



Distribution of Licensed Psychologists and Suicide Rates

AMERICAN PSYCHOLOGICAL ASSOCIATION
CENTER FOR WORKFORCE STUDIES

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KEY TERMS AND DATA SOURCES

Licensed psychologists: Doctoral-level active licensed psychologists. Data are from de-duplicated state licensing board lists in 2015, compiled by the American Psychological Association. In 2015, there were an estimated 95,000 doctoral-level psychologists actively working in the United States.

Concentration of licensed psychologists: The number of licensed psychologists per 100,000 population. Population data are from U.S. Census Bureau, 2015. The concentration of psychologists in 2015 was approximately 29.0 psychologists per 100,000 population in the United States.

Suicide mortality: Suicide mortality was identified using International Classification of Diseases, Tenth Division (ICD-10), and included the following death causes: 1) terrorism intentional (suicide), 2) intentional self-harm, and 3) sequelae of intentional self-harm. ICD-10 codes included U03, X60-84, and Y89.0. These codes were used by CDC to identify suicide mortality. State-level data are from Compressed Mortality File by the Center for Disease Control and Prevention, 2015. County-level data are from Compressed Mortality File by the Center for Disease Control and Prevention, 2011-17. Counties with missing suicide rates were treated as zeros.

Suicide rate: Number of suicide mortality per 100,000 population, adjusted for differences in age distribution and annualized between 2011-17. See more information on methodology here. The suicide rate in the U.S. was 13.5 deaths per 100,000 population in 2015.

Hot spot analysis: Hot spot analysis uses geographic inferential statistics to identify areas with statistically higher or lower concentration of a particular variable of interest.

RECOMMENDED CITATION

American Psychological Association. (2019). *Distribution of licensed psychologists and suicide rates*. Washington, DC: Author.

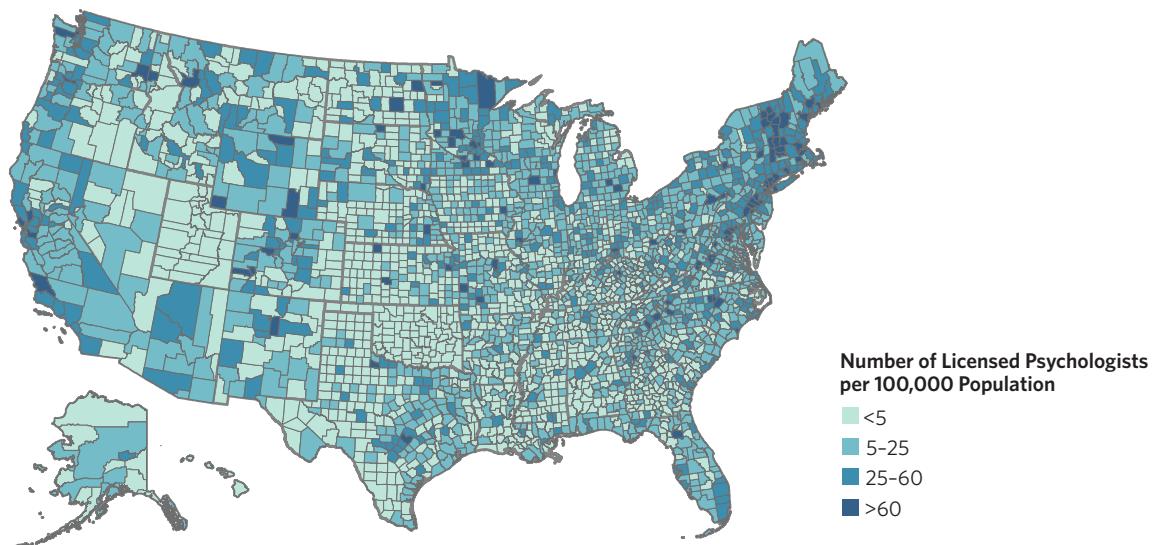
FINDINGS

Figure 1 presents the concentrations of licensed psychologists by county. Higher concentrations of psychologists were found in the Northeast and the Pacific coast areas.

Figure 2 presents the distribution of suicide rates by county. Suicide rates were higher in the Southwest and Rocky Mountain areas.

FIGURE 1.

