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Suicide in Dublin:

II. The Influence of Some Social and Medical Factors on Coroners' Verdicts

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Summary

This paper presents an analysis of the factors which influence coroners in their decision to classify some deaths as suicides and others as accidental or 'open'. The most important influence on coroners' behaviour was seen to be the manner by which the person died. Those who died by cutting, hanging, drugs or gas were significantly more likely to receive a suicide verdict than those whose deaths were due to drowning, jumping, shooting or poisoning. If the deceased left any intimation of a suicidal intent, this increased the likelihood that a suicide verdict would be returned. Finally, persons aged under 40 were significantly more likely to be returned as suicides than older victims, especially those aged over 70. All of these results show that coroners operate by observing the law as it defines suicide, that is, by looking for evidence of intent of self-inflicted death.

Our findings concerning the factors associated with the suicide verdict help to clarify the meaning of the official data on suicides in Ireland, and illuminate the reasons why, using clinical rather than legal criteria, a much higher rate is obtained.

Materials and Methods

The present study is an attempt to understand the factors that influence coroners in their decision to call a death 'suicide' or 'accidental' or to return an 'open' verdict. It is based on the survey of Dublin coroners' records referred to in the previous paper. The 201* deaths which McCarthy and Walsh judged to be suicides were divided into two groups, the first consisting of the 58 cases which were also classified as suicides by the coroners, the second consisting of the 143 cases for which the coroners returned a non-suicide verdict. The purpose of this study was to isolate characteristics of the deaths which would best allow us to discriminate between these two groups. The statistical technique employed is linear probability function analysis. This technique, although starting from assumptions that are similar to those used in multiple regression analysis, provides results that closely resemble discriminant analysis (Ladd, 1966).

* Eight of the 209 cases in the study were not used because of data deficiencies.

The following variables were used in our analysis as explanatory or independent variables: sex, age, marital status, previous psychiatric treatment, previous suicide attempt, method used, intimation of intent, alcohol taken, household circumstances.

Cases were classified 0 or 1 according to whether or not they fell into a specific category of each variable. The dependent variable was coded 0 for cases where the coroner returned a non-suicide verdict, 1 for cases where his verdict was suicide. The purpose of the statistical analysis was to isolate the independent variables whose net influence on the dependent variable was significant.

Findings

The results of estimating the linear probability function, using all the available independent or explanatory variables, are set out in Table I. The coefficients recorded in this Table may be interpreted as an indication of the change in the probability of a suicide verdict attributable to membership of a given

TABLE I

Linear probability function analysis of coroners' verdicts related to subjects' characteristics. Dependent variable: s coroner's verdict (suicide = 1, other = 0)

Explanatory variable	Sex	Marital status	Previous psychiatric treatment	Method	Intimation of intent
Coefficients	−0·03 if male	−0·05 if married −0·03 if widowed 0·01 if divorced or other	−0·08 if no previous treatment	0·99 if cutting 0·69 if hanging 0·50 if drugs 0·26 if gas 0·19 if shooting 0·06 if poison 0·05 if jumping 0·32 if other	0·31 if yes
Reference Category	Female	Single	Any previous treatment	Drowning	No
F-value	0·0	0·5	0·7	12·6	12·1

Note: F-values and coefficients underlined once are significant at the 95 per cent level; those underlined twice are significant at the 99 per cent level.

category of a variable as compared with the reference category. We interpret each coefficient as measuring the net influence of the variable in question. This interpretation is open to question in situations where there is a high degree of intercorrelation between the independent variables; in the present study these intercorrelations are low.

It may be seen from Table I that a large number of variables add little to our understanding of the coroners' behaviour; among these are the subject's sex, marital status, previous psychiatric record, previous suicide attempts, alcohol intake, and household circumstances. These negative conclusions are of great interest, suggesting that a wide range of factors that might plausibly be assumed to affect a coroner's verdict do not seem to exercise any net influence.

On the other hand, the method by which the victim died, his or her age, and whether there was any intimation of intent may be seen to explain much of the coroners' behaviour in arriving at verdicts. Those who died from cutting and hanging were much more likely to be returned as suicides than those dying by drowning, shooting, jumping or poisoning. Similarly, there was a significant increase in the probability of a case being classified as a suicide if some intimation of intent had been given. Finally, the pattern of coefficients obtained for the age variable suggests that older victims were generally less likely to be returned as suicides than younger ones. Although not significant, the pattern of coefficients for the household circumstances variable is of interest, suggesting that a person living alone was most likely, and one living with his or her parents least likely, to be classified as a suicide by the coroners.

From the statistics presented at the end of Table I, it is clear that our approach to the study of coroners' decisions has a high explanatory power. When the equation was used to

TABLE I (*continued*)

Alcohol taken?	Previous suicide attempt	Age	Household circumstances	Evaluation of equation
		0·09 if 10–19	−0·12 if living	R = 0·68 $\bar{R}^2$ = 0·37
		−0·07 if 20–29	with parents	F-value = 5·36 (27,173)
−0·07 if No	0·01 if no	−0·18 if 40–49	−0·11 if other	
	previous	−0·15 if 50–59		Prediction by linear probability function / % correct prediction
	attempts			
		−0·19 if 60–69	−0·09 if living	Coroner's verdict: Suicide / Other / %
		−0·43 if 70–79	in institution	
		−0·19 if 80–89	−0·07 if living	Suicide: 43 / 15 / 74
			with own	Other: 13 / 130 / 91
			family	
Yes	Any previous attempts	30–39	Living alone	Total: 56 / 145 / 86
0·4	0·8	1·4	0·5	Intercept = 0·26

'predict' whether an individual case would or would not be judged a suicide by the coroners, correct 'predictions' were obtained in 86 per cent of cases. The only large source of error was the 26 per cent of actual suicide verdicts that were not correctly 'predicted' by the equation.*

In Table II a condensed equation is presented, with all the variables which were non-significant in Table I omitted (except for household circumstances). Categories of the remaining variables whose coefficients were similar in Table I have been grouped in Table II. The result is a considerable simplification, without any loss of explanatory power, as may be seen from the higher $\bar{R}^2$ (coefficient of multiple determination, corrected for degrees of freedom) in Table II. The significance of method as a factor influencing coroners is overwhelming, with age and intimation of intent lesser, although highly significant, influences. In this simplified presentation, household circumstances remain non-significant.

* The discriminant used was based on the equation in Table I and a knowledge of the proportion of suicides in the total sample. The latter was taken as an estimate of the '*a priori* probability' (Morrison, 1967).

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TABLE II

Condensed equation. Dependent variable is coroner's verdict (suicide = 1, other = 0)

Explanatory variable	Method	Intimation of intent?	Age	Household circumstances	Evaluation of equation
Co-efficients	1·05 if cutting 0·66 if hanging 0·48 if drugs 0·24 if gas 0·26 if other	0·32 if yes	−0·17 if 40–69 −0·31 if 70 or over	−0·02 if living with parent's family	$R = 0{\cdot}65$ $\bar{R}^2 = 0{\cdot}39$ F-value = 15·5 (9,191)
Reference category	Drowning, shooting, jumping, poison	No	10–39	All other	Intercept = 0·26
F-value	17·5	12·1	6·2	0·6	

Prediction by linear probability function / % correct predictions

Coroner's verdict	Suicide	Other	% correct predictions
Suicide	40	18	69
Other	12	131	92
Total	52	149	85

Note: See footnote to Table I.

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