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Retirement and depression

(Health and retirement study)

Dataset

Health and Retirement Study - a survey of Americans (mostly 50+ years old) about their health and employment/retirement status

A complete dataset is taken from the official website and data from 2002-2018 is selected

156227 records

28893 people

59% of women

41% of men

30+ sections

Relevance

The share of pensioners is growing

According to the data:

81.2% of pensioners are not employed

31% of retirees live without a partner

How does living with a partner in retirement affect depression levels?

Metric

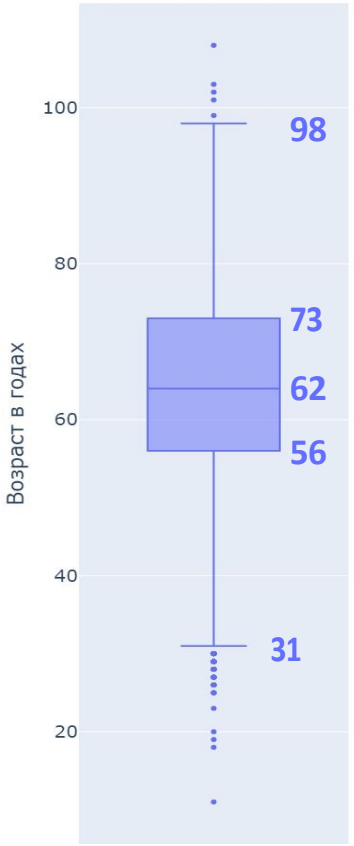
Simplified CES-D **scale***

Loss of interest in familiar things
Constant fatigue
Trouble sleeping. Depressed.

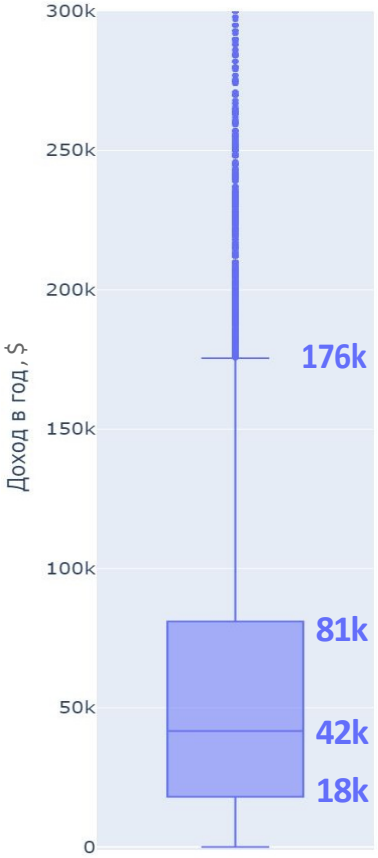
Concentration problems
Loss/growth of appetite
Self-criticism

*developed by CES - Center for Epidemiologic Studies

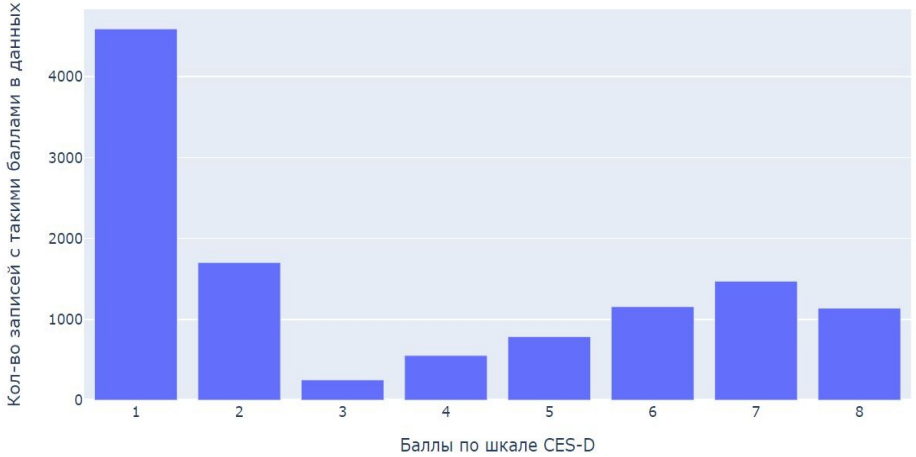
Age distribution



Income distribution households



Distribution of non-zero CES-D scores



Zeros in CES-D are **80% of the** records

Median retirement age:

62 years old

There are lifestyle changes in retirement:

