Tasks

Introduction to structural equation modeling and mixed models in 

Day 5: SEM

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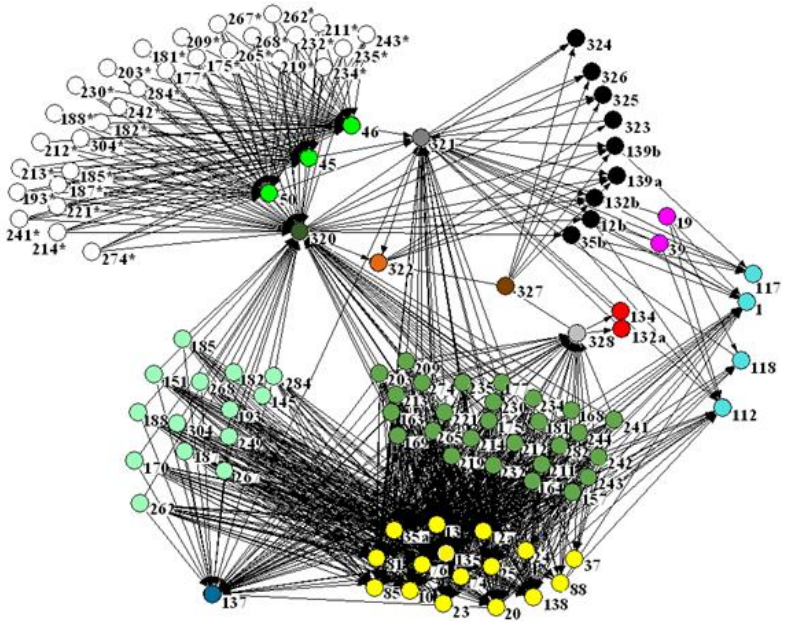
Day 5 Task 1

Effects of land use on arthropod food webs in grasslands



Food webs

235 grasslands

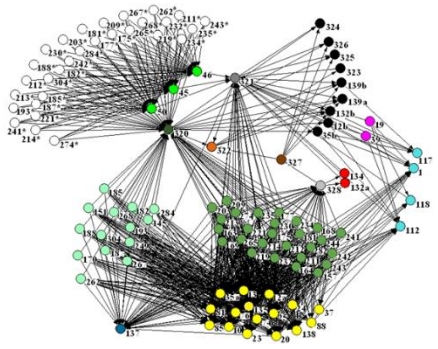
Food-web length

“1 level”: only herbivores and decomposers,
“2 levels”: carnivores present in addition to level 1,
“3 levels”: omnivores present in addition to level 1 and level 2.

Grazing intensity
(“low”, “medium”, or “high”)

Day 5 Task 1

Effects of land use on food webs in grasslands



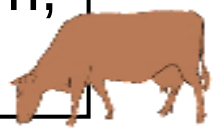
Food-web length
(1_level, 2_levels, 3_levels)

Plant biomass

Plant species richness

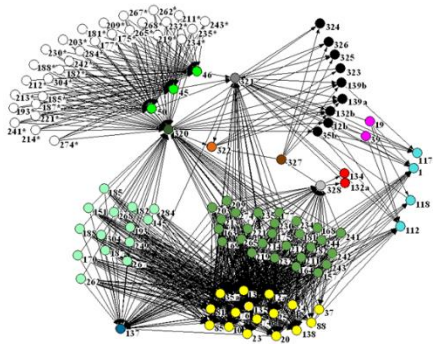
Soil organic C

Grazing
(low, medium, high)



