Analyses

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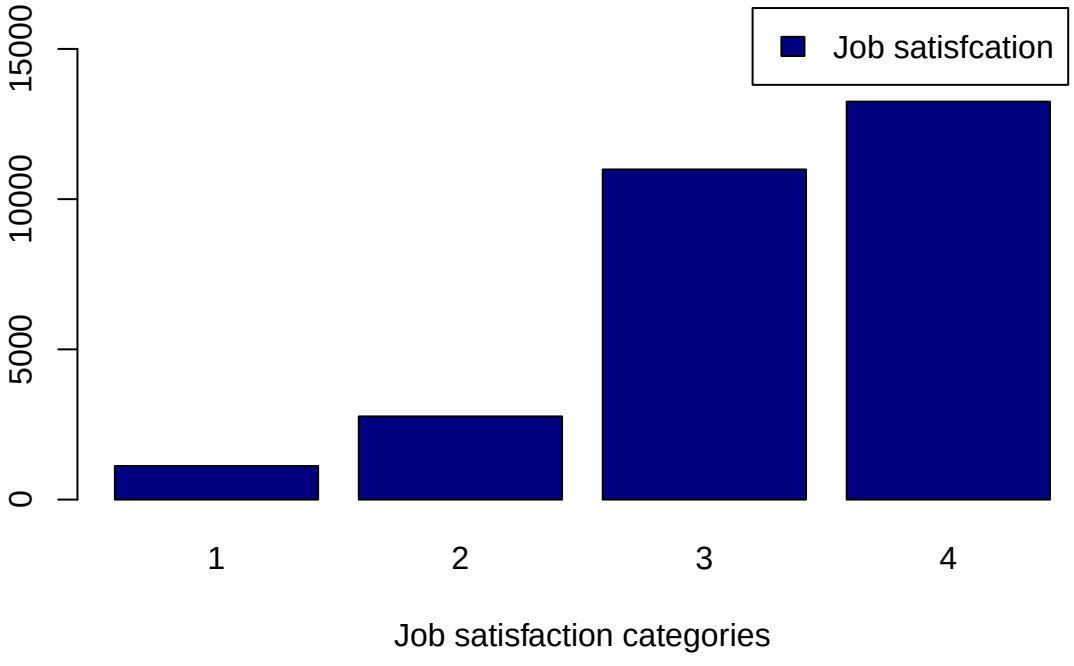
```
if(!file.exists("data_final.rda")) {
  source('data_combine.R')
}

# Opens data_final.rda if not already loaded as an object
if(!exists("z.df" )) {
  load("data_final.rda")
}
```

Descriptive results

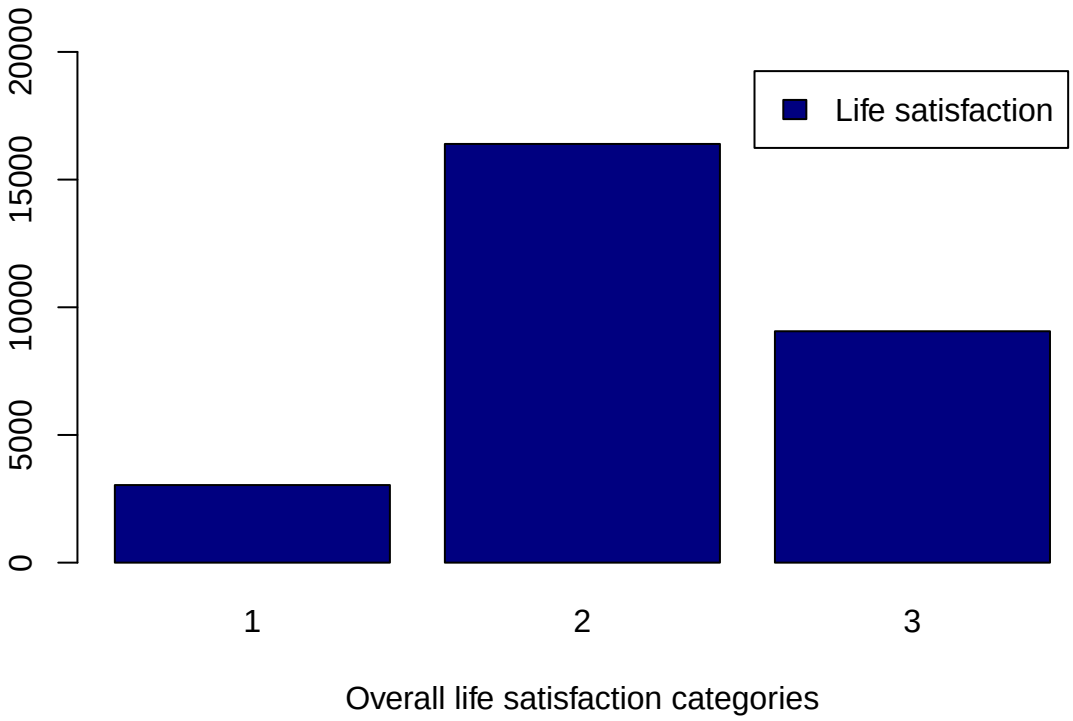
Distribution of happiness variables !should probably be in a table!

```
satjob.freq <- table(z$satjob)

barplot(satjob.freq,
        col=c("navyblue"),
        xlab = "Job satisfaction categories",
        legend = c("Job satisfcation"),
        ylim = c(0, 17000)
        )
```