↑ Free time ↓

Income

↓ Social contacts

Cohabitation status: 69% live with a partner **31% do** not have a partner

Discarded:

All parameters CES-D - nan (30% of records)

CES-D score > 3 (7% of records)

Metric

In testing the hypothesis, the **CES-D score mean change** comparison method was used in different groups of respondents

analysis. is

Hypothesis 1

Those living without a partner are more susceptible to depression in retirement, compared to those who live with a partner

Mechanism

People continue to socialize only with their closest loved ones, retirees without partners live alone, leading to **increased levels of depression**

Null hypothesis

The change in the level of depression is **independent of whether the** respondent lives with or without a partner

α significance level = 0.05

analysis. is

Hypothesis testing

Mean change in CES-D score:

Living **with a** retired **couple**

+3.65% CES-D

Sampling = 2194

Lives **without a** retired **couple**

+14.68% CES-D

Sample = 1042

Permutation test of the mean: p-value = 0.0002

Hypothesis 2

When living with a partner, other social contacts have no effect on levels of depression

Mechanism

People spend much more time with their spouse, the spouse dominates life much more than other people, especially at older ages

Hypothesis testing

Question: *How often do you get together with people just to chat or for a social visit? (18923 lines)*

Deleted: less frequently than once a month (838 rows), points with <100 values (12 observations deleted) Grouping by response:

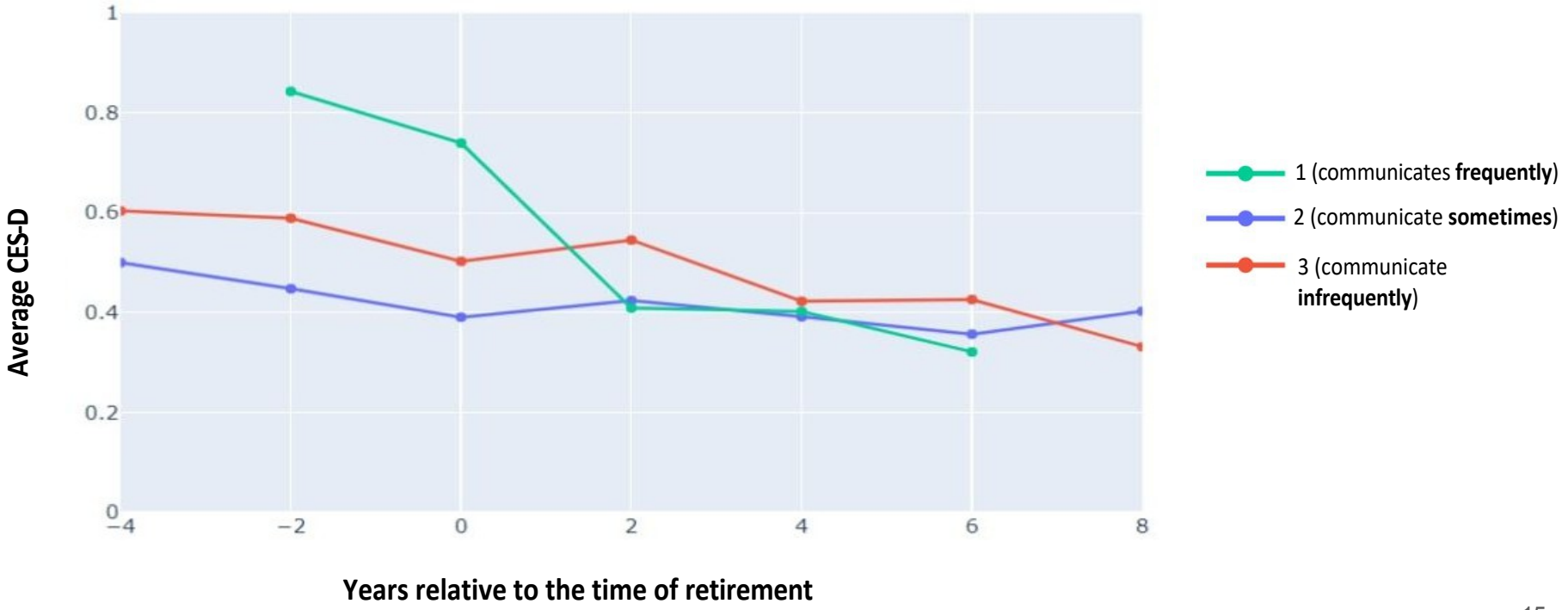
1. Almost every day (12%)
2. Once a week or two (64%)
3. Once a month (24%)

