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Author

Young, Thomas J.

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RESEARCH NOTE

Suicide and Homicide among Native Americans: The Medical Resources Hypothesis

THOMAS J. YOUNG

Several studies have reported negative correlations for medical resources and homicide rates among general populations in the United States. Another study, however, found that, for fifteen Western European nations, suicide and homicide rates increased as medical resources improved. The present study found strong, positive correlations for the number of available hospital beds per 100,000 population and suicide and homicide rates among United States Indian Health Service (IHS) areas, raising additional cross-cultural questions about the medical resources hypothesis.

For many years, scholars have tried to explain the differential distribution of suicide and homicide rates. Culturalists tend to point to underlying normative value systems,¹ while structuralists focus on poverty and inequality.² Research from these two approaches has produced contradictory findings.

Recently, it has been suggested that culturalists and structuralists have overlooked factors involved in the production of suicide

Thomas J. Young is a psychologist in Beatrice, Nebraska.

and homicide rates.³ Several studies suggest that appropriate medical resources influence mortality rates and may prevent borderline cases from becoming suicide and homicide statistics.⁴ By assuming that victims die solely because they have sustained a wound, culturalists and structuralists may have failed to consider the role of available medical resources.

Doerner and Speir have suggested three general areas of medical care that could affect suicide and homicide rates: emergency transportation and field treatment, emergency room treatment, and postoperative recovery.⁵ Rapid emergency response time and the deployment of trained paramedics are important variables, but the mere delivery of a patient does not ensure survival. It is estimated that 20 to 30 percent of all trauma patients who die do so as a result of misdiagnosis, improper treatment, inadequate equipment, or incompetent staff. Postoperative complications, infections, and drug reactions pose additional clinical problems.

Several scholars have reported findings lending scientific support to the contention that the distribution of medical resources influences the ecological variation of homicide rates. Both Gastil⁶ and Loftin and Hill⁷ found strong negative correlations between two medical care indicators (hospital bed rate and physician rate) and state homicide rates. Likewise, Doerner and Speir⁸ analyzed data from the sixty-seven counties in Florida and reported "some support for the notion that the differential distribution of medical resources is partially responsible for variation in criminally induced lethality rates." Their regression solution for lethality found poverty as the leading predictor. Regarding medical indicators, the number of physicians failed to enter the equation, while the number of nurses exhibited a strong inverse relationship and number of hospital beds had a positive impact. Urban populations also had higher lethality rates.

Other studies, however, have not replicated these findings. In a cross-cultural study of fifteen European nations, Lester reported that suicide and homicide rates increased as medical resources improved.⁹ The present study sought cross-cultural replication with data from United States Indian Health Service districts.

METHOD

Unpublished data on the number of available hospital beds per 100,000 population in 1975 were obtained from the United States

Indian Health Service for all IHS districts providing inpatient and outpatient health care: Aberdeen, Bemidji, Albuquerque, Alaska, Billings, Navajo, Oklahoma City, Phoenix, Tucson, and United Southeastern Tribes (U.S.E.T.). Unfortunately, data on the number of nurses and physicians per 100,000 population were not available by IHS district.

Unpublished suicide and homicide rates per 100,000 population for 1974–76 were also obtained from the United States Indian Health Service for each service district. Following a method employed by Field, suicide and homicide rates were added to provide an index of general aggression for each IHS district.¹⁰

The variables *Native American* and *homicide* need to be operationally defined to minimize confusion. It is important to recognize that there is considerable debate and confusion regarding the question, "Who is a Native American?" Generally, a person must meet two requirements to be recognized as a Native American: he or she must have some native blood and must be considered a member of a federally recognized tribe. This means that individual status follows tribal status, and there can be no Native American without a tribe. Various tribes have different blood requirements for enrollment, with many requiring one-fourth tribal blood and at least one requiring five-eighths. The IHS service population consists of Native Americans identified as eligible for such service. This should be considered in drawing generalizations from the present findings.

