

The rapidly increasing drug poisoning crisis in the United States has become a critical public health problem in recent years. As such, understanding its underlying causes requires a holistic approach that encompasses various connected elements. The current study seeks to examine the complicated interrelation between socioeconomic factors such as county-level economics connectedness and the percent of the population below median income. The complex interrelation of several dimensions seeks to provide a more comprehensive understanding of the interplay between economic and social determinants in place and public health outcomes, especially in the context of the drug poisoning crisis. As a result, this study is expected to contribute to the scientific discussion of public health and social factors and provide policy- and intervention-related insights that can help alleviate the negative consequences of drug poisoning and related issues in different communities.

The study utilized two comprehensive datasets: one containing county-level social capital indicators by Chetty et al., measured by economic connectedness, and the other detailing County-level Drug Overdose Mortality in the United States obtained from the CDC (Center for Disease Control and Prevention). A linear regression model was employed to assess the direct and interaction effects of social capital and median income on drug overdose mortality in the United States. Social capital acted as a predictor variable along with the percentage of individuals at the county level who earn below the median income. This study captures the potential moderation effect of income on the association between social capital and drug overdose mortality.

A linear regression analysis revealed a moderate negative relationship (-21.176) between economic connectedness and drug poisoning death rates, suggesting that the Model-based Death Rate decreases by approximately 21.176 for every one-unit increase in economic connectedness. The result also revealed a significant interaction (43.334) between economic connectedness and income in predicting drug-related mortality. Notably, holding economic connectedness constant, the study revealed an inverse relationship between counties below the median income and drug poisoning death rates. This result highlights the various dimensions of social capital, which include elements of community cohesion, support networks, and access to resources, in contrast to considering economic prosperity solely in understanding public health challenges. The regression analysis indicated that higher economic connectedness at the county level is associated with lower drug poisoning death rates, supporting the notion that economic stability can serve as a protective health factor. Interestingly, a higher proportion of the population below the median income was unexpectedly correlated with lower drug poisoning death rates, suggesting the potential influence of unique social dynamics in lower-income areas. These findings underscore the complexity of socioeconomic factors in public health, indicating that both economic and social elements crucially shape outcomes. The study highlights the need for holistic public health policies that address economic conditions, income disparities, and community support systems to effectively tackle health crises like drug poisoning.