Null hypothesis

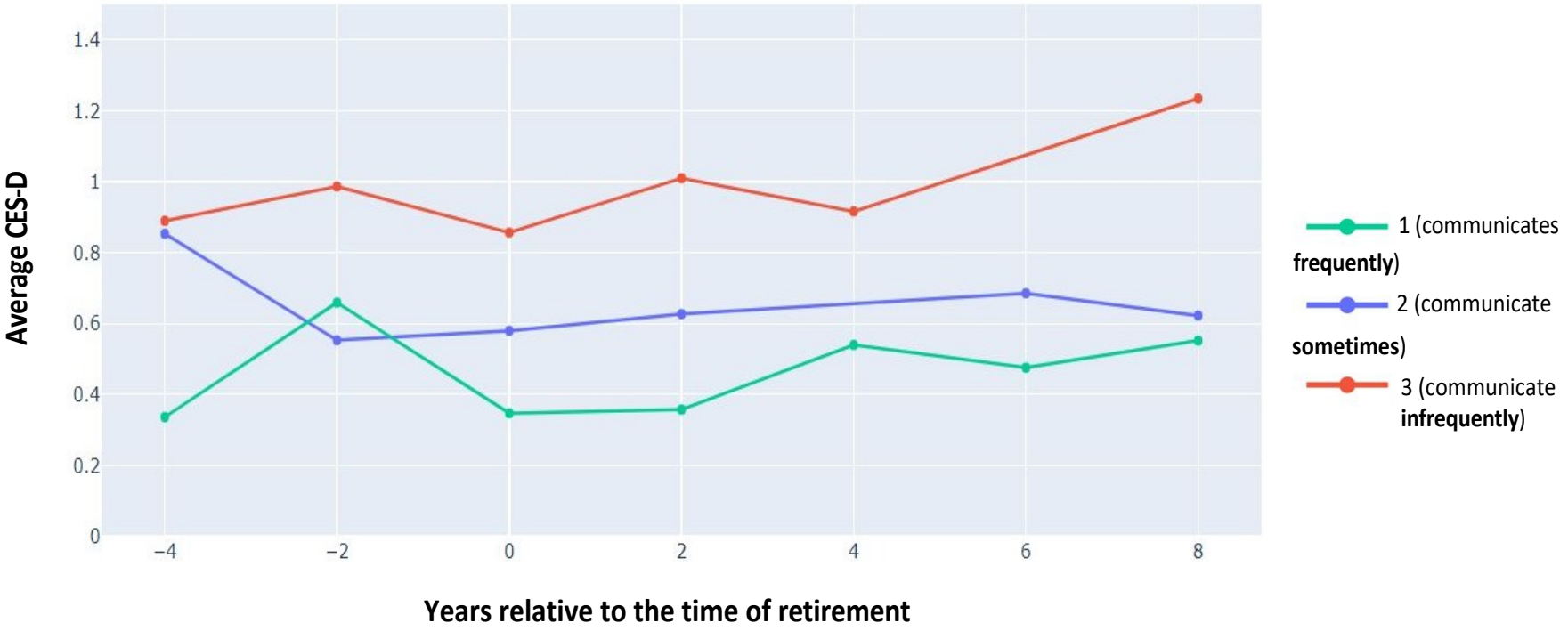
Amount of social contact has an effect when calculating depression levels with a partner

α significance level = 0.05

Living with a retired partner



Living without a partner in retirement



Hypothesis testing

Let's do a **permutation test**

For each group, we compare the mean CES-D scores standing next to each other in time

Permutation test of the mean: p-value = 0.0126

Conclusions

The first hypothesis is confirmed: people living **without a partner are** more likely to be depressed in retirement compared to those living with a partner

The second hypothesis was confirmed: when living **with a partner,** other social contacts have a weak effect on levels of depression

Call to action

! To develop the topic of family psychology for pensioners

! Adult "children" - be more attentive to parents so they are not alone with their spouse/self