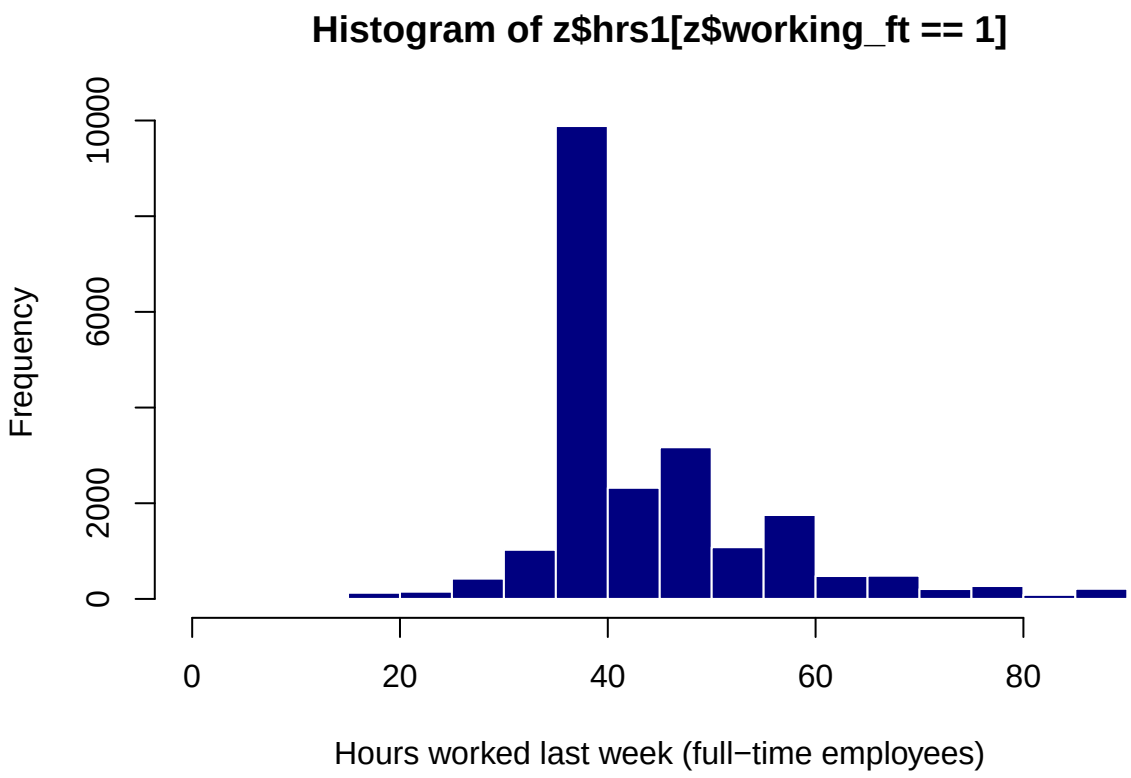

```
sat.freq <- table(z$happy)
```

```r
barplot(sat.freq,
        col=c("navyblue"),
        xlab = "Overall life satisfaction categories",
        legend = c("Life satisfaction"),
        ylim = c(0, 20000)
)
```



