

Title of your project

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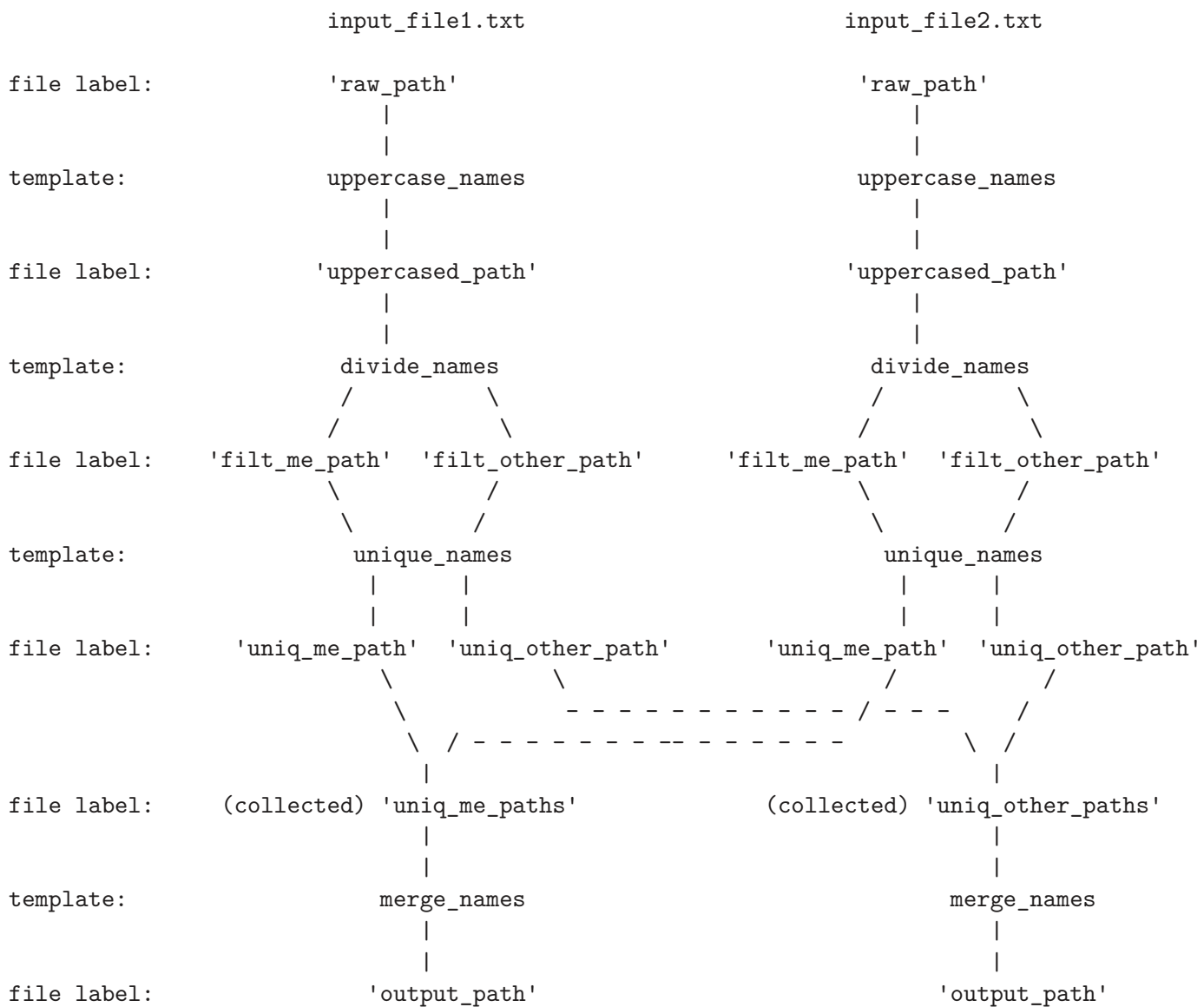
Title

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References

1. GWF workflow

Example workflow using mapping between input and output of each target. It is made to show all the ways information may be passed through an workflow.



1. GWF workflow

1.1. Imports and utility functions

```
from pathlib import Path
from gwf import Workflow, AnonymousTarget
from gwf.workflow import collect
```

Instantiate the workflow with the name of the project folder:

```
# instantiate the workflow
gwf = Workflow(defaults={'account': 'your-project-folder-name'})
```