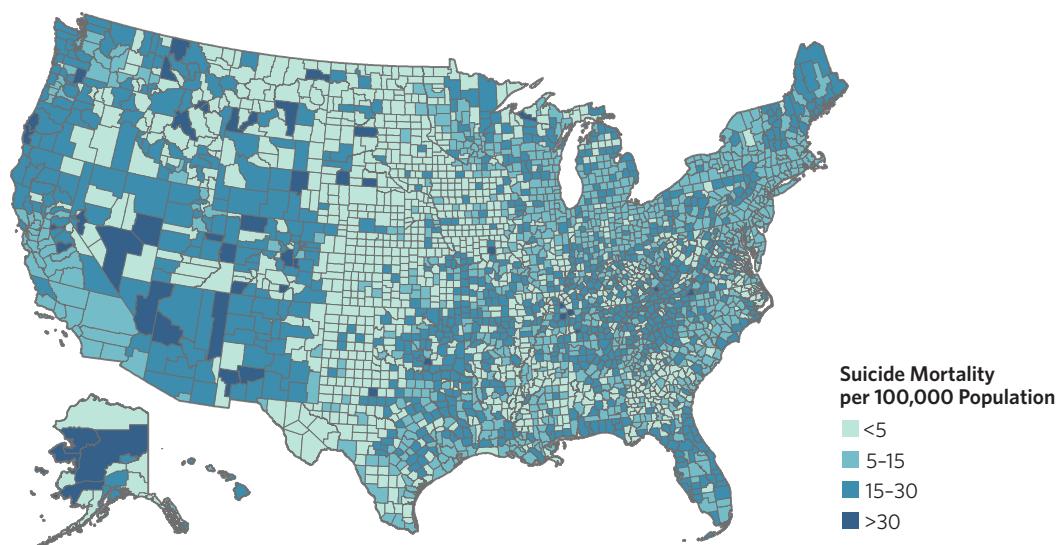
LICENSED PSYCHOLOGISTS PER 100,000 POPULATION BY COUNTY, 2015



Source: American Psychological Association, 2015; US Census Bureau, 2015.

FIGURE 2.