Day 5 Task 1

Effects of land use on food webs in grasslands



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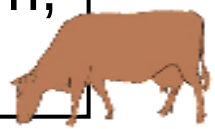
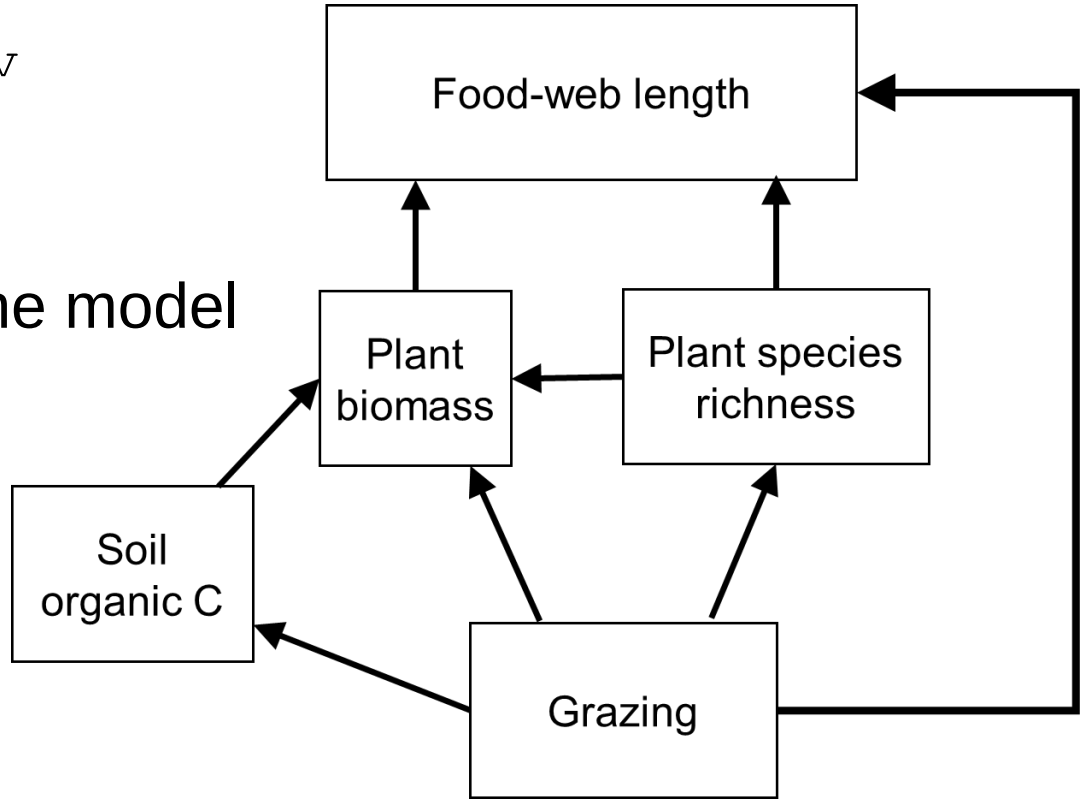


Day 5 Task 1

Effects of land use on food webs in grasslands

1. Specify the following model in lavaan
   - For this, <u>if needed</u>, recode the categorical variables in a way appropriate for the analysis
3. Fit the model using data `Food-web_data.csv`
4. Get the fit indices
5. Fill in Standardized Coeficients and R^2 for the model
6. Think about how to interpret the results



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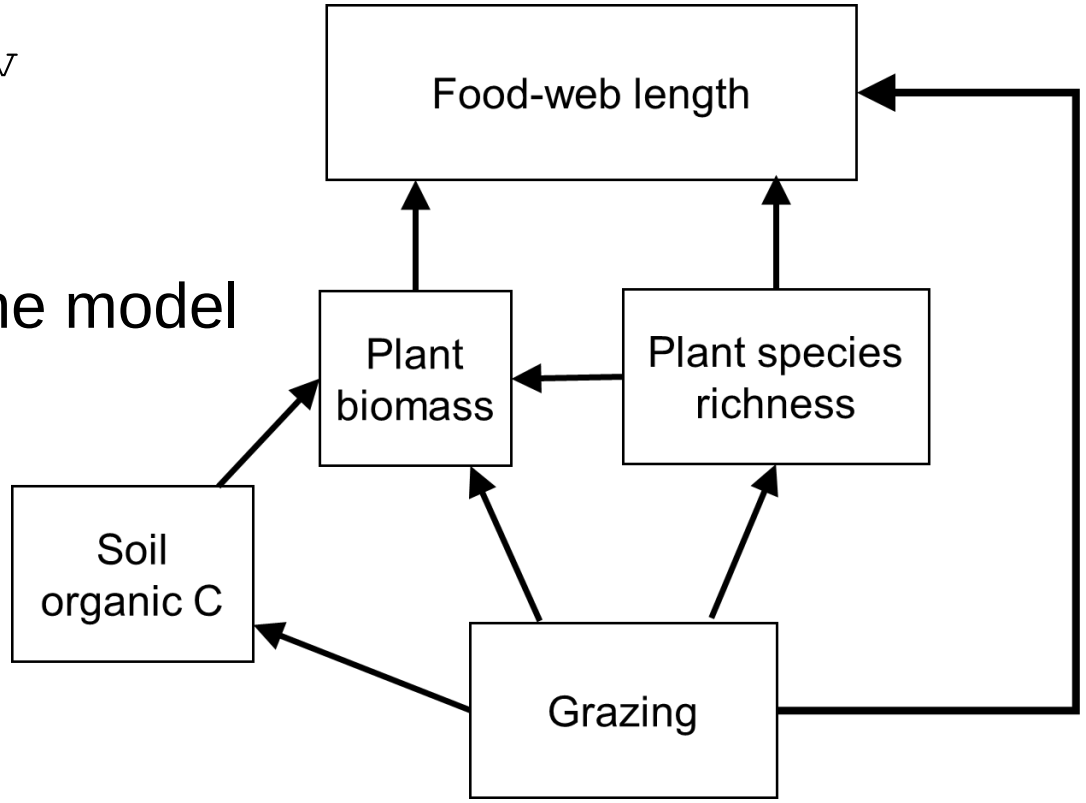