! Pensioners should not limit their social contacts to their spouse alone

Research Perspectives

Improving accuracy: more clarifying questions on CES-D

Deepen: track all health as a whole

View by: regions, professions

Long-term dynamics: interview groups of people over 15-20 years

Appendices

List of references

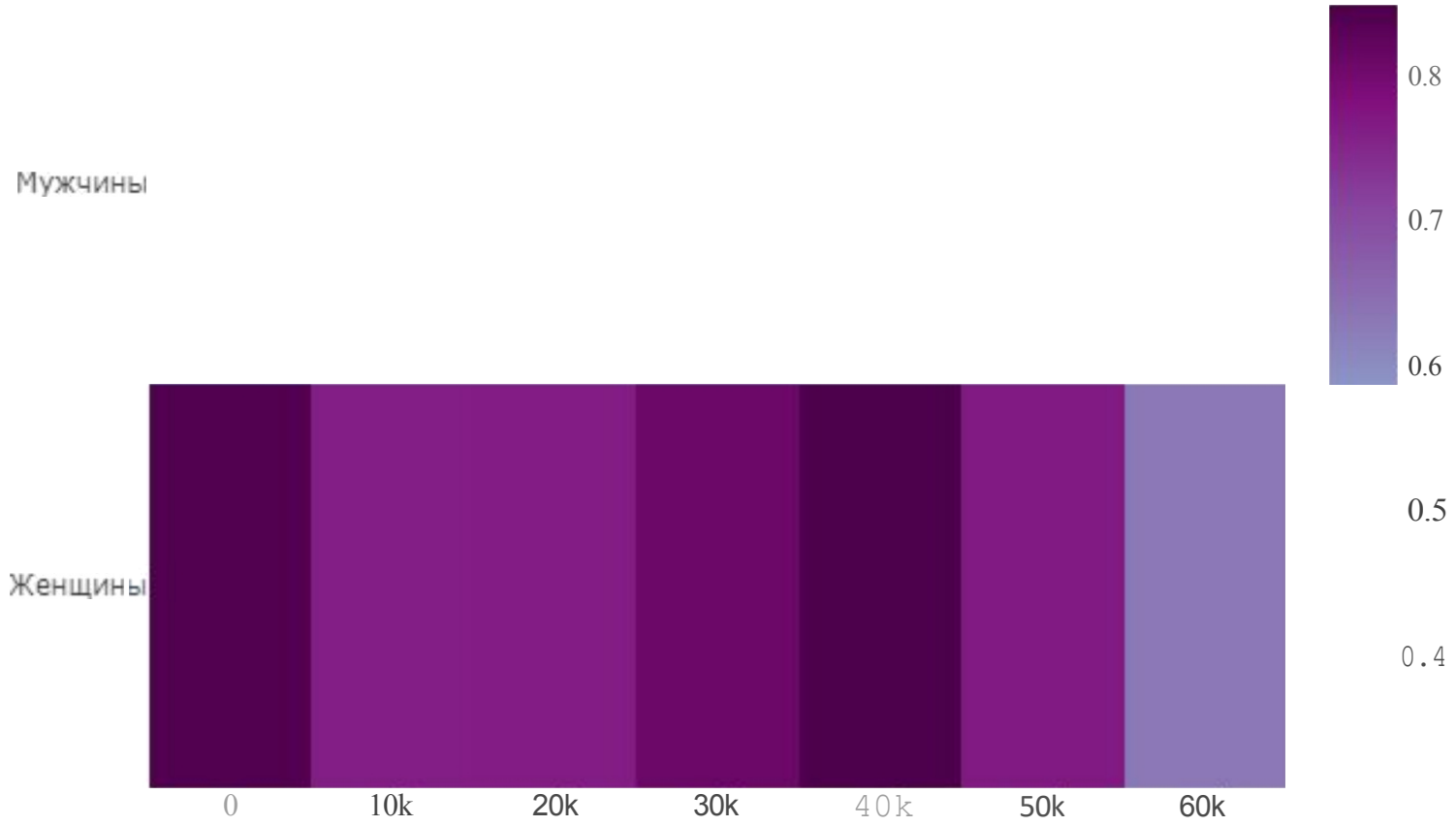
- **RAND HRS Data Documentation** -
  Documentation

- **Relationship between social interaction and mental health** (Eisuke Ono, Takayuki Nozawa, Taiki Ogata) -
  Why loneliness affects depression

- **The effects of retirement on physical and mental health outcomes** (Dhaval Dave, Inas Rashad, Jasmina Spasojevic) - a simplified CES-D scale is described and used.

