

Nutrição Escolar

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2024-02-18

Introdução

- Tipo de dado que está sendo utilizado no estudo

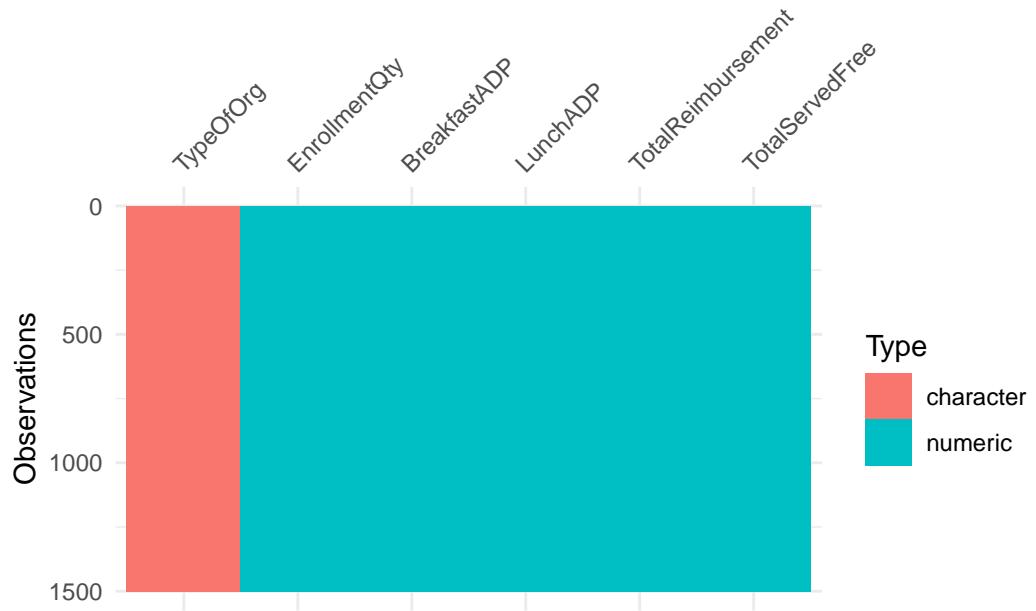
Objetivo

Leitura dos dados

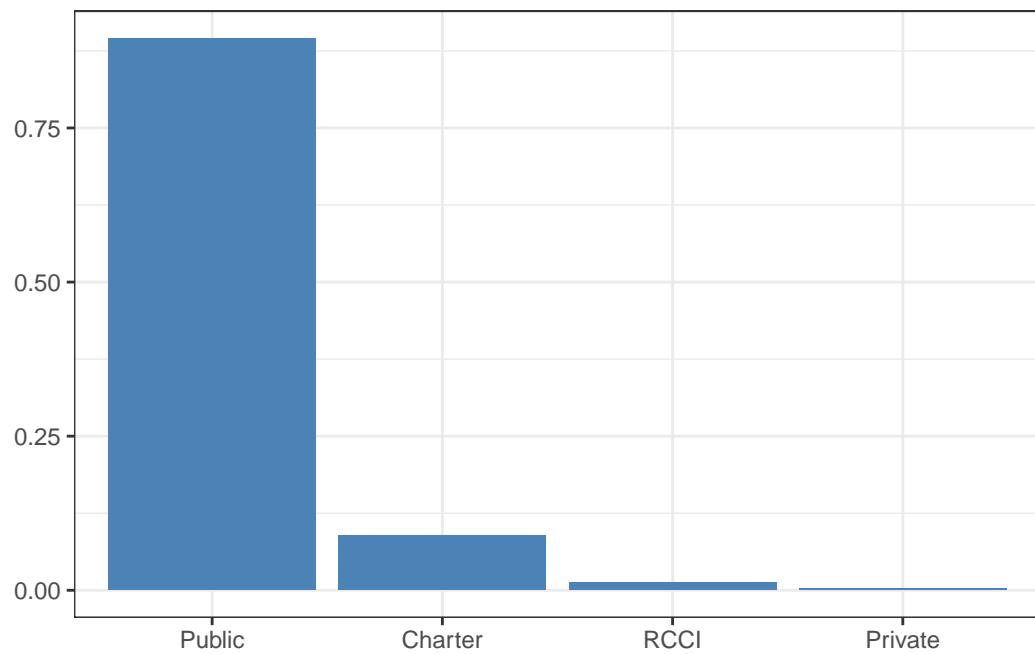
```
data <- readr::read_csv("dados.csv") |>
  select(
    -c(BreakfastDays, BreakfastTotal, LunchDays,
       LunchTotal, FreeEligQty, ProgramYear,
       ReportType, CEID, SiteID,
       CountyDistrictCode, CEName,
       CECounty, SiteName, SiteCounty, TDARegion,
       SiteName, ClaimDate, ESC, TypeOfAgency,
       BreakfastReimbursement, LunchReimbursement)
  ) |>
  mutate(TotalServedFree = BreakfastServedFree + LunchServedFree) |>
  select(
    -where(
      ~sum(.) == 0) / length(.) > 0.25
    )
  ) |>
  select(-c(BreakfastServedFree, LunchServedFree, TotalMeals_Snacks))
```

