Today I wanna talk about religion and future discounting

That is the agenda for the presentation

Motivation:

Why am I interested in this topic?

What is future discounting and how is it modeled in my data

Variables

What are my variables

Results

Descriptive statistic

Linear regression

Limitations and future research

**Motivation:**

Three points why I think this topic is interesting:

First, three is scarcity of research for this topic as there are just three studies published.

Second, the studies have contradictory results.

Third, all three studies lack generalizability

Two studies use undergraduates

Recruit their participants from the online labour market M-Turk

🡪 this study uses a representative sample of the German population

**What does future discounting mean?**

If you are faced with an intertemporal choice decision future discounting is measurement how strong is your preference for consumption now instead of consumption later

Imagine:

I give you the choice between one cookie now and 2 cookies in 4 hours. Let´s say you want the cookie now. From a classical economic perspective this means that the immediate consumption of one cookie gives you more value/utility than the consumption of 2 cookies in 4 hours. The reason for this is that you take the delay consumption of four hours of the 2 cookies into consideration and therefore discount their utility. After this calculation the utility of one cookie now is higher than the discounted present utility of the 2 cookies.

**How is future discounting modeled in my experiment?**

Each participant in the study got this intertemporal choice matrix. As you can see the have to make a decision between a payment now and a payment later. Later payment is increasing.

How do I model future discounting / time preference.

The first time that a participant switched from the payment now to the payment in 12 months is his time preference/future discounting rate as in this case the later payment has now a higher value than the payment now.

For participants that never switched from the payment now to the later payment a switching row of 21 is assumed.

**My variables**

**Descriptive statistics**

Welch t-test: difference between the mean of the switching row of religious participants and the mean of the switching row of non-religious participants is not statistical significant. However the p-value is very close the the 5% mark

Non-parametric test:

Means are not significantly different,

**Linear Regression:**

First model  
intercept: switching row for non-religious participants:

Religion: shows that religious participants have 1.36 higher switching row than non-religious participants. This is just significant at an alpha 10% significance level. Again we a very close to the 5% mark with a p-value of 5.8%

F-test displays that the model statistically does not fit the data since the estimator religion is not different from zero (p-value: 0.058) -> very close to 5%

R^2 model explains 0.05\% of the variance of switching row but this is not statistically significant

Second Model:

intercept of 12.44 is the expected switching row for non-religious females (p-value < 0.001)

estimator religion shows that the expected switching row for religious participants is 1.386 higher than the expected switching row for non-religious participants Again, this is not statistically significant but with a p-value of 0.054 very close the the 5%

estimator age implies that if we increase age by one year the expected switching row increases by 0.006. Though, this is not significant (p-value: 0.732).

The F-test indicates that the model does not fit the data since all the coefficients are not different from zero (p-value: 0.197).

Comparing the two models with an ANOVA also shows that we should not keep the additional variables in the model as the reduction in the sum of squared residuals of 46.066 is not statistical significant and the two models are therefore not significantly different (p-value: 0.645).

**Limitations**

Data is extremely left skewed. Although with a sample size of 500 the CLT should apply it could be that the sample size is not large enough and descriptive statistics as well as linear regression are misleading.

Second, the adjusted $R^2$ is very small indicating that other variables could explain switching rows better.

Third, for 35 \% of the participants a switching row of 21 is assumed as they never switch from the immediate to the later payment. This limits the validity of my analysis because I do not know the real switching row of these participants and just assume 21 as their switching row. A proper analysis should therefore just analyze the first 20 rows