Distribution of work-hours for full-time workers

```r
hist(z$hrs1[z$working_ft==1],
     col=c("navyblue"),
     border = "White",
     xlab = "Hours worked last week (full-time employees)"
)
```

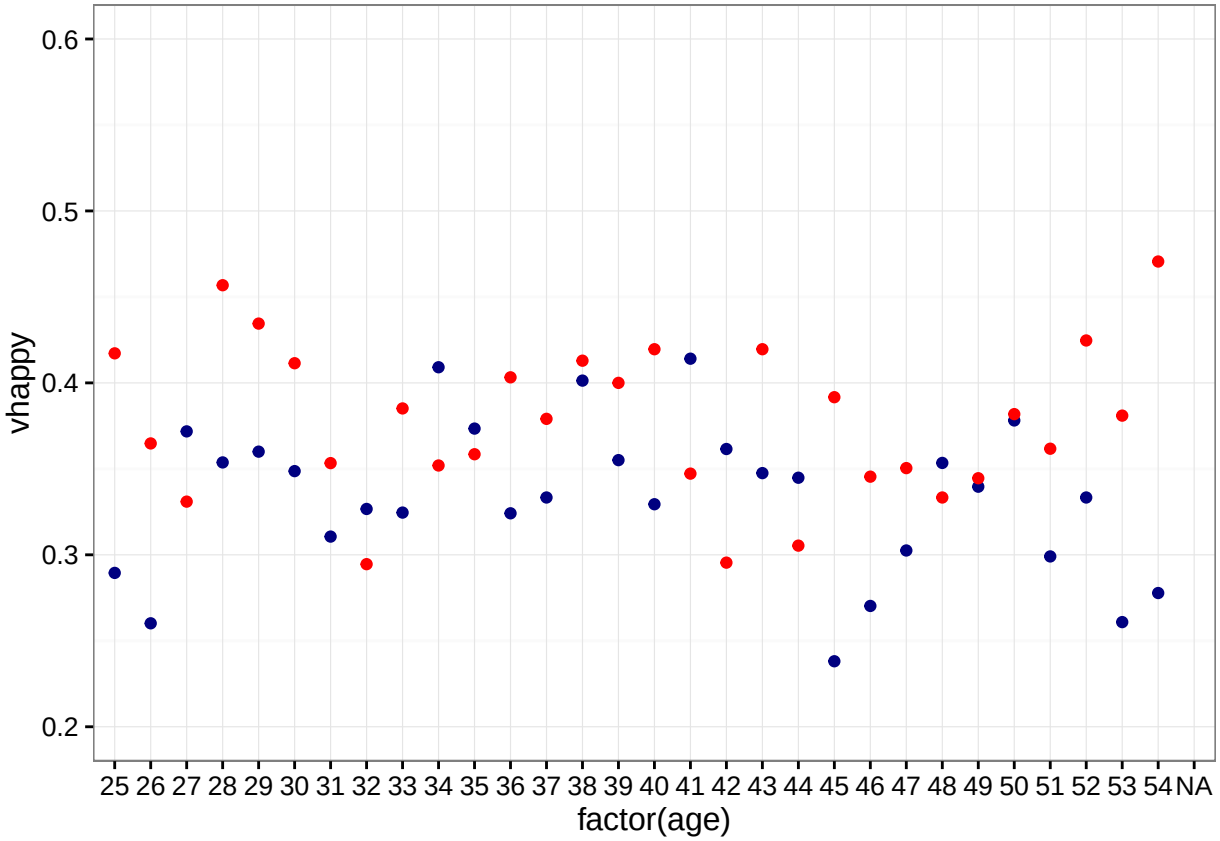


Happiness for women and men at different ages

```
## Combined
t <- z
ggplot() +
  stat_summary(data = t[t$sex == 1 & t$educat == 4,], aes(x=factor(age), y=vhappy),
               fun.y="mean", geom="point", col="Navyblue") +
  stat_summary(data = t[t$sex == 2 & t$educat == 4,], aes(x=factor(age), y=vhappy),
               fun.y="mean", geom="point", col="Red") +
  expand_limits(y=c(0.2,0.6)) +
  theme_bw()
```

```
## Warning: Removed 374 rows containing non-finite values (stat_summary).
```

```
## Warning: Removed 439 rows containing non-finite values (stat_summary).
```



Gender

In contemporary society the strive for gender equality often clashes with labour market realities and the persistence of traditional gender norms. Previous studies found that the reconcilability of having a family and pursuing a successful career is still difficult to achieve for women while it is rather the norm for men (e.g. Hipp reference). Thus, women who clash with traditional customs might face a "life happiness penalty" as shown in Bertrand (2013).

