increase the suicide rate. Controlling for the other variables, months with celebrity suicide stories have significantly higher suicide rates. In such months the suicide rate increases 0.41 units. Standardized regression coefficients were calculated for these two story variables. The one for the celebrity term was larger, indicating that the celebrity term was more closely associated with the variance in suicide than the non celebrity term.

The unemployment rate was more closely associated with the variance in suicide than either of the two story

Table 1. The effect of publicized celebrity and non celebrity suicide stories on the national, monthly suicide rate, 1948–1980

Lag of suicide rate	0.18 ^a (0.18)
Noncelebrity	0.14 ^a (0.04)
Celebrity	0.41 ^a (0.06)
Unemployment	0.18 ^a (0.19)
War	0.10 (0.04)
Constant	8.27 ^a
R-square	0.90
<i>Tests for autocorrelation</i>	
Durbin's <i>h</i> statistic: (not calculable)	
Durbin's alternative test	
Coefficient of the residual regressed on the lag of the residual: –0.196 (<i>t</i> = –1.42, <i>P</i> < 0.05)	
Autocorrelation Coefficient –0.03	
<i>Glesjer test for heteroscedasticity</i>	
Lag of suicide rate	–0.02
Noncelebrity	0.004
Celebrity	0.006
Unemployment	0.02
War	0.04
F-statistic	1.33

The regression coefficients for the remaining variables in the model (eleven month dummy variables to deseasonalize the data, and annual dummy variables to remove trending effects) are not shown for reasons of clarity and brevity.

The numbers in parentheses refer to standardized regression coefficients ^a Statistically significant at the 0.05 level, *P* < 0.05.

variables. The greater the unemployment rate, the greater the suicide rate.

The model explains 90% of the variance in suicide. War was, however, unrelated to suicide.

Discussion

The present study corrected the substantial amount of measurement error in a previous investigation. With these corrections, the conclusion of the past research, that non celebrity suicide stories have no impact on suicide, was reversed. The impact of publicized non celebrity stories is not as great as publicized celebrity stories. The latter finding might be anticipated given the theoretical arguments in Stack (1987b) that imitation follows the process of the inferior copying the behavior of the superior. Superior people give a certain sense of legitimacy to behavior. If a famous person suicides, then, suicide may be viewed as more legitimate than if an unknown person suicides. Such a process can also be interpreted as a positive definition of suicide, and as a rationalization, in Akers (1985) social learning theory of suicide.

The finding that non celebrity suicide affects suicide indicates that the Tarde/Stack (1987b) theory of celebrity suicide needs reformulation. It is an incomplete theory, not able to account for all social facts on the issue. Technically speaking, the suicides of “inferior” people should not spark imitative suicides.

Nevertheless, Stack's (1987b) theory may be flawed. If we adopt, instead, differential identification (Matthews,

1968) or social learning theory (Akers 1985), the social status and fame of the suicide victim do not serve as the only point of identification and do not serve as the only rationalization for suicide. The present findings that non celebrity suicides are associated with increases in suicide may be due to downward socio economic identification. That is, people may be also apt to identify with persons like themselves, ordinary people (Mandell 1984, pp 252–254). Advertisers alternatively manipulate consumer behavior by using both celebrities and common people as reference groups. The same duality in identification may exist in the reactions to suicide stories.

In sum, the results presented in this paper indicate that the notoriety of a suicide victim is not a necessary condition for imitative suicide. If a relatively unknown or even virtually unknown person suicides and it makes national news, his or her instant celebrity status is enough to promote identification and rationalizations for suicide.

The set of stories about noncelebrities is, however, seriously differentiated. There are, for example, numerous stories concerning politically oriented suicides, suicides drawing attention to social problems in order that they might be resolved. These might be labeled, following Durkheim, “altruistic” suicides, suicides for a political cause. To the extent that the members of the suicidal population are a-political, however, we might anticipate that these stories might elicit only inadequate levels of identification. At the same time, we have a large number of suicides that followed one or more murders by the person suiciding. This category of suicide might not promote as much identification given the duality of the aggression presented.

