

Data Analytics for Societal Challenges: Understanding Student Participation in the National School Lunch Program

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Abstract

Record numbers of children experience hunger in the United States. For many children, meals provided by schools are the only reliable access to food. The COVID-19 pandemic exacerbated an already dire problem due to school closure. Over 50% of children in the United States qualify to receive free or reduced-price meals. However, each school district struggles with understanding the factors that affect student participation in the free or reduced-price national lunch programs. Each school district has its patchwork of disparate information systems and processes that makes it difficult to address how best to help a child who may be experiencing food insecurity.

The purpose of this study is to determine factors that influence meal participation of middle and high school students in one of the largest school districts in the United States and to provide actionable insights to decision makers to help them improve their outreach to disadvantaged students.

Keywords: data analytics, logistic regression, childhood hunger, food insecurity, school lunch programs