Figure 3 shows that gender only plays a role when people do not have a high income. For women (red) the probability to be very happy does not change with having a low income. Men (blue) on the other hand face a large happiness reduction when having a low income [the sample is limited to people with college education]. Figure 4 further differentiates in four possible combinations of having a family (married and kids) and having a high income job. Both, men and women, are happier when having a family. When not having a family, higher income improves life satisfaction for both genders although the increase is slightly larger for men. Differences become more pronounced when having a family. With a family but without a career women are the happiest, while men are considerably less happy, compared to having a career and a family. Thus, men and women interestingly have different career-family configurations under which they appear most happy.

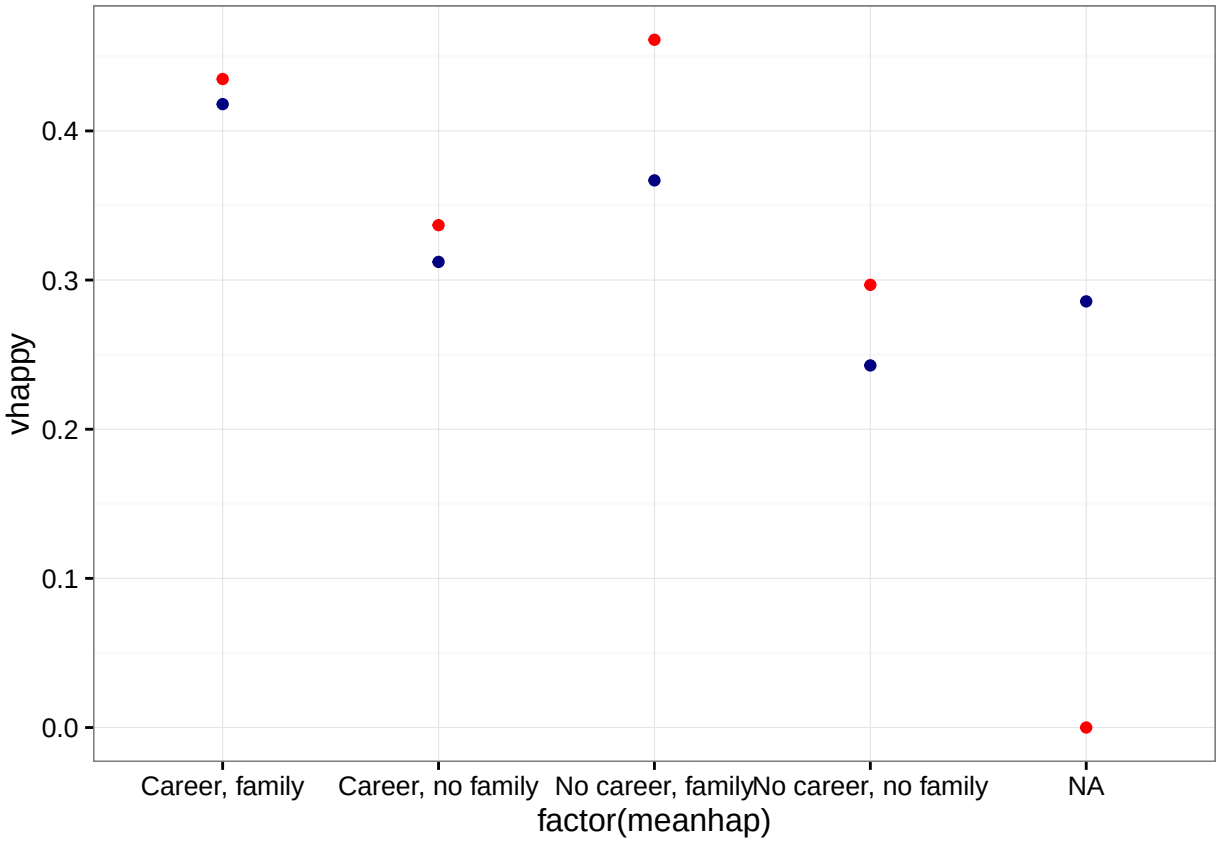
Figure 3: Happiness for women and men depending whether they have a career