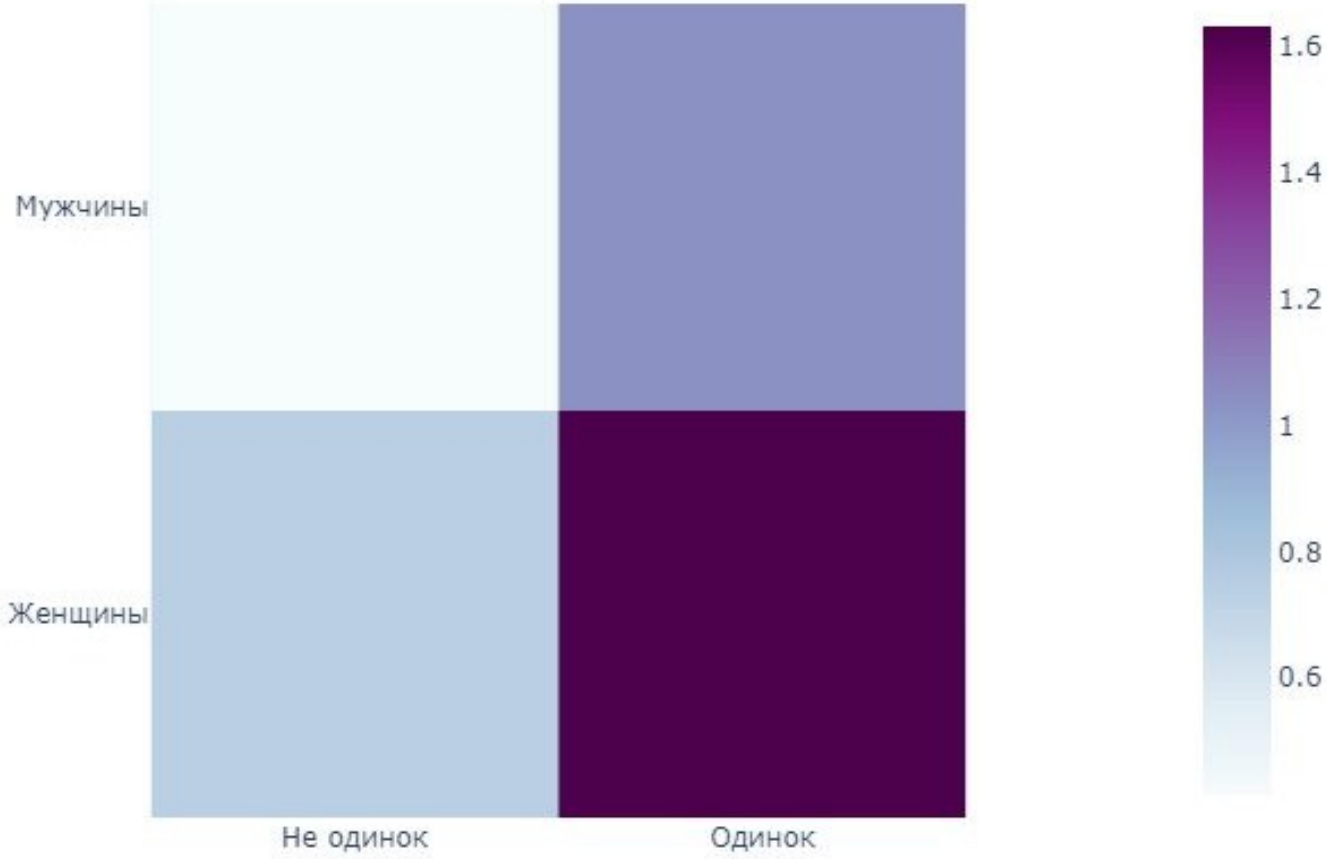
- **Economic activity in old age and state policy** (Kolosnitsyna M. G.1, Gerasimenko M. A) - more about the relevance of the study on pensioners