SUICIDE RATES BY COUNTY, 2011-17

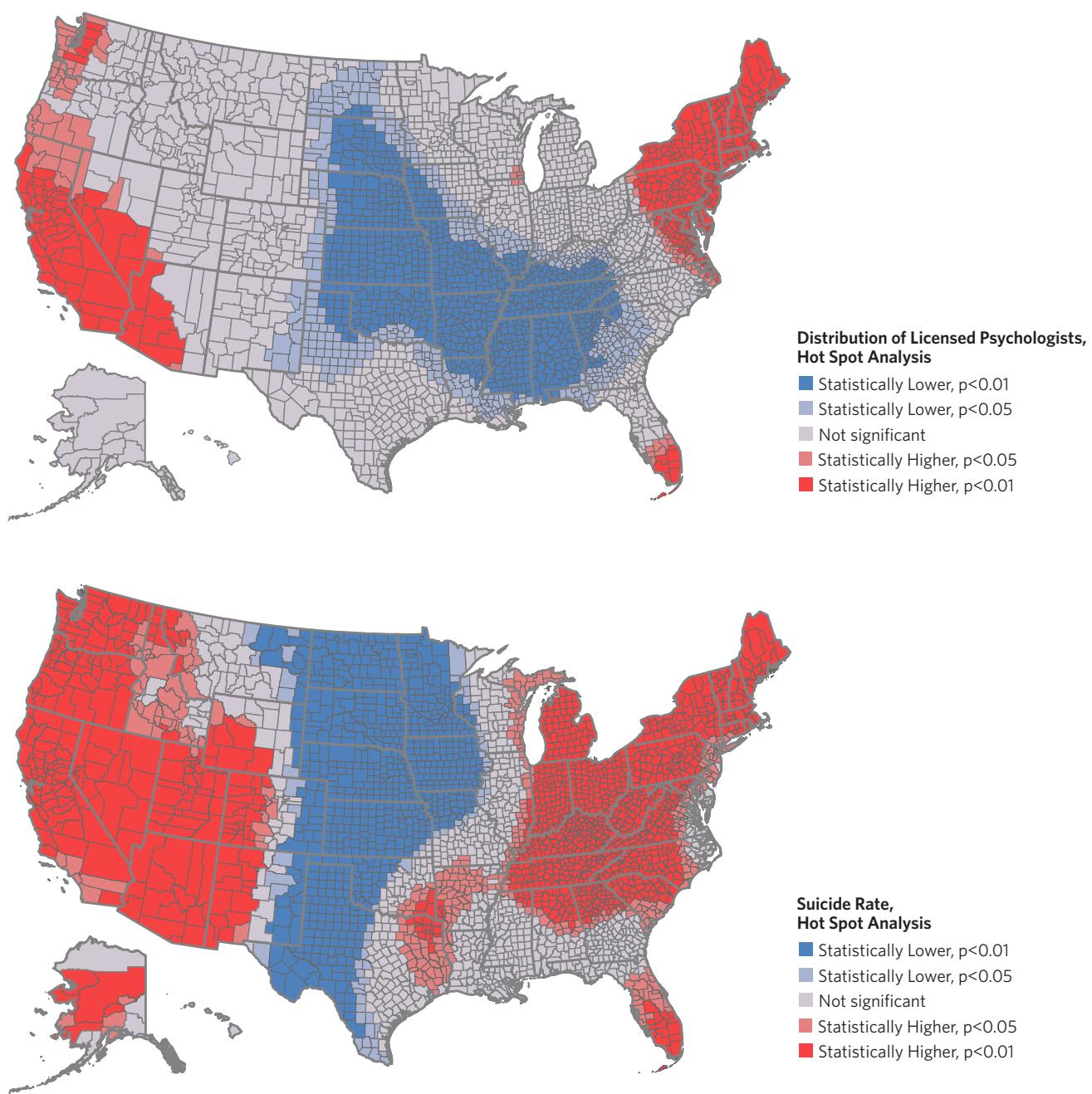


Source: Center for Disease Control and Prevention, 2011-17.

Figure 3 presents the hot spot analysis of licensed psychologists and suicide rates throughout the country. Red areas indicate statistically higher concentrations of licensed psychologists or higher suicide rates, whereas blue areas indicate statistically lower concentrations of licensed psychologists or lower suicide rates. The hot spot analysis highlights the overall patterns presented in Figure 1 and Figure 2.

FIGURE 3.

HOT SPOT ANALYSIS OF LICENSED PSYCHOLOGISTS AND SUICIDE RATES



Source: American Psychological Association; Center for Disease Control and Prevention; U.S. Census Bureau.

Note: Hot spot analysis uses geographic inferential statistics to identify areas with statistically higher or lower concentrations of a particular variable of interest.

Figure 4 presents the relationship between suicide rates and concentrations of licensed psychologists.

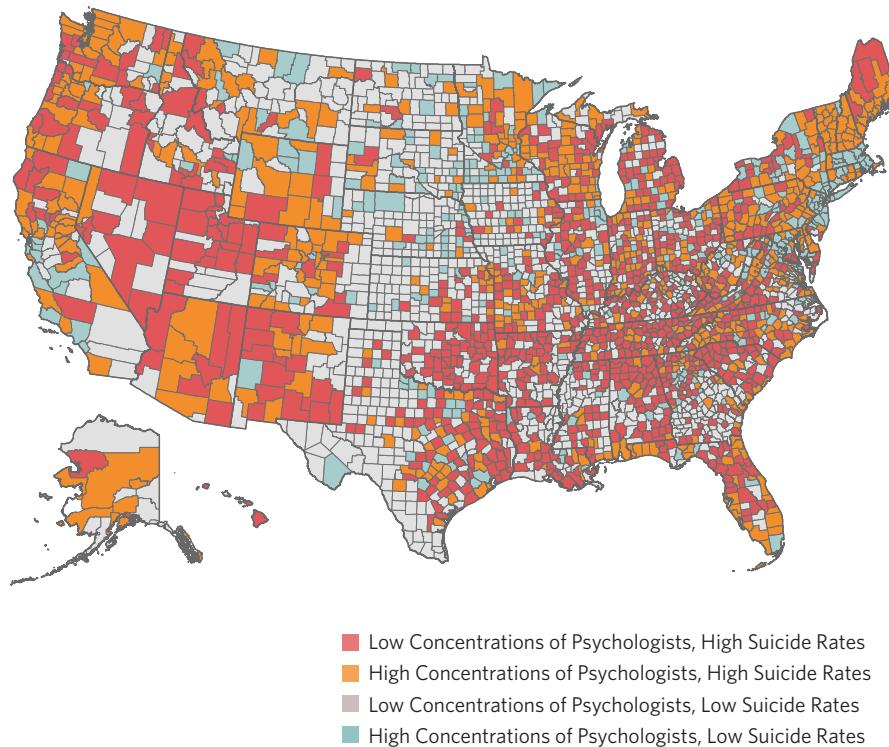
Counties were categorized into four groups:

1. Pink areas indicate counties with suicide rates higher than the mean of suicide rates across all counties in the U.S. (11.2 deaths per 100,000 population per county), and concentrations of psychologists lower than the mean concentration of psychologists across all counties in the U.S. (14.2 psychologists per 100,000 population per county);
2. Yellow areas indicate counties with suicide rates higher than the mean of suicide rates across all counties in the U.S., and concentrations of psychologists higher than the mean concentration of psychologists across all counties in the U.S.;
3. Gray areas indicate counties with suicide rates lower than the mean of suicide rates across all counties in the U.S., and concentrations of psychologists lower than the mean concentration of psychologists across all counties in the U.S.;
4. Blue areas indicate counties with suicide rates lower than the mean of suicide rates across all counties in the U.S., and concentrations of psychologists higher than the mean concentration of psychologists across all counties in the U.S.;