Figure 4: Happiness for women and men depending on combination of having a career and a family

```
z$meanhap <- NA
z$meanhap[z$family==0 & z$career==0] <- "No career, no family"
z$meanhap[z$family==0 & z$career==1] <- "Career, no family"
```

```
z$meanhap[z$family==1 & z$career==0] <- "No career, family"
z$meanhap[z$family==1 & z$career==1] <- "Career, family"

t <- subset(z, z$educat==4)

ggplot() +
  stat_summary(data = t[t$sex == 1,], aes(x=factor(meanhap), y=vhappy),
               fun.y="mean", geom="point", col="Navyblue") +
  stat_summary(data = t[t$sex == 2,], aes(x=factor(meanhap), y=vhappy),
            fun.y="mean", geom="point", col="Red") +
  theme_bw()
```

```
## Warning: Removed 346 rows containing non-finite values (stat_summary).

## Warning: Removed 400 rows containing non-finite values (stat_summary).
```



Interaction effects of married*career for working men and women

In a second step we replicate a linear regression model by Bertrand (2013) which estimates the interaction effect of being married and having a high paid job (career) on the binary variable being very happy. While Bertrand (2013) limits her analysis on college-educated women who are working we compare these findings to the respective male group. The model controls for age, age-squared, the survey year, race and decade of birth.

Figure 5 shows the effect of the interaction term on the probability of being very happy. On the left-hand side the effect of marriage on life satisfaction is stronger for women who do not occupy a high paying job.

For women who have a high paying job, however, the effect of marriage on life satisfaction is much weaker. Although this difference is not significant at the 5% level, the career effect is much stronger than for men where having a career or not hardly influences the effect of marriage on happiness.

Figure 5: Interaction effects of being married and high income job on life satisfaction

```
z$working_ft <- as.numeric(z$working_ft)
z$working_pt <- as.numeric(z$working_pt)

M1a <- lm(vhappy ~ career*married + age + agesq + as.factor(year) + as.factor(race) + as.factor(bdec),
         data = subset(z, sex==2 & educat == 4))
M2a <- lm(vhappy ~ career*married + age + agesq + as.factor(year) + as.factor(race) + as.factor(bdec),
          data = subset(z, sex==1 & educat == 4))

# compare men and women

require("interplot")
require("gridExtra")

interM1 <- interplot(M1a, var1 = "married", var2 = "career") +
  ggtitle("Working women") +
  xlab("career") +
  ylab("effect of marriage on life satisfaction") +
  expand_limits(y=c(0.05,0.3)) +
  theme_bw()

interM2 <- interplot(M2a, var1 = "married", var2 = "career") +
  ggtitle("Working men") +
  xlab("career") +
  expand_limits(y=c(0.05,0.3)) +
  theme_bw()

grid.arrange(interM1, interM2, ncol = 2)
```

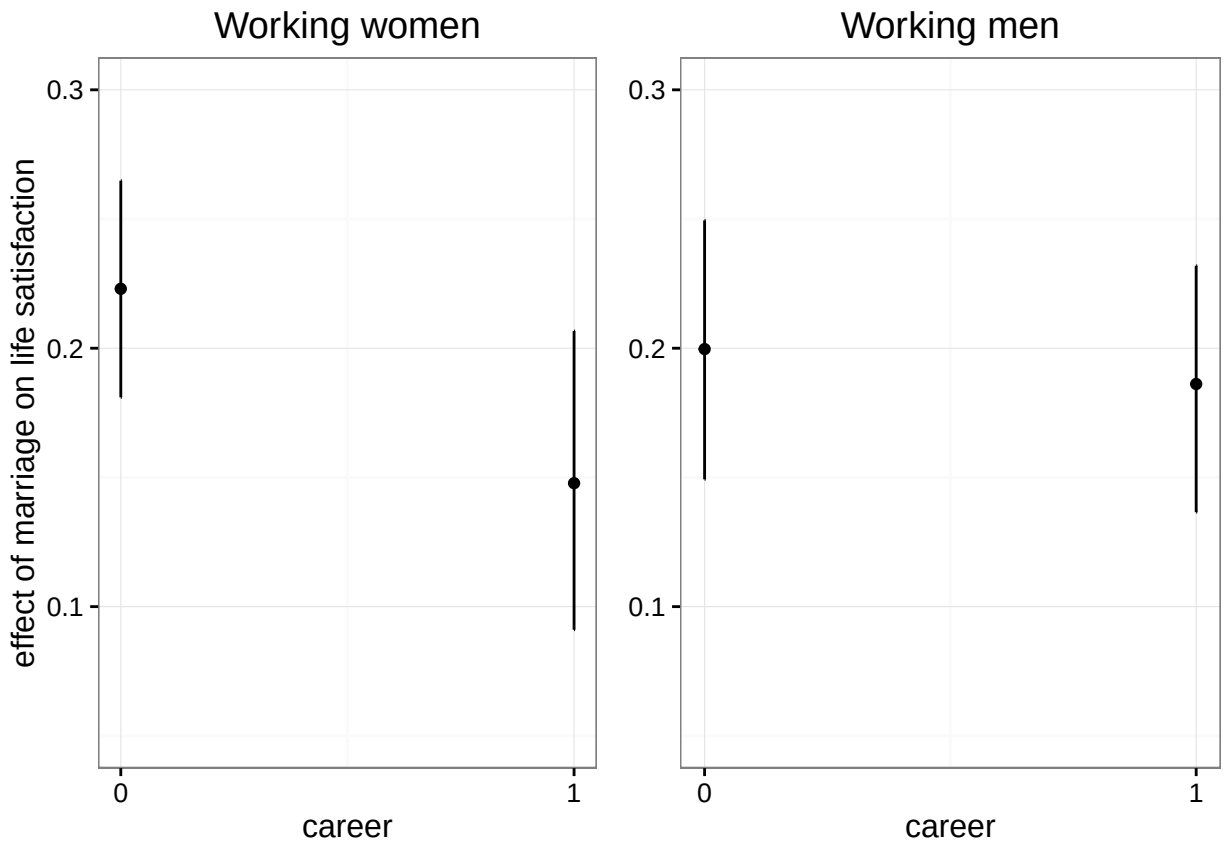
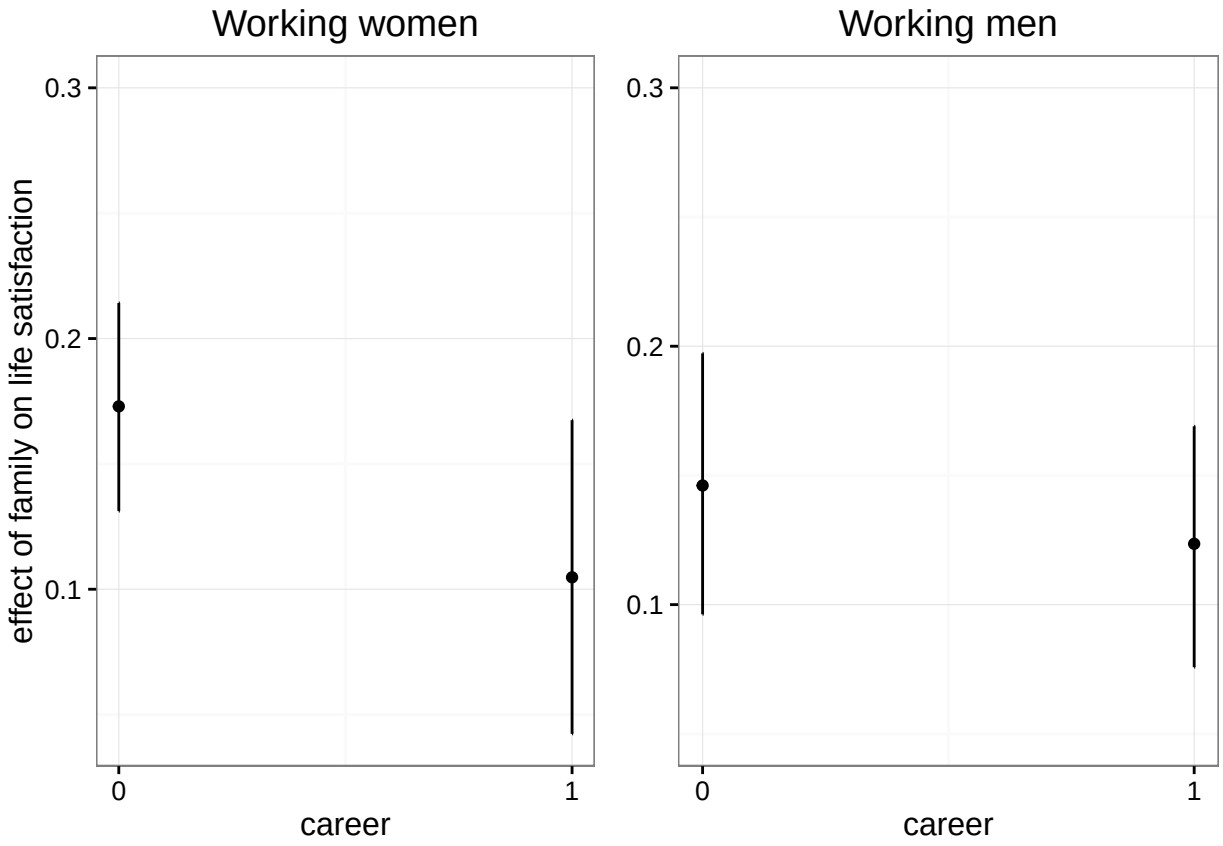


Figure 6: Interaction effects of family-career for working men and women

```
M3 <- lm(vhappy ~ career*family + age + agesq + as.factor(year) + as.factor(race) + as.factor(bdec),
         data = subset(z, sex==2 & educat == 4))
M4 <- lm(vhappy ~ career*family + age + agesq + as.factor(year) + as.factor(race) + as.factor(bdec),
         data = subset(z, sex==1 & educat == 4))

# Compare men and women (Career-Family interaction)

interM3 <- interplot(M3, var1 = "family", var2 = "career") +
  ggtitle("Working women") +
  xlab("career") +
  ylab("effect of family on life satisfaction") +
  expand_limits(y=c(0.05,0.3)) +
  theme_bw()

interM4 <- interplot(M4, var1 = "family", var2 = "career") +
  ggtitle("Working men") +
  xlab("career") +
  expand_limits(y=c(0.05,0.3)) +
  theme_bw()

grid.arrange(interM3, interM4, ncol = 2)
```



Software and packages used for the analysis

The analysis is done in R [@CiteR] with the use of the following packages: “ggplot2” [@R-ggplot2], “repmis” [@R-repmis], “plyr” [@R-plyr], “dplyr” [@R-dplyr], “MASS” [@R-MASS], “Hmisc” [@R-Hmisc], “interplot” [@R-interplot] and “gridExtra” [@R-gridExtra]