Análise Exploratória

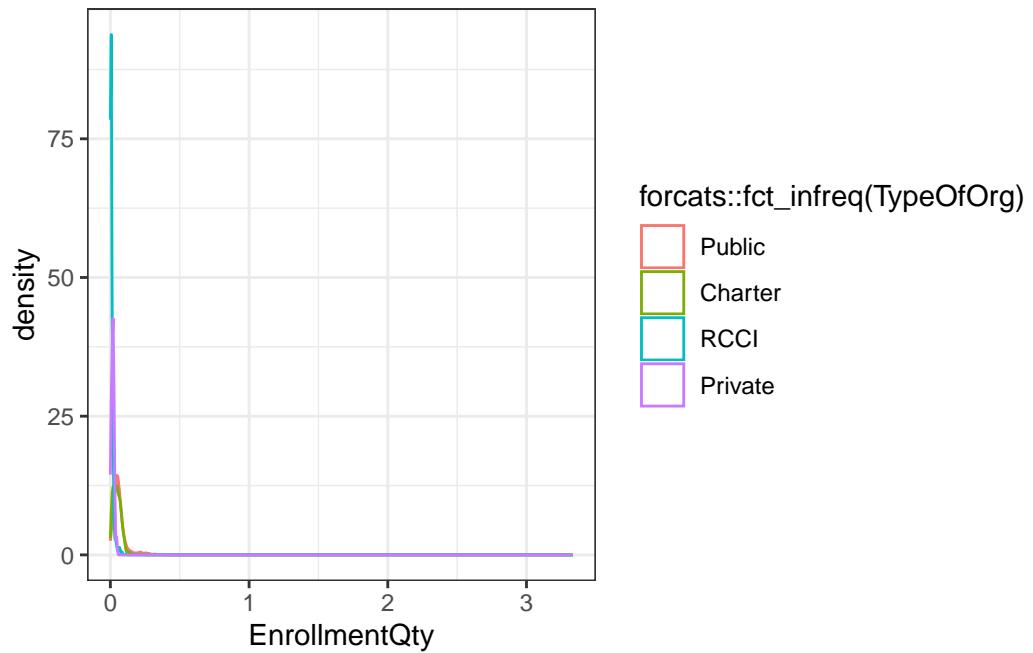
Valores ausentes



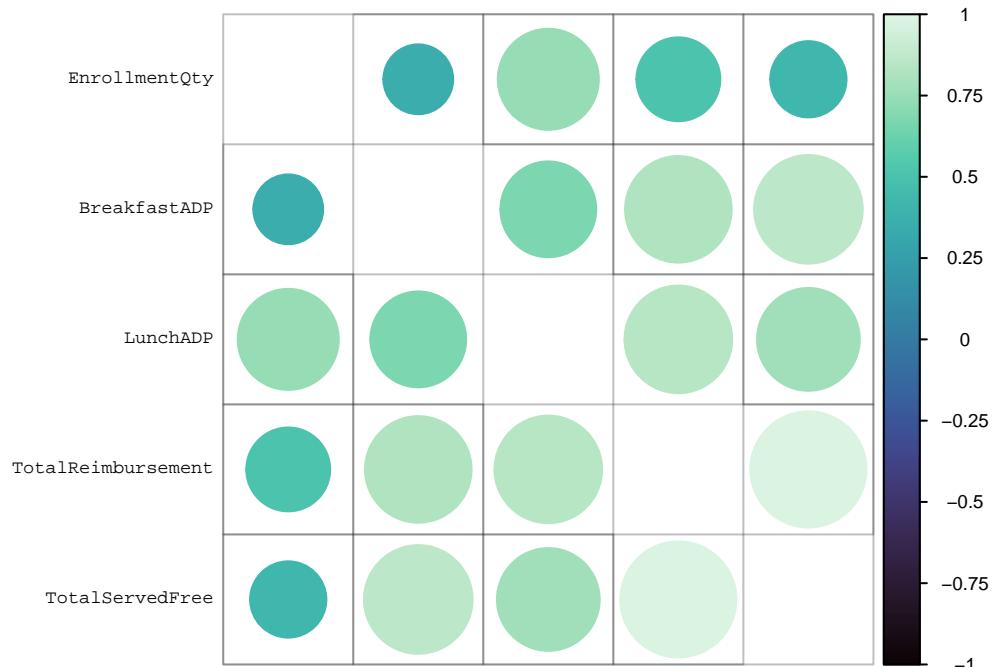
Quantidade de classes em cada nominal



```
data |>
  mutate(EnrollmentQty = EnrollmentQty / 10000) |>
