



“Introducing Our Nation’s Rural-Serving Postsecondary Institutions”

How to Use The RSI Metric

Alliance for Research on Regional Colleges

January 2022



How To Use the RSI Metric

We intended the creation of the RSI metric to be used as a tool to advance the understanding about how RSIs are serving rural communities. To assist researchers, policymakers, and institutional administrators with this effort, we offer important information about how to best utilize the RSI metric. We also address how not to use the metric. The metric was designed in a way that best serves our goal of identifying the extent to which institutions are well positioned to be rural serving. Using the metric for other purposes could result in problematic assumptions and misleading findings.

We hope that this information is strongly considered, and we strongly recommend following these suggestions in order to ensure robust analyses and accurate interpretations of findings. We also encourage users of the RSI metric to also read our technical documentation and data dictionary for the RSI metric, which can be found on our project website (regionalcolleges.org/project/ruralserving).

The RSI Metric as a Unit of Analysis

The RSI metric's unit of analysis is the institution, and the metric incorporates county-level data from the Census Bureau and U.S. Department of Agriculture's Economic Research Service. As mentioned in the technical documentation, the RSI metric does not include student data at the national level. This is important considering the RSI metric includes data on degrees awarded to students in certain fields. This approach might give users the impression that student observations have been made and can be interpreted with the RSI metric. But this is *not* correct. Therefore, users should *not* use the RSI metric to test hypotheses about rural students. Instead, focus should be given to testing hypotheses about institutions and their level of rural-servingness.

Using the RSI Metric as a Variable

Because the RSI metric was constructed in the manner detailed in our technical documentation, there are important considerations for anyone interested in using this metric as a variable in statistical analyses. The metric can be used as a dummy variable (RSI/non-RSI) in limited ways because the metric is a relative score developed from multiple components. The primary manner in which this metric can be used as a dummy variable is for the purposes of grouping institutions for comparison, as we have done in our primary project report. However, when using the metric in this way, we recommend modeling this dummy variable with other grouping variables (sector, Carnegie Classification, institutional designation, etc.) to account for the variation within the RSI and non-RSI groups. When a research design is considering using inferential or predictive analyses, we advise against using the metric as a dummy variable because these groups contain institutions that are dissimilar on a number of factors outside of the RSI metric components.

For the purposes of inferential or predictive analyses, we recommend using the RSI metric as a continuous variable. Even though the metric is bounded between 0 and 4, it does include three decimal places for greater granularity and similarly structured variables (e.g., grade-point average) are treated as continuous for analytical purposes in education research. That said,

individuals seeking to use the RSI metric as a continuous variable should be careful to remember the constraints of this metric. Because it is an index score (that we rescaled for ease of interpretation), the RSI metric for a given institution is calculated relative to all other institutions in the set, and users should use it in a manner that recognizes that constraint. For example, if a user plans to focus only on public, four-year institutions, they must bear in mind that the RSI score is calculated relative to all institutions in our original data set ($n=2,525$), not what the score would be if it were calculated only including public, four-year institutions.

Regardless of whether the RSI metric is used as a dummy or continuous variable, we strongly advise against using this metric as a dependent variable in statistical models. Of the five factors used to create the score, four are exogenous measures of population and geography. Meaning, RSIs (or non-RSIs) cannot control the size of their local population, the percentage of rural residents in their region, or their proximity to a metropolitan area. The only endogenous component of the index score is the percentage of an institution's awards that are conferred in the fields of Agriculture, Natural Resources, and Parks and Recreation. With the exception of a few very limited instances, the RSI metric should be used as an independent variable in statistical models.

We hope these suggestions help with future use of the RSI metric. Please feel free to contact us if there are further questions about how to use the RSI metric.