CES-D score B ça3pe3e nona n ypOBHFI gOXoga

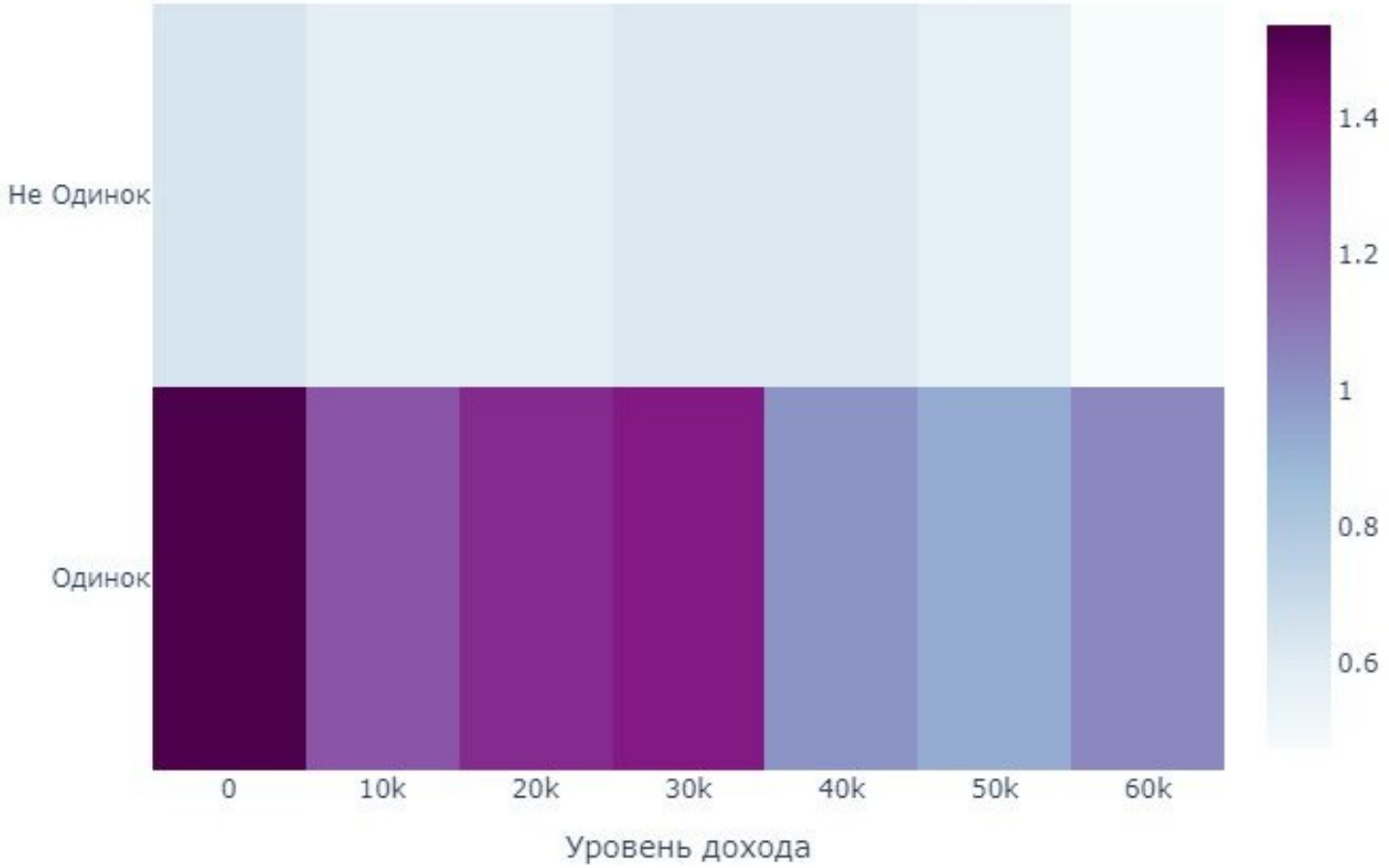


YDoBenb ztoxoztoB.