  ggplot(aes(color = forcats::fct_infreq(TypeOfOrg), x = EnrollmentQty)) +
  geom_density() +
  theme_bw()
```

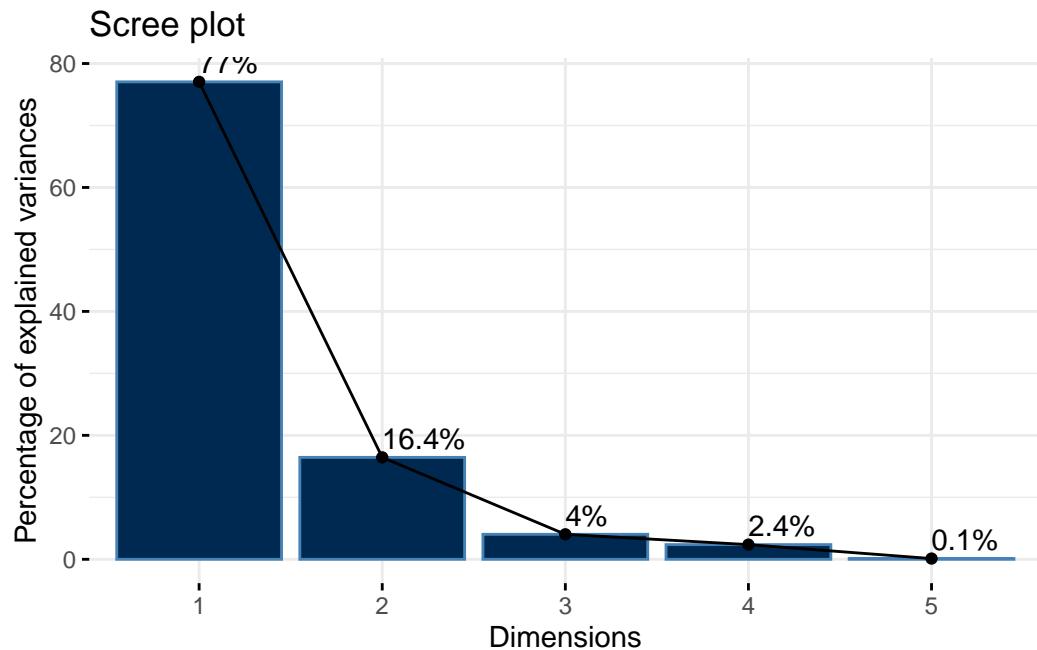


Correlação



Componentes Principais

```
fviz_eig(comp.p, addlabels = TRUE, barfill="#002951")
```

