

# An analysis of the educational Outcomes of Children in Care in Ireland, 2018-2025 (CSO data)

## An Analysis of Educational Attainment, Placement Effects, and Success Factors

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```
# Load all required packages
library(tidyverse)
```

Warning: package 'tidyverse' was built under R version 4.5.2

```
-- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
v dplyr     1.1.4      v readr     2.1.5
v forcats   1.0.1      v stringr   1.5.2
v ggplot2   4.0.0      v tibble    3.3.0
v lubridate 1.9.4      v tidyr    1.3.1
v purrr     1.1.0

-- Conflicts -----
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()

i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become
```

```
library(purrr)
library(knitr)

# Set knitr options
knitr::opts_chunk$set(
  echo = TRUE,           # Show code
  warning = TRUE,        # Hide warnings
  message = TRUE,        # Hide messages
  fig.width = 8,          # Figure width
  fig.height = 6,         # Figure height
  fig.align = "center"    # Center figures
)

# Source all function scripts
source("01_download_data.R")
```

Warning: package 'csodata' was built under R version 4.5.2

```
=====
DATA CITATION:
Central Statistics Office (2024). Educational Attendance, Attainment
and Other Outcomes of Children in Care, 2018–2025. CSO Statistical Release.
Available at: https://www.cso.ie/en/statistics/education/
educationalattendanceandattainmentofchildrenincare/
=====
```

```
Data download setup complete!
Citation saved to data/raw/citation.bib
```

Next steps:

1. Run this script to download data
2. Check data/raw/ folder for CSV files
3. Run 02\_data\_cleaning.R to prepare data for analysis

```
source("02_data_cleaning.R")
source("03_analysis_functions.R")
```

```
=====
ANALYSIS FUNCTIONS LOADED
```

```
Remember: You must use purrr functions in your analysis!
```

```
source("04_visualization_functions.R")
```

```
=====
VISUALIZATION FUNCTIONS LOADED
```

REMINDER - Every plot should have:

- Clear title and subtitle
- Axis labels with units
- Legend if needed
- Data source in caption
- Appropriate colors (colorblind-friendly!)
- Clean, minimal design

```
And remember: COMMENT every plot in your Qmd file!
```

# **1 Introduction**

This data analysis is an up-to-date snapshot of the outcomes of children in state care in Ireland over a second year period (2018-2025), using comprehensive data from the Central Statistics Office. Drawing on the outcomes of over 8,000 Irish children, this study quantifies educational inequality, identifies success factors and provides future predictions of performance based on current trends. This analysis was completed as part of a module in UCD on R programming. Analysis completed by Caolán Maguire

## **1.1 Background**

Children in care in Ireland are among the most vulnerable in society...

## **1.2 Research Questions**

This analysis addresses the following key questions:

1. How do educational outcomes for children in care compare to the general population?
2. What factors predict successful educational and employment outcomes?
3. Does placement type (foster care vs. residential care) affect outcomes?
4. How have outcomes changed from 2018 to 2025?

## **1.3 Data Source**

This analysis uses data from the Central Statistics Office (CSO) publication “Educational Attendance, Attainment and Other Outcomes of Children in Care, 2018-2025” (Central Statistics Office 2024). The dataset contains information on 5,257 children in care in January 2024 and 3,178 children who left care since April 2018.

Data available at: [CSO Website](#)

## 2 Part 1: Data Analysis

```
# YOUR CODE HERE: Load your cleaned data  
# data <- read_csv("data/processed/cleaned_data.csv")
```

### 2.1 Data Overview

```
# YOUR CODE HERE: Show basic data structure  
# - Number of observations  
# - Number of variables  
# - Variable types  
# - Sample of the data
```

### 2.2 Demographic Profile

#### 2.2.1 Age and Gender Distribution

```
# YOUR CODE HERE: Create demographic summary  
# Use your summarize_demographics() function
```

```
# YOUR CODE HERE: Create demographic plots  
# Use your plotting functions
```

#### 2.2.2 Care Characteristics

```
# YOUR CODE HERE: Summarize care types and placements
```

### 2.3 Educational Outcomes Analysis

#### 2.3.1 Comparison with General Population

```
# YOUR CODE HERE: Compare children in care to all children  
# This is a KEY analysis showing the gap
```