Utility functions:

```
# utility function
def modify_path(path, **kwargs):
    """
    Utility function for modifying file paths substituting
    the directory (dir), base name (base), or file suffix (suffix)
    """
    for key in ['dir', 'base', 'suffix']:
        kwargs.setdefault(key, None)
    assert len(kwargs) == 3

    par, name = os.path.split(path)
    name_no_suffix, suf = os.path.splitext(name)
    if type(kwargs['suffix']) is str:
        suf = kwargs['suffix']
    if kwargs['dir'] is not None:
        par = kwargs['dir']
    if kwargs['base'] is not None:
        name_no_suffix = kwargs['base']

    new_path = os.path.join(par, name_no_suffix + suf)
    if type(kwargs['suffix']) is tuple:
        assert len(kwargs['suffix']) == 2
        new_path, nsubs = re.subn(r'{}$'.format(kwargs['suffix']),
                                   '', new_path)
        assert nsubs == 1, nsubs
    return new_path
```


1.2. Template functions:

```
# task template function
def uppercase_names(raw_path):
    """
    Formats names to uppercase.
    """
    # dir for files produces by task
    output_dir = 'steps/upper_cased'
    # path of output file
    uppercased_path = modify_path(raw_path, dir=output_dir, suffix='_uppercased.txt')

    # input specification
    inputs = [raw_path]
    # output specification mapping a label to each file
    outputs = {'uppercased_path': uppercased_path}
    # resource specification
    options = {'memory': '8g', 'walltime': '00:10:00'}

    # temporary output file path
    tmp_uppercased_path = modify_path(raw_path, dir='/tmp')

    # commands to run in task (bash script)
    # we write to a tmp file and move that to the output directory
    # only if the command succeeds (the && takes care of that)
    spec = f"""
mkdir -p {output_dir}
cat {raw_path} | tr [:lower:] [:upper:] > {tmp_uppercased_path} &&
    mv {tmp_uppercased_path} {uppercased_path}
    """
    # return target
    return AnonymousTarget(inputs=inputs, outputs=outputs, options=options, spec=spec)

# task template function
def divide_names(uppercased_path, me=None):
    """
    Splits names into two files. One with my name and one with other names.
    """
    # uppercased version of the me argument
    uppercased_me = me.upper()
```

1. GWF workflow

```
# dir for files produces by task
output_dir = 'steps/filtered_names'
# path of output file with names matching me
filt_me_path = modify_path(uppercased_path, dir=output_dir,
# path of output file with other names
filt_other_path = modify_path(uppercased_path, dir=output_d

# input specification
inputs = [uppercased_path]
# output specification mapping a label to each file
outputs = {'filt_me_path': filt_me_path, 'filt_other_path':
# resource specification
options = {'memory': '8g', 'walltime': '00:10:00'}

# tmporary output file paths
tmp_filt_me_path = modify_path(filt_me_path, dir='/tmp')
tmp_filt_other_path = modify_path(filt_other_path, dir='/tm

# commands to run in task (bash script)
# we write to tmp files and move them to the output directo
# only if the command succeeds (the && takes care of that)
spec = f"""
mkdir -p {output_dir}
grep {uppercased_me} {uppercased_path} > {tmp_filt_me_path}
    grep -v {uppercased_me} {uppercased_path} > {tmp_filt_o
    mv {tmp_filt_me_path} {filt_me_path} &&
    mv {tmp_filt_other_path} {filt_other_path}
"""
# return target
return AnonymousTarget(inputs=inputs, outputs=outputs, opti

# task template function
def unique_names(filt_me_path, filt_other_path):
    """
    Extracts unique names from a file.
    """
    # dir for files produces by task
    output_dir = 'steps/unique_names'
    # path of output file with unique names matching me
    uniq_me_path = modify_path(filt_me_path, dir=output_dir, su
    # path of output file with unique other names
    uniq_other_path = modify_path(filt_other_path, dir=output_d
```

1.2. Template functions:

```
# input specification
inputs = [filt_me_path, filt_other_path]
# output specification mapping a label to each file
outputs = {'unique_me_path': uniq_me_path, 'unique_other_path': uniq_other_path}
# resource specification
options = {'memory': '8g', 'walltime': '00:10:00'}

# tmporary output file paths
tmp_uniq_me_path = modify_path(uniq_me_path, dir='/tmp')
tmp_uniq_other_path = modify_path(uniq_other_path, dir='/tmp')

# commands to run in task (bash script)
# we write to tmp files and move them to the output directory
# only if the command succeeds (the && takes care of that)
spec = f"""
mkdir -p {output_dir}
sort {filt_me_path} | uniq > {tmp_uniq_me_path} &&
    sort {filt_other_path} | uniq > {tmp_uniq_other_path} &&
    mv {tmp_uniq_me_path} {uniq_me_path} &&
    mv {tmp_uniq_other_path} {uniq_other_path}
"""
# return target
return AnonymousTarget(inputs=inputs, outputs=outputs, options=options, spec=spec)

# task template function
def merge_names(paths, output_path):
    """
    Merges names from many files.
    """
    # dir for files produces by task
    output_dir = modify_path(output_path, base='', suffix='')

    # input specification
    inputs = [paths]
    # output specification mapping a label to the file
    outputs = {'path': output_path}

    # tmporary output file path
    tmp_output_path = modify_path(output_path, dir='/tmp')

    # resource specification
```