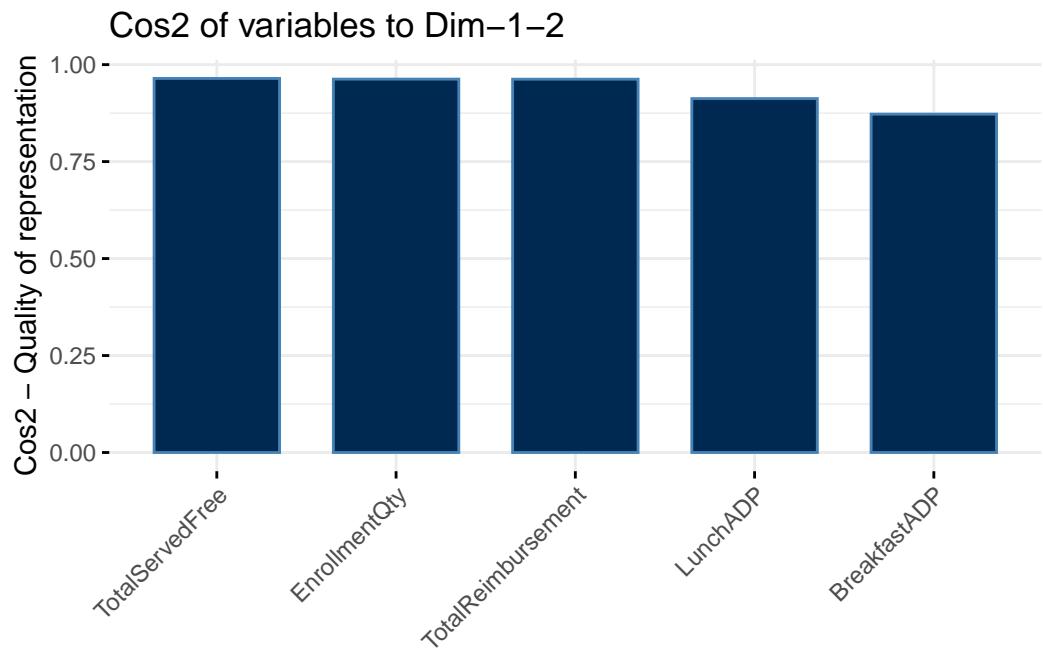


```
fviz_pca_var(comp.p, col.var = "#002951", repel=TRUE)
```

Variables – PCA

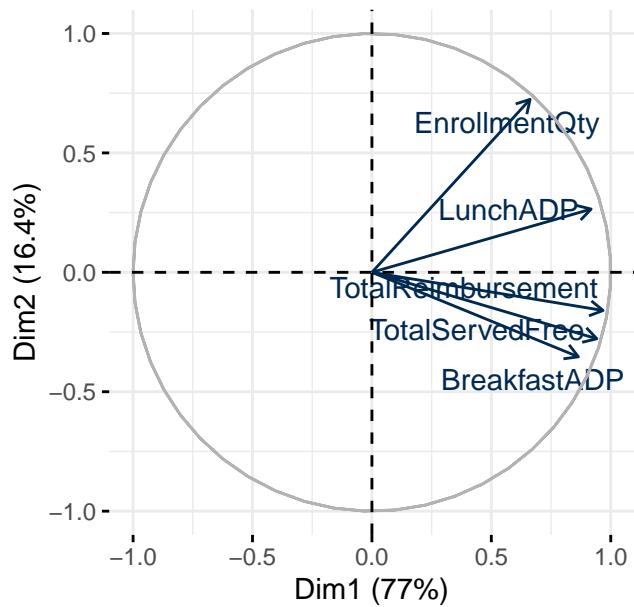


```
fviz_cos2(comp.p, choice = "var", axes = 1:2, fill="#002951")
```