Further research is needed that would categorize the 55 noncelebrity stories into a taxonomy derived from either or both of differential identification or social learning theories. In this way we could ascertain which “social types” (Geertz 1973) would promote significant increases in suicide and which would not. These findings could also be considered by media policy makers in deciding how to publicize and if to publicize certain high risk categories of suicide stories.⁵

Appendix

List of non celebrity suicides: dates and names. (Facts on File and page 1 of New York Times)

03–08–48
Ross Lockridge, author
08 28 48
Henry M. Brooks, financier, murder-suicide
03 10 49
Emory Holt, murder-suicide, lover's triangle

⁵ A preliminary analysis of seven social types of stories found that only artist/entertainers and foreign political suicides were significantly associated with suicide. While not as notorious as the entertainers in Stack's (1987b) study, the suicides of entertainers/artists in this study were significantly associated with suicide as well. Villain suicides, murder-suicides, suicides of the political and economic elite, altruistic suicides (e.g. anti war) and other suicides were not associated with significant changes in the suicide rate.

04 26 50
Dr. B. K. Baker, murder-suicide, Professor
04 20 51
John C. Lang, NYC patrolman, under investigation
08 04 51
Malcolm Soule, fired University of Michigan Professor
10 07 51
Fred Stengel, New Jersey police chief, under investigation
02 25 53
Robert M. LaFollette, Ex US senator
01–14–54
Norman Moon, construction worker, murder-suicide¹
02 02 54
Edwin H. Armstrong, FM inventor
08 12 54
Wolfgang Hoefer, U. S. counterintelligence agent¹
04 15 55
Charles W. Chapman, New York official, State Liquor Authority¹
10 16 55
Alexin Minaev, United Nation clerk, Soviet Embassy¹
01 29 56
William Bauer, mass murder suicide¹
04 05 57
E. Herbert Norman, Canadian envoy
07 28 57
Romerio V. Sanchez, palace guard, Assassin of Guatemalan President¹
07 25 58
Admiral Lynce C. Quiggle, U. S. Navy
03 20 60
Eugene G. Smith, police chief, Little Rock, Arkansas
09 16 62
Henri Niaux, organized assassination attempt on President DeGaulle¹
08 04 63
Dr. Stephen T. Ward, head of Call girl operation, involved in Profumo Affair
08 05 63
Le, Thanh Thuc Thich, and Tieu Dieu Thich¹
08 14 63
08 16 63
Three Buddhist Monks, protesting Vietnam War
10 04 63
Jack E. Dunlap, Sgt. U. S. Army, alleged spy¹
10 06 63
Huong, Buddhist Monk, protesting Vietnam War¹
10 27 63
Dinh Van Ho, Buddhist Monk, protesting Vietnam War¹
02 04 64
Ewald Peters, Nazi War criminal¹
02 14 64
Werner Hyde, Nazi War criminal and Friedrich Tillman, Nazi War criminal
05 26 65
Ethel Warren DuPont, Dupont heiress¹
11 01 65
Daniel Burros, Pennsylvania Grand Dragon, Ku Klux Klan
11 03 65
Norman R. Morrison, quaker official, protesting Vietnam War
11 10 65
Roger Allen LaPorte, Vietnam War protester¹
01 22 66
Newcomb Mott, U.S. tourist sentenced to Soviet Labor Camp
02 05 66
James A. Pike, son of Bishop Pike, critic of Christian doctrine
02 26 66
Victor Kravchenko, Russian defector to U.S., author
05 29 66
to
6 18 66
8 stories on suicides of 10 Buddhist Monks protesting Vietnam War:

Thanh Quang, Thi Thieu Ho, Thi Van Nguyen, Phap Sieu Thich, Du Dien Thich, Nu Bad Thich, anonymous, Thi Tuyet, Dieu Nu, anonymous¹
 03 15 68
 Vladimir Janko, deputy defense minister, Czechoslovakia¹
 01 20 69
 Jan Palach, protesting Soviet Invasion of Czechoslovakia¹
 04 06 69
 Donald Lambright, comedian's son, mass murder suicide¹
 05 30 69
 Bruce Mayrock, protesting starvation in Biafra
 07 11 70
 Hugh Redmond, prisoner of Chinese
 05 03 72
 Fletcher Hueston, NYC police lieutenant, under investigation¹
 06 22 72
 Edwin James Grace, Pinkerton guard, mass murder/suicide¹
 03 13 75
 William Gingery, civil aeronautics board enforcement chief¹
 11 17 76
 Gary Gilmore, convicted murderer Nicole Barrett, girl friend, double suicide attempt¹
 02 15 77
 Fred Cowan, mass murder suicide¹
 08 28 77
 Emile Benoist, mass murder/suicide¹
 10 21 77
 Thomas Michael Hannan, airplane hijacker¹
 05 11 78
 Leogina Shevshenko, wife of Soviet diplomat
 06 17 79
 Jo Roman, social worker/artist
 09 15 79
 Jean Seberg, actress

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¹ Missed by Phillips (1974) and/or Wasserman (1984)