

## **Fostering Change: Using Data to Understand the Lives of Children in Foster Care**

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Foster care is a critical social service that aims to provide a safe and nurturing environment for children who have been removed from their homes due to abuse, neglect, or other family challenges. The United States foster care system is complex, with multiple agencies and organizations involved. However, foster care outcomes are not always positive despite the system's best efforts. Children in foster care often experience challenges in education, employment, and health, among other areas. Therefore, there is a growing need for data-driven approaches to improve the outcomes for children in foster care.

The motivations of this visualization project aim to address this need to use data techniques to identify factors that impact the success of foster care placements. The project's ultimate goal is to help child welfare agencies and policymakers make informed decisions about allocating resources and better support children and families in the foster care system. This paper outlines the project's methods, findings, and implications for improving foster care outcomes.

The data used for this project was sourced from KIDS COUNT Data Center and the U.S. census. Before creating any visualization and analysis, I needed to clean, format and join the datasets. The data from KIDS COUNT included variables such as total number of children in foster care per state, as well as the number of children per state by race. I combined this with population data from Census to measure the amount of people under the age of 18 who are currently in the system. In this way, I can scale the numbers by population size so all states can be represented with respect to their population. I did all of my data cleaning and formatting with R Studio.

After, I loaded my dataset as well as a TopoJSON of the United States using d3.js. I merged the datasets together in order to begin drawing my map. I converted the TopoJSON to geojson and combined my original datasets into one JSON. Then, I drew my map and used a log scale to fill in the states by color from light to dark. The lighter color indicated less number of children in foster care while darker colors indicated more. Following the initial map, I created buttons that would flip through the dataset and change the distribution according to race. I added a transition to smoothly switch between data values. I also added a simple bar chart that gives an initial look at what the data represents. The bar chart shows the share of children in the system grouped by race for the whole country.

Future work on this project could include more detailed statistical analysis and data exploration such as regression models that could help us understand what factors are more associated with the likelihood of being in foster care. Some factors may include, economic status, local support, education, mental health or foster care placement in previous generations of a family. This type of analysis can help lawmakers understand how to improve the system and the well-being of children across the country. By doing so, they can implement more support and resources in the areas that are contributing to the negatives of the child welfare system