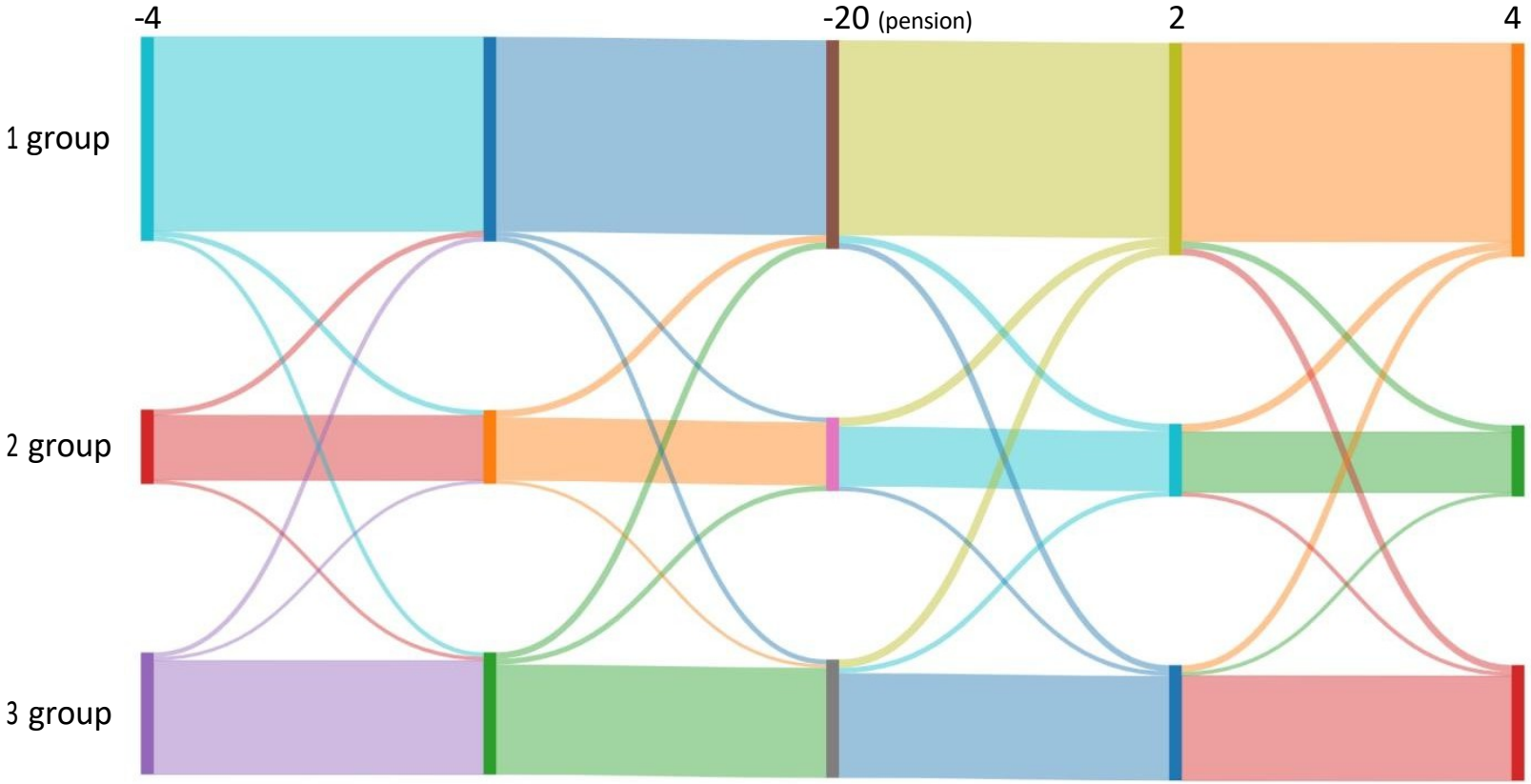
CES-D score в разрезе пола и соц. контактов

