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Article

Suicide risk among correctional officers: A logistic regression analysis

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Abstract. Research on suicide in correctional facilities has focused on inmates to the neglect of correctional officers. Research on factors such as stress, burnout, and work dissatisfaction has often found high levels of these problems among guards. The present study analyses data from 21 states to ascertain whether guards are at risk of suicide. The results of a multivariate logistic regression analysis indicate that the risk of suicide among guards is 39% higher than that of the rest of the working age population.

Key words: suicide, correctional officers, risk, logistic regression analysis

Introduction

Research on suicide in correctional facilities has been overwhelmingly based on inmates, not the correctional staff (e.g., Danto et al., 1981; Holley et al., 1995; Lester, 1993; Liebling, 1993). It would be anticipated from research on the lives of guards that, like prison inmates, guards would be at high risk of suicide.

Research on correctional officers has often found a high level of job dissatisfaction and stress (e.g., Cullen et al., 1989; Gardner, 1981; Lindquist & Whitehead, 1986). Correctional officers are in the group of 12 occupations with the highest incidence of workplace homicide (Castillo & Jenkins, 1994). A recently study of five jails found that correctional officers were at or approaching high levels of stress (Stohr et al., 1994). Guard stress is often associated with such conditions as poor training, and high turnover rates which can discourage the formation of quality peer group relatedness among guards (see review in Philliber, 1987). Evidence both at the national and state levels indicates that guards are among the most dissatisfied workers in the labor force (e.g., Cullen et al., 1989).

Given the high incidence of workplace problems faced by guards, it is plausible that they might be at an elevated risk of suicide. The present study

employs recently released data to assess the extent of suicide risk among correctional officers.

Methods

Suicide data are from the 21 states which reported occupational data on the deceased in the 1990 National Mortality Detail File (U.S. Public Health Service, 1994): Colorado, Georgia, Idaho, Indiana, Kansas, Kentucky, Maine, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Rhode Island, South Carolina, Utah, Vermont, Washington, West Virginia, and Wisconsin. The study is limited to the working age population 18–64. The dependent variable is a binary variable where 1 = death by suicide and 0 = death from all other causes. Given the dichotomous dependent variable, logistic regression techniques are appropriate (Menard, 1995).

Employment as a correctional officer uses the Public Health Service occupational code number 424, correctional institution officers, a subcategory under police and detectives. Correctional officer is measured as a binary variable where 1 = correctional officer and 0 = all others.

Divorce and other categories of being nonmarried has been linked to suicide. Given a presumably high incidence of divorce among correctional personnel, it is important to control for marital status. A series of three binary variables (with married as the omitted or comparison category, measures marital status: divorced (0,1), widowed (0,1), and single (0,1). Controls are also included for socio-demographic variables found to be predictive of suicide risk in previous research (e.g., Stack & Wasserman, 1993). These are male (0,1), age in years, black (0,1) and education level (in years).

Analysis

From the data in a simple bivariate contingency table, 7.14% of guards died of suicide in 1990 compared to 4.51% of the general working age population. Guards are apparently at greater risk of suicide than nonguards. The results of the multivariate logistic regression results are summarized in Table 1. Controlling for the other variables in the equation, correctional officers have an elevated risk of suicide. From the odds ratio, correctional officers are 39% more at risk of death from suicide (vs. natural causes) than noncorrectional officers. Significance tests are not appropriate for this study since it is based on a population, not a sample. Observed differences are real differences. Nonetheless, if the study were based on a sample and not a population, this difference would not be large enough to be statistically significant. Factors

Table 1. The effect of employment as a correctional officer on the odds of death by suicide vs. natural causes, 21 reporting states, 1990 ($n = 418,352$ deaths), logistic regression results

Variable	Logistic coefficient	Standardized coefficient	Odds ratio
Intercept	-1.05	-	0.35
Correctional officers	0.33	0.003	1.39
Divorced	0.41*	0.08	1.51
Widowed	0.35*	0.05	1.41
Single	-0.28*	-0.06	0.75
Age	-0.07*	-0.51	0.93
Male	0.65*	0.17	1.92
Black	-1.27*	-0.27	0.28
Education	0.07*	0.11	1.07

notes:

Contingency c between predicted probabilities and observed responses: 0.784.

Model F value:

$p < 0.05$ (significance tests are not fully appropriate since the data are based on a population not a sample).

with powerful relations to suicide risk include being black (which increases the risk 72%) and age where for every year the risk of suicide is decreased by 7%. The degree of fit between the observed responses and the predicted probabilities is strong, the contingency c statistic being 0.78.

Conclusion

Research on suicide in correctional facilities has focused on prisoners to the neglect of the guards. The present study adds to the literature by providing the first estimates of suicide risk among guards. Controlling for the covariates of guard status such as marital status, guards have an elevated risk of suicide of 39%. Further, more in depth work (e.g., psychological autopsies) based at the individual level will be needed to ascertain exactly what work and nonwork circumstances contribute to the elevated risk of suicide among guards.

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