Day 5 Task 2

Human impact on
macroinvertebrate body size in ponds

Human Impact Intensity

Macroinvertebrate body size

Body size traits

Body mass
Body volume
Body length
Body width

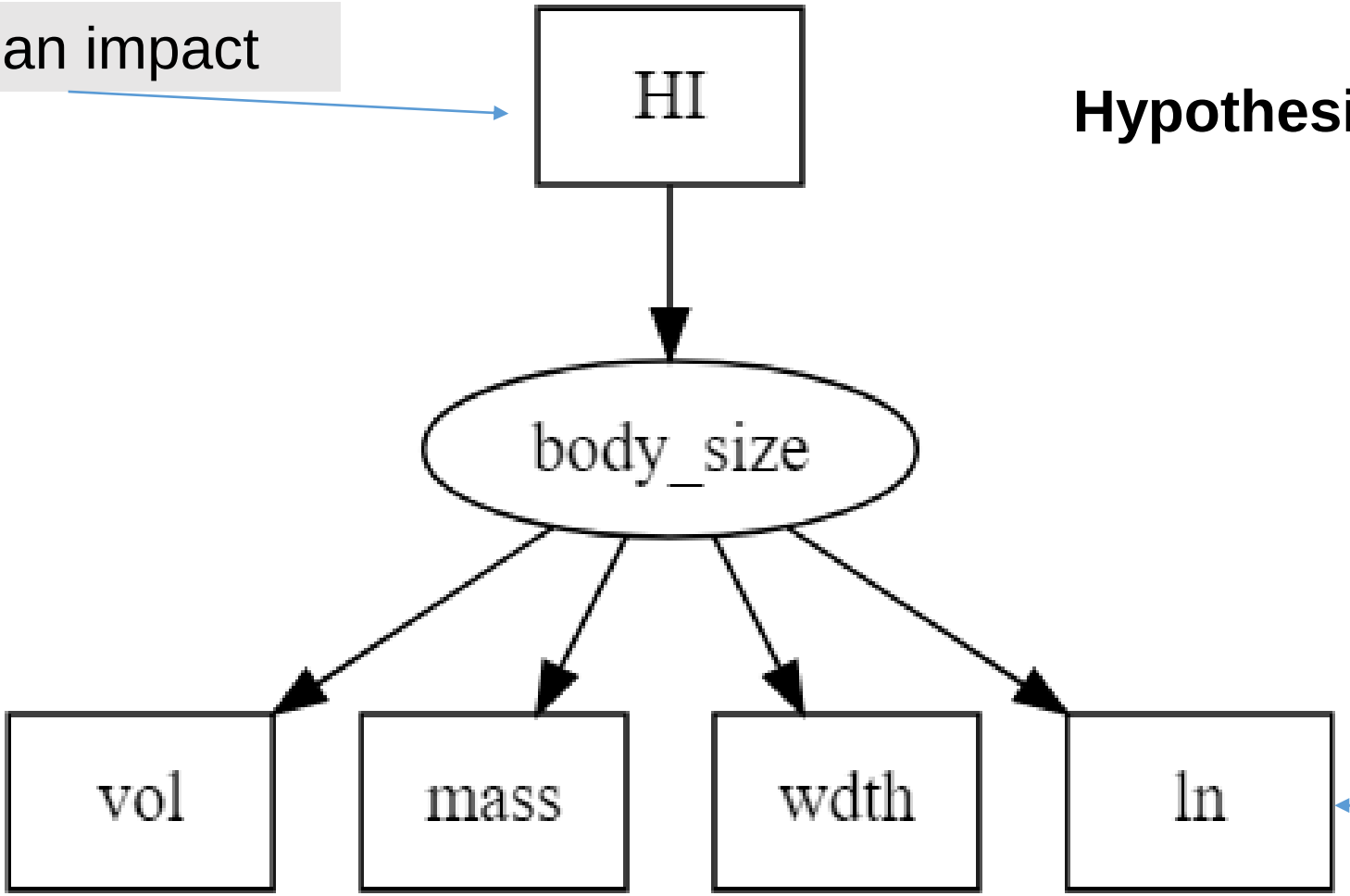
```
# Read and check the data

read.csv(" Bodysize_data.csv")
```

Day 5 Task 2

Human impact on
macroinvertebrate body size in ponds

Human impact



Hypothesized model

Body volume
Body mass
Body width
Body length

Day 5 Task 2

1. Perform the confirmatory factor analysis for the latent variable “body size”
2. Use the results from step 1 and perform the SEM by adding human impact variable

5. Fill in Standardized Coeficients and R^2 for the model

6. Think about how to interpret the results