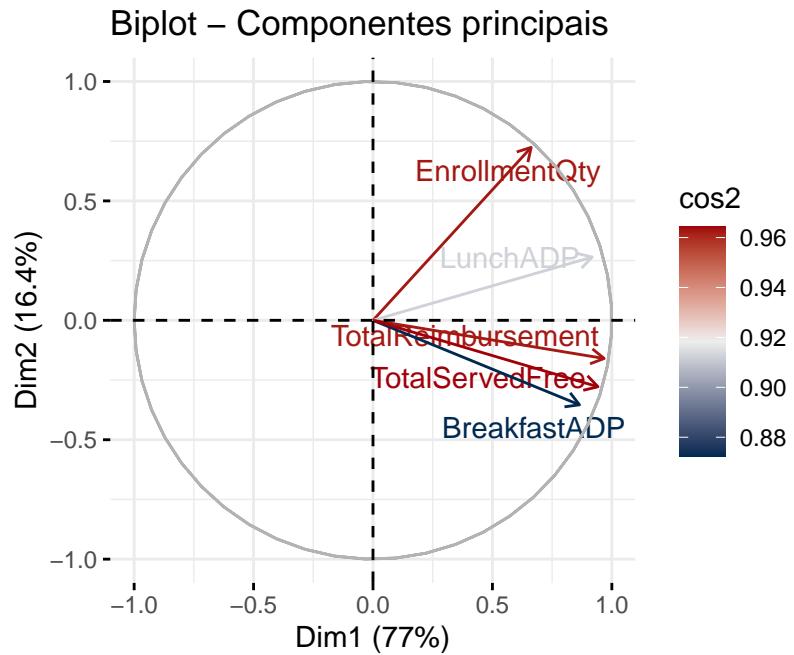


```
fviz_pca_var(comp.p, col.var = "#002951", repel=TRUE)
```

Variables – PCA



```
fviz_pca_var(comp.p, col.var = "cos2", title = "Biplot - Componentes principais",  
gradient.cols = c("#002951", "#eeeeee", "#a0000a"), repel = TRUE)
```

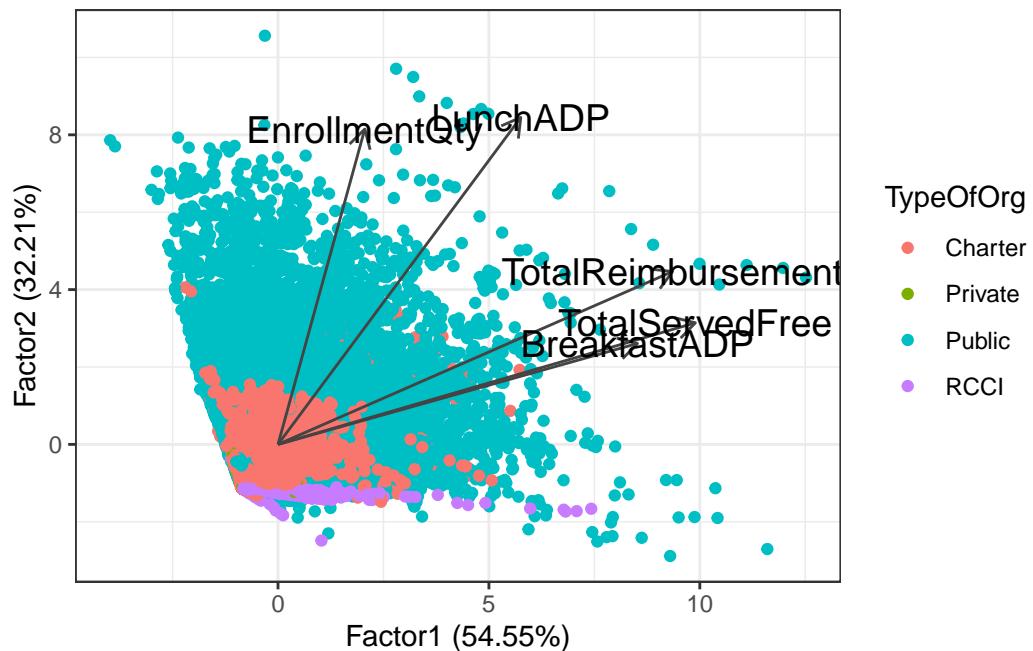


Análise Fatorial

```
af.reg <- factanal(data |> select_if(is.numeric),
                     factors = 2,
                     scores="regression",
                     nstart = 10)

auto <- autoplot(af.reg,
                  data = data,
                  colour = "TypeOfOrg",
                  label = FALSE,
                  loadings = TRUE,
                  loadings.colour = "#444444",
                  loadings.label = TRUE,
                  loadings.label.colour = "black",
                  label.colour = "black",
                  loadings.label.size = 5
) +
```

```
theme_bw()
```



Considerações Finais