Homicide is the willful (non-negligent) killing of one human being by another. This classification is based on police investigation, as opposed to the determination of a court, medical examiner, coroner, jury, or other judicial body. IHS homicide rates include the killing of Native Americans by both natives and nonnatives.

FINDINGS

Table 1 provides suicide and homicide rates, measures of general aggression, and the number of hospital beds per 100,000 population by IHS district. The means for the variables were as follows: suicide rate = 24.6 ($SD = 8.3$), homicide rate = 24.5 ($SD = 7.2$), general aggression index = 48.2 ($SD = 15.5$), number of hospital beds = 452.5 ($SD = 210.6$). In contrast, for the general United States there were 680 hospital beds and approximately 12.0 suicides and

9.0 homicides per 100,000 population. The general aggression index for the United States population was 21.0 per 100,000 population.¹¹

Because there were 50 percent fewer hospital beds for IHS districts than for the United States, it appears that medical resources were less available for Native Americans than for the general United States population. At the same time, the suicide rate was 105 percent greater for IHS districts than for the United States, and the homicide rate was 172 percent greater. The general aggression index was 130 percent greater for IHS districts.

TABLE 1
Hospital Beds Available, Suicide, Homicide,
and General Aggression Rates for
U.S. Indian Health Service Districts, 1974-76*

IHS Area	Hospital Beds Available**	Suicide Rates**	Homicide Rates**	General Aggression Index***
Aberdeen	737	27.2	38.9	66.1
Bemidji	166	26.5	24.1	50.6
Albuquerque	369	27.2	22.3	49.5
Alaska	745	40.2	25.5	65.7
Billings	284	17.8	20.9	38.7
Navajo	433	19.0	18.2	37.2
Oklahoma City	226	8.4	13.8	22.2
Phoenix	693	26.5	32.9	59.4
Tucson	385	24.1	21.4	45.5
U.S.E.T.	487	29.2	26.5	55.7

* Data provided by the U.S. Indian Health Service

** Per 100,000 population

*** Derived from adding suicide and homicide rates

These findings make it tempting to suggest that the relative shortage of medical resources among IHS districts is an important variable behind the high suicide and homicide rates found among Native Americans. However, an examination of the data in table 1 indicates that IHS districts with a relatively high (or low) number of hospital beds per 100,000 population also tended to have relatively high (or low) suicide and homicide rates. The Aberdeen and Alaska service districts, for example, had more available hospital beds than any other IHS district, and they also had the highest rates of general aggression. In contrast, the Oklahoma City service district was next to last in available hospital beds and had the lowest suicide and homicide rates. The Pearson correlation coefficients for the number of hospital beds and the three aggression measures were positive and strong: suicide ($r = .64, p = .02$), homicide ($r = .74, p = .007$), general aggression ($r = .74, p = .007$).

These findings, along with previous cross-cultural research using European nations, fail to replicate findings reporting negative correlations for medical resources and homicide rates for general populations in the United States. Clearly, more research is needed on the differential distribution of suicide and homicide rates among IHS districts. Structural-functionalist explanations based on poverty and social disintegration have been widely used over the years,¹² and research has shown that poverty correlates positively with suicide and homicide rates for IHS districts.¹³ However, in other studies, I noted that exceptions raise questions about poverty as a structural explanation for IHS suicide and homicide rates.¹⁴ The Navajo service district, for example, has the highest poverty rate of any IHS district and one of the lowest suicide and homicide rates. Furthermore, I found that poverty is related to IHS suicide and homicide rates among men, but not women.¹⁵ These findings suggest a complex, multivariate situation, with social learning playing at least some role. Perhaps what is needed is a research design that would examine suicide and homicide rates among Native Americans who are at the poverty level, both acculturated and unacculturated, and Native Americans who are relatively affluent, both acculturated and unacculturated.¹⁶

NOTES

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