Assignment1

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```
# Load packages and create BibTeX file for R-packages
PackagesUsed <- c("ggplot2", "repmis", "doBy")

setwd("~/Documents/Collaborative Social Science/Collaborative Analysis Assignments/PandP_Ass1")

# Load PackagesUsed and create .bib BibTeX file
repmis::LoadandCite(PackagesUsed, file = "Ass1Packages.bib", install = FALSE)
```

```
## Loading required package: survival
```

Analysis of the dataset 'occupationalStatus'

The dataset consists of a contingency table between the occupational status measured on an 8-point scales for fathers and their sons.

```
dist_combined <- rbind(dist_fathers, dist_sons)
barplot(dist_combined,
        col=c("navyblue", "darkkhaki"),
        main="Distribution of occupational status among fathers and sons",
        xlab = "Occupational status categories",
        legend = c("Fathers", "Sons"),
        ylim = c(0, 1600),
        beside = TRUE
        )
```

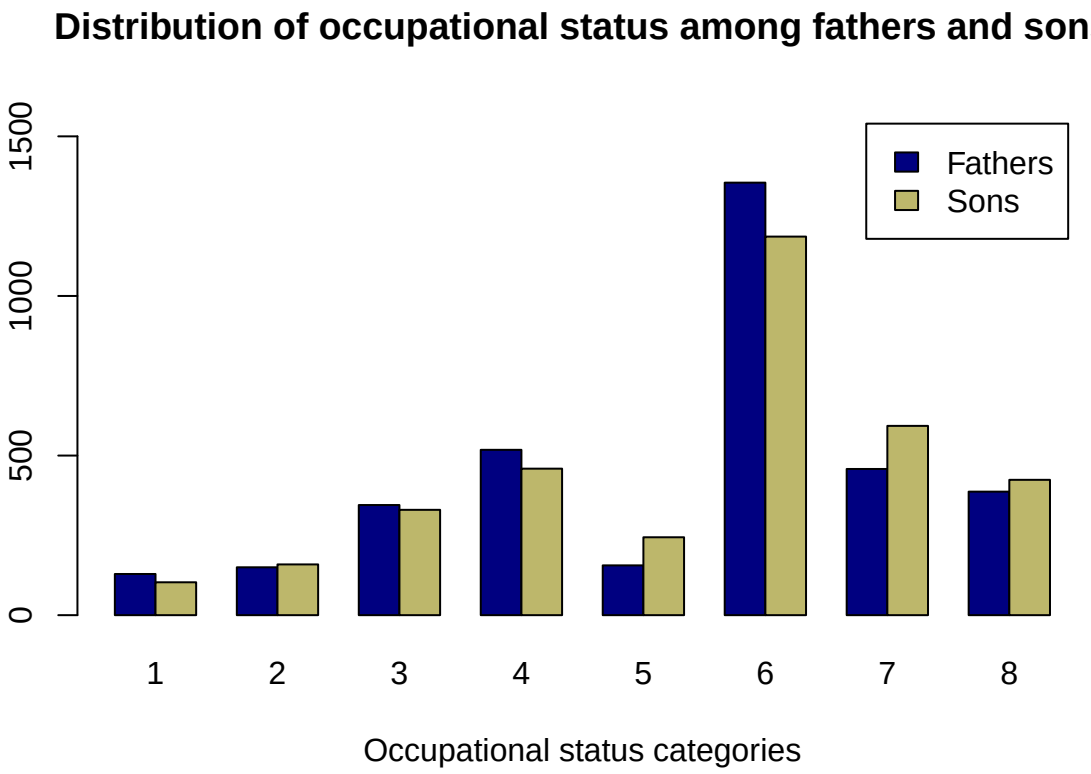


Figure 1 shows the distribution of occupational status for sons and fathers respectively. There does not appear to be any major generational shifts, though sons are slightly overrepresented in occupational status group 7 and 8.

```
knitr::kable(frequency_table, digits = 2)
```

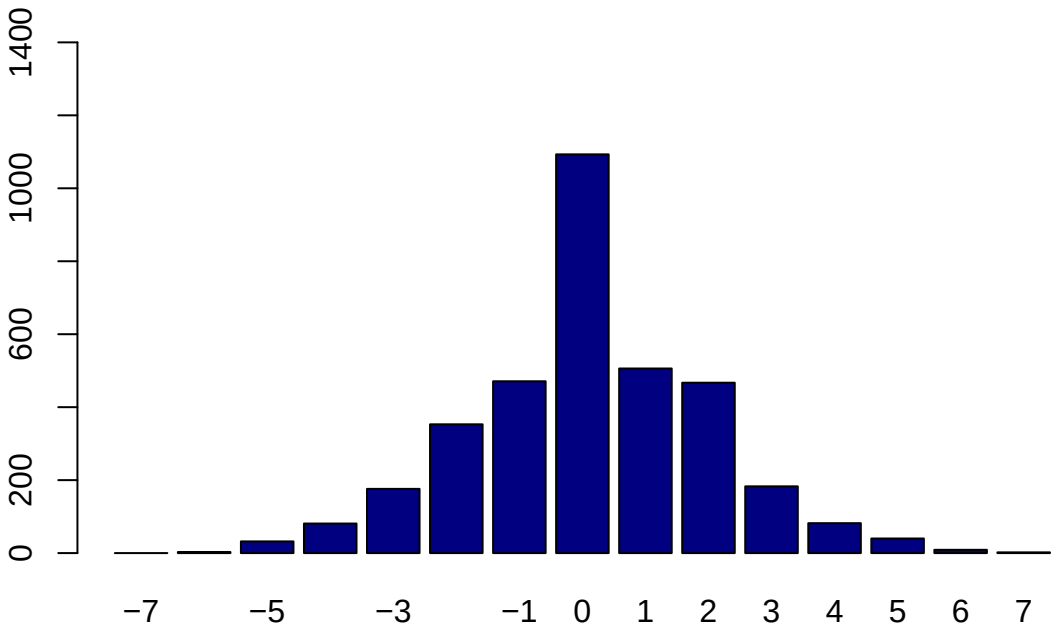
Category	Fathers	Sons
1	0.04	0.03
2	0.04	0.05
3	0.10	0.09
4	0.15	0.13
5	0.04	0.07
6	0.39	0.34
7	0.13	0.17
8	0.11	0.12

Table 1 is equivalent to figure 1 except that it shows the frequency distribution for each status category.

Generational mobility

Figure 1 and table 1 show the overall distribution of occupational status, but is not informative on the extent to which there are generational mobility. Figure 2 shows the distribution of generational mobility. -7 indicates observations where the father had social status 8 and the son 1. As such, a zero is when father and son had the same occupational status.

```r
barplot(collapsed$Freq.sum,
        names = collapsed$difference,
        col = "Navyblue",
        ylim = c(0, 1400)
        )
```



Packages used (R Core Team 2015), (Højsgaard and Halekoh 2015), (Wickham and Chang 2015) and (Gandrud 2016).

References

Gandrud, Christopher. 2016. *Repmis: Miscellaneous Tools for Reproducible Research*. https://CRAN.R-project.org/package=repmis.

Højsgaard, Søren, and Ulrich Halekoh. 2015. *DoBy: Groupwise Statistics, LSmeans, Linear Contrasts, Utilities*. https://CRAN.R-project.org/package=doBy.

R Core Team. 2015. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Wickham, Hadley, and Winston Chang. 2015. *Ggplot2: An Implementation of the Grammar of Graphics*. https://CRAN.R-project.org/package=ggplot2.