Neighborhood Disadvantage in Context: the Influence of Urbanicity on the Association Between Neighborhood Disadvantage and Adolescent Mental Health

Online Resource 1
Social Psychiatry and Psychiatric Epidemiology

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Propensity Score Subclassification. A propensity score was estimated for each adolescent using an unweighted logistic regression model. Variables in a propensity score equation should not be affected by the exposure. In other words, they should not be mediators of the exposure-outcome relationship. Opportunities and constraints associated with neighborhood disadvantage may influence several variables included in the propensity score model such as household income, family structure, and even maternal education and age when considered as part of a multigenerational feedback loop. However, we believe that it is essential to control for these covariates because of their role as potential confounders.

To ensure that we compared participants living in disadvantaged neighborhoods to exchangeable participants living in non-disadvantaged neighborhoods (formally known as structural positivity), we restricted the analysis to the region with overlapping propensity scores of individuals living in disadvantaged and non-disadvantaged neighborhoods (see Figure below). This resulted in the exclusion of 474 adolescents (4.7%) who had a propensity score outside the region of overlap in any of the 100 imputed datasets for a total sample size of 9,600 adolescents.

Figure 1: Propensity score distributions comparing those in the disadvantaged neighborhood group to those in the non-disadvantaged neighborhood group.