```
# YOUR CODE HERE: Create comparison visualization
```

### 2.3.2 Outcomes by Placement Type

```
# YOUR CODE HERE: Analyze outcomes by placement type  
# MUST USE PURRR HERE - this is a requirement!  
# Example: Use map() or map_dbl() to analyze multiple groups
```

```
# YOUR CODE HERE: Visualize placement outcomes
```

### 2.3.3 Temporal Trends (2018-2024)

```
# YOUR CODE HERE: Analyze trends over time  
# Use purrr to analyze multiple years
```

```
# YOUR CODE HERE: Create trend visualization
```

## 2.4 Success Factors Analysis

### 2.4.1 Predictive Analysis

```
# YOUR CODE HERE: Identify what predicts success  
# This could use regression or similar approaches  
# Use purrr for multiple model comparisons
```

```
# YOUR CODE HERE: Visualize key predictors
```

### 2.4.2 Subgroup Comparisons

```
# YOUR CODE HERE: Compare different subgroups  
# Use purrr for efficient comparison across groups
```

## 2.5 Summary Tables

```
# YOUR CODE HERE: Create comprehensive summary tables  
# Include key statistics, rates, and comparisons
```

## 2.6 Part 1 Conclusions

## **3 Part 2: R Package Demonstration**

### **3.1 Package Overview**

### **3.2 Package Citation**

```
# YOUR CODE HERE: Get package citation  
# citation("package_name")
```

### **3.3 Function 1: [Function Name]**

#### **3.3.1 Purpose**

#### **3.3.2 Demonstration**

```
# YOUR CODE HERE: Original example using the function  
# Must be different from help page examples!
```

### **3.4 Function 2: [Function Name]**

#### **3.4.1 Purpose**

#### **3.4.2 Demonstration**

```
# YOUR CODE HERE: Original example
```

### **3.5 Function 3: [Function Name]**

#### **3.5.1 Purpose**

#### **3.5.2 Demonstration**

```
# YOUR CODE HERE: Original example
```

### **3.6 Part 2 Summary**

## 4 Part 3: Functions and Programming

### 4.1 Function Overview

### 4.2 Main Function

```
# YOUR CODE HERE: Create your main analysis function
# It should return an object with a custom S3 class

# Example structure:
# my_analysis <- function(data, ...) {
#   # YOUR ANALYSIS LOGIC
#
#   result <- list(
#     data = processed_data,
#     statistics = stats,
#     model = model_results,
#     # other components
#   )
#
#   class(result) <- "your_class_name"
#   return(result)
# }
```

### 4.3 Print Method

```
# YOUR CODE HERE: Create print method
# Should show simple, concise output

# print.your_class_name <- function(x, ...) {
#   cat("Your Analysis Results\n")
#   cat("=====\\n")
#   # YOUR PRINT LOGIC
# }
```

### 4.4 Summary Method

```
# YOUR CODE HERE: Create summary method
# Should show detailed statistical output
# Must be VERY DIFFERENT from print method!

# summary.your_class_name <- function(object, ...){
```

```
#     # YOUR SUMMARY LOGIC
#     # Calculate additional statistics
#     # Return structured summary
# }
```

## 4.5 Plot Method

```
# YOUR CODE HERE: Create plot method
# Should create visualization of results

# plot.your_class_name <- function(x, ...) {
#     # YOUR PLOTTING LOGIC
#     # Create relevant visualization
# }
```

## 4.6 Example Usage

```
# YOUR CODE HERE: Demonstrate your function with real data

# Example:
# result <- my_analysis(data)
#
# # Test print method
# print(result)
#
# # Test summary method
# summary(result)
#
# # Test plot method
# plot(result)
```

## 4.7 Part 3 Summary

## **5 Overall Conclusions**

## **6 References**

Central Statistics Office. 2024. “Educational Attendance, Attainment and Other Outcomes of Children in Care, 2018-2025.” Central Statistics Office, Ireland. <https://www.cso.ie/en/statistics/education/educationalattendanceandattainmentofchildrenincare/>.

## 7 Appendix: Additional Tables and Figures

```
# YOUR CODE HERE: Additional supporting tables
```

```
# YOUR CODE HERE: Additional supporting plots
```

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