Figure 5 presents the same analysis at the state level. States with high suicide rates and low concentrations of psychologists included: Alaska, Arkansas, Arizona, Idaho, Kansas, Kentucky, Missouri, Montana, North Dakota, New Mexico, Nevada, Oklahoma, South Dakota, Tennessee, Utah, West Virginia, and Wyoming. States with high suicide rates and high concentrations of licensed psychologists were mostly in the Northeast and included: Colorado, Maine, New Hampshire, Oregon, and Vermont.

FIGURE 4.

SUICIDE RATES AND DISTRIBUTIONS OF LICENSED PSYCHOLOGISTS, BY COUNTY, 2011-17

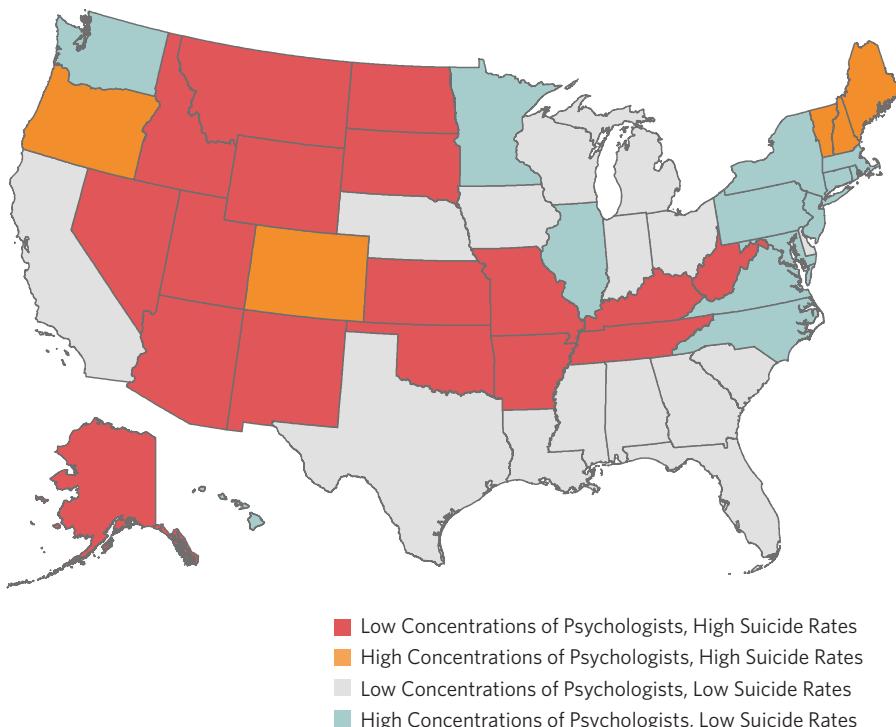


Source: American Psychological Association; Center for Disease Control and Prevention; U.S. Census Bureau.

Note: High suicide rates indicate the suicide rate in the county is higher than the mean of suicide rates across all counties in the U.S. (11.2 suicides per 100,000 population per county); low suicide rates indicate the suicide rate in the county is lower than the mean of suicide rates across all counties in the U.S. High concentrations of psychologists indicate the number of licensed psychologists per 100,000 population in the county is higher than the mean concentration of psychologists across all counties in the U.S. (14.2 psychologist per 100,000 population per county); low concentrations of psychologists indicate the number of licensed psychologists per 100,000 population in the county is lower than the mean concentration of psychologists across all counties in the U.S.

FIGURE 5.

**SUICIDE MORTALITY RATES AND DISTRIBUTIONS OF LICENSED PSYCHOLOGISTS,
BY STATE, 2015**



Source: American Psychological Association; Center for Disease Control and Prevention; U.S. Census Bureau.

Note: High suicide rates indicate the suicide rate in the state is higher than the mean of suicide rates across all states in the U.S. (15.8 suicides per 100,000 population per state); low suicide rates indicate the suicide rate in the state is lower than the mean of suicide rates across all states in the U.S. High concentrations of psychologists indicate the number of licensed psychologists per 100,000 population in the state is higher than the mean concentration of psychologists across all states in the U.S. (29.6 psychologists per 100,000 population per state); low concentrations of psychologists indicate the number of licensed psychologists per 100,000 population in the state is lower than the mean concentration of psychologists across all states in the U.S.