1. GWF workflow

```
options = {'memory': '8g', 'walltime': '00:10:00'}

# commands to run in task (bash script)
# we write to tmp files and move them to the output directory
# only if the command succeeds (the && takes care of that)
spec = f"""
mkdir -p {output_dir}
cat {' '.join(paths)} > {tmp_output_path} &&
    mv {tmp_output_path} {output_path}
"""

# return target
return AnonymousTarget(inputs=inputs, outputs=outputs, options=options)
```

1.3. Workflow:

```
# instantiate the workflow
gwf = Workflow(defaults={'account': 'your-project-folder-name'})

# input files for workflow
input_file_names = ['data/input_file1.txt', 'data/input_file2.txt']

# workflow parameter
myname = 'Kasper'

# run an uppercase_names task for each input file
uppercase_names_targets = gwf.map(uppercase_names, input_file_names)

# run an divide_names task for each output file from uppercase_names
filter_names_targets = gwf.map(divide_names, uppercase_names_targets)

# run an unique_names task for each output file from divide_names
unique_names_targets = gwf.map(unique_names, filter_names_targets)

# collect the outputs labelled 'unique_me_path' from all the outputs
collected_outputs = collect(unique_names_targets.outputs, ['unique_me_path'])

# create a single task to merge all those files into one
merge_me_target = gwf.target_from_template(
    'merge_not_me_name_files',
    merge_names(collected_outputs['unique_me_paths'], "results/"))
```

1.3. Workflow:

```
)

# collect the outputs labelled 'unique_other_path' from all the outputs of unique_names
collected_outputs = collect(unique_names_targets.outputs, ['unique_other_path'])

# create a single task to merge all those files into one
merge_other_target = gwf.target_from_template(
    'merge_me_name_files',
    merge_names(collected_outputs['unique_other_paths'], "results/merged_not_me_names.txt")
)
```


2. GWF workflow for notebooks

```
from pathlib import Path
from gwf import Workflow, AnonymousTarget
from gwf.workflow import collect
```

Instantiate the workflow with the name of the project folder.

```
# instantiate the workflow
gwf = Workflow(defaults={'account': 'your-project-folder-name'})
```

2.1. Template functions:

```
# task template function
def run_notebook(path, memory='8g', walltime='00:10:00', cores=1):
    """
    Executes a notebook inplace and saves the output.
    """
    # path of output sentinel file
    sentinel = path.parent / '.' + path.name

    # input specification
    inputs = [path]
    # output specification mapping a label to each file
    outputs = {'sentinel': sentinel}
    # resource specification
    options = {'memory': memory, 'walltime': walltime, 'cores': cores}

    # commands to run in task (bash script)
    spec = f"""
```

2. GWF workflow for notebooks

```
jupyter nbconvert --to notebook --execute --inplace path
"""
# return target
return AnonymousTarget(inputs=inputs, outputs=outputs, opti
```

2.2. Workflow:

Executes all notebooks in the `notebooks` directory in sorted order.

```
dependencies = []
# run notebooks in sorted order nb01_, nb02_, ...
for notebook in Path('notebooks/**/*.ipynb'):
    # run a notebook
    target = run_notebook(notebook, dependencies)
    # make each notebook dependent on all previous
    dependencies.append(target.outputs['sentinel'])
    # add target to workflow
    gwf.target(target)
```


Part I.

Notebooks

1. Workplace interaction

Import some plotting libraries and set some defaults:

```
import sys
import numpy as np
import pandas as pd
from IPython.display import display, Markdown
import matplotlib.pyplot as plt
import seaborn as sns
sns.set()
sns.set_style("whitegrid")

import random
random_seed = 5

sys.path.append('.')
from global_params import load_params
```

Tip:

Producing figures in svg format (scalable vector graphics) makes for sharp plots on webpages. However, if you make plots with thousands of observations you should set this to 'png' instead:

```
%config InlineBackend.figure_formats = ['svg']
```

Tip:

Some values apply globally to your analysis. E.g., sample sizes, cutoffs, names, rates, etc. Keeping those in a a yml file like `interaction_params.yml` and loading them in each notebook avoids the risk of manually adding/updating them in each notebook where they are used. You can use the `load_globals` function imported above from `global_params.py` to produce an object holding all the global values:

1. Workplace interaction

```
params = load_params('../global_params.yml')
params
```

```
{'questions': ['Blah blah blah',
               'Blah blah blah',
               'Blah blah blah',
               'Blah blah blah'],
 'sample_size': 24}
```

```
params.sample_size
```

```
24
```

1.1. Sampling

```
subjects = pd.read_csv('../data/data_table.csv')
assert subjects.index.size == params.sample_size
```

Tip:

By adding a label and caption to a cell displaying a table, you can refer to that table elsewhere and insert it in a manuscript.

```
subjects
```

Table 1.1.: People included in the analysis.

| | name | age | sex | position | nationality |
|---|----------|-----|-----|------------|-------------|
| 0 | Julie | 27 | F | PhDstudent | DK |
| 1 | Thomas | 33 | M | Postdoc | GB |
| 2 | Emilie | 23 | F | PhDstudent | CH |
| 3 | Sofie | 31 | F | Postdoc | DK |
| 4 | Sara | 29 | F | Postdoc | US |
| 5 | Cecilie | 34 | F | Postdoc | DK |
| 6 | Anders | 32 | M | PhDstudent | UK |
| 7 | Emma | 42 | F | Professor | DK |
| 8 | Caroline | 31 | F | PhDstudent | DK |
| 9 | Laura | 30 | F | Postdoc | DK |

1.2. Interviews

Table 1.1.: People included in the analysis.

| | name | age | sex | position | nationality |
|----|----------|-----|-----|------------|-------------|
| 10 | Mikkel | 33 | M | Postdoc | NL |
| 11 | Jens | 27 | M | PhDstudent | DK |
| 12 | Andreas | 29 | M | PhDstudent | DK |
| 13 | Jakob | 28 | M | PhDstudent | DK |
| 14 | Mathilde | 61 | F | Professor | DK |
| 15 | Katrine | 35 | F | Postdoc | DK |
| 16 | Poul | 30 | M | Postdoc | DK |
| 17 | Anna | 26 | F | PhDstudent | DK |
| 18 | Peter | 42 | M | Professor | GB |
| 19 | Ida | 53 | F | Postdoc | DK |
| 20 | Freja | 30 | F | Postdoc | DK |
| 21 | Maria | 39 | F | Professor | UK |
| 22 | Amalie | 29 | F | PhDstudent | DK |
| 23 | Camilla | 35 | F | Postdoc | DK |

Tip:

By generaing markdown for descriptions that will eventually end up in the manuscript, you can imbed python values. It also ensures that the manuscript exactly reflects the notebook.

The 24 subjects from workplaces in Denmark were interviewed blah

1.2. Interviews

The 24 subjects were asked to score the follow statements:

1. Blah blah blah
2. Blah blah blah
3. Blah blah blah
4. Blah blah blah

In interviewed {python} `params.sample_size` workplace individuals were interviewed by blah, blah, blah, blah, blah, blah, blah, blah, blah, blah, blah, blah, blah, blah, blah,

1. Workplace interaction

blah, blah, blah, blah, blah, blah, blah, blah, blah, blah,
 blah,

```
df = pd.DataFrame({'name': subjects.name,
                   'seniority': np.random.randint(0, 5, params.
                   'age': subjects.age})
df['informality'] = np.random.normal(loc=10, scale=1, size=params.
df
```

| | name | seniority | age | informality |
|----|----------|-----------|-----|-------------|
| 0 | Julie | 2 | 27 | 10.061504 |
| 1 | Thomas | 2 | 33 | 9.795845 |
| 2 | Emilie | 0 | 23 | 10.704674 |
| 3 | Sofie | 4 | 31 | 9.995386 |
| 4 | Sara | 1 | 29 | 9.384324 |
| 5 | Cecilie | 4 | 34 | 9.617037 |
| 6 | Anders | 3 | 32 | 8.822115 |
| 7 | Emma | 3 | 42 | 8.654268 |
| 8 | Caroline | 0 | 31 | 10.571754 |
| 9 | Laura | 3 | 30 | 12.278083 |
| 10 | Mikkel | 2 | 33 | 10.181373 |
| 11 | Jens | 4 | 27 | 11.043315 |
| 12 | Andreas | 3 | 29 | 10.194166 |
| 13 | Jakob | 2 | 28 | 9.740300 |
| 14 | Mathilde | 2 | 61 | 8.671047 |
| 15 | Katrine | 1 | 35 | 10.177327 |
| 16 | Poul | 4 | 30 | 9.894090 |
| 17 | Anna | 1 | 26 | 7.958770 |
| 18 | Peter | 2 | 42 | 11.287880 |
| 19 | Ida | 0 | 53 | 10.254190 |
| 20 | Freja | 0 | 30 | 11.093569 |
| 21 | Maria | 0 | 39 | 10.223915 |
| 22 | Amalie | 1 | 29 | 9.613552 |
| 23 | Camilla | 0 | 35 | 9.975990 |

```
sns.scatterplot(x='age', y='informality', data=df, hue='seniority')
plt.ylabel('How informal you can be')
plt.xlabel('Age')
plt.legend(title='Seniority', loc='lower right', labels=['Under
plt.ylim(bottom=0) ;
```

1.2. Interviews