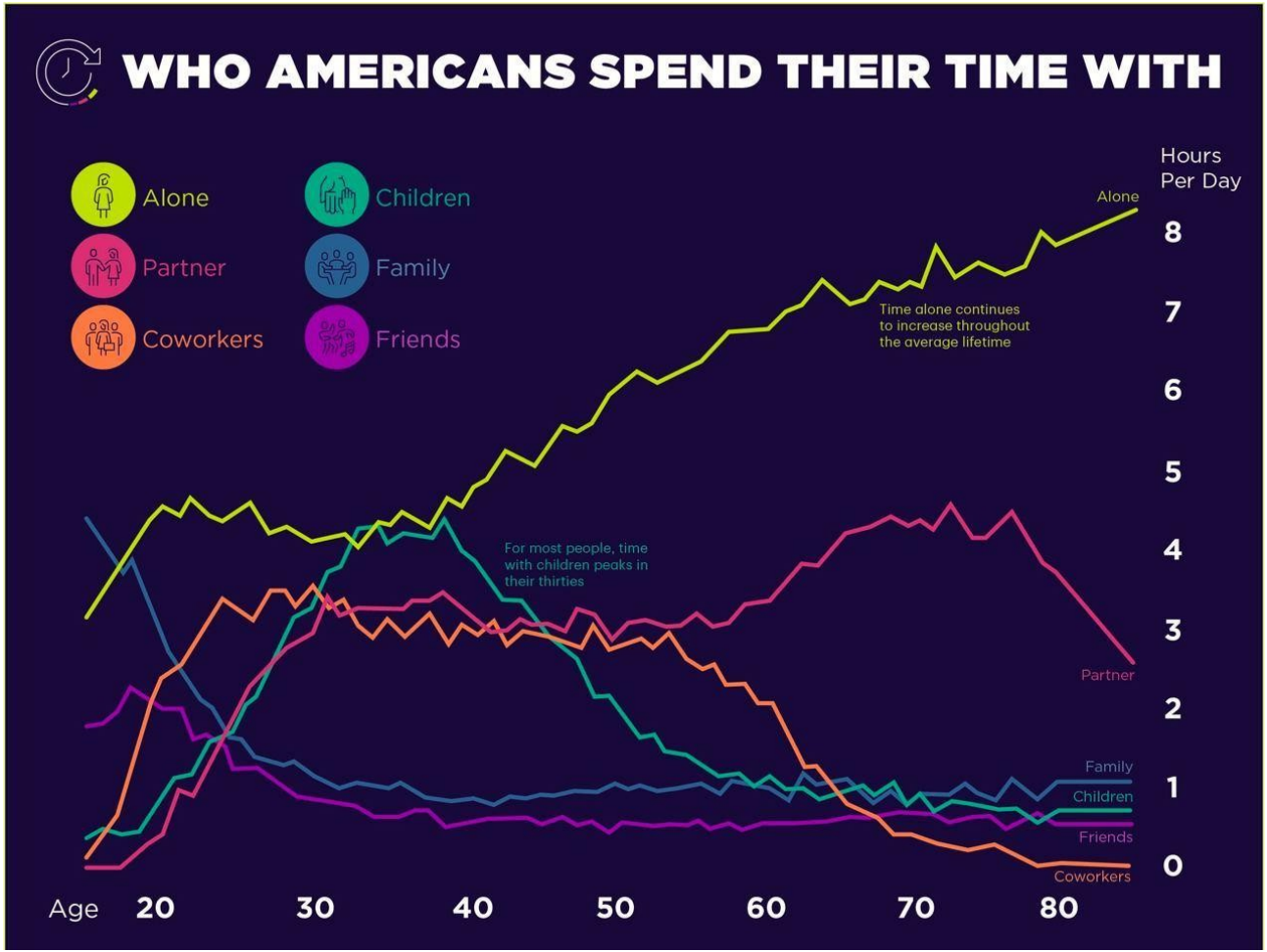


CES-D в разрезе социальных контактов и уровня дохода

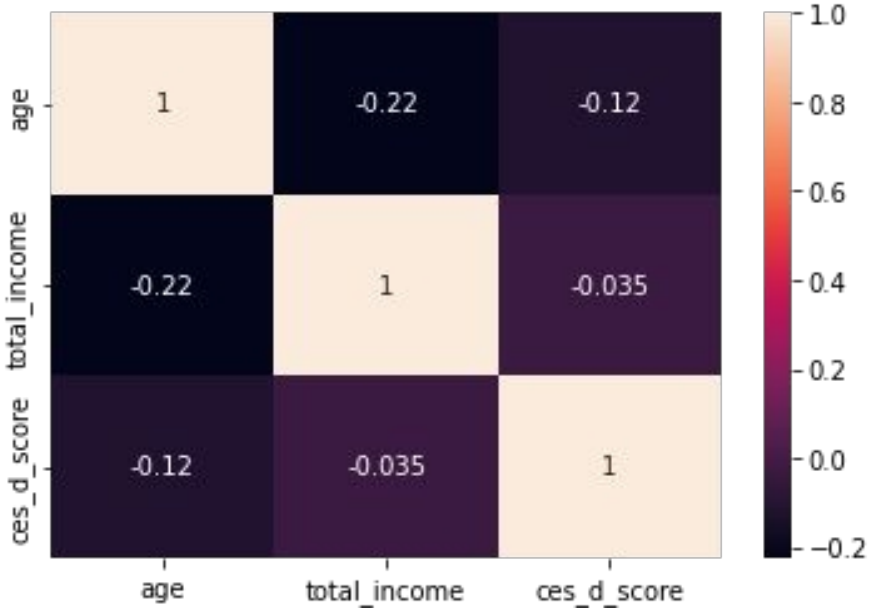


The spillover of sociability groups




WHO AMERICANS SPEND THEIR TIME WITH
Alone
Partner
Coworkers
Children
Family
Friends
Hours Per Day
Alone
Time alone continues to increase throughout the average lifetime
For most people, time with children peaks in their thirties
Partner
Family
Children
Friends
Coworkers
0
1
2
3
4
5
6
7
8
Age
20
30
40
50
60
70
80

Correlation matrix



Retirement work in figures

19% reduction in average working hours per week (average delta of -9 hours)

by **21%** decrease in average annual salary (average delta -11 thousand dollars)

18,000 dollars is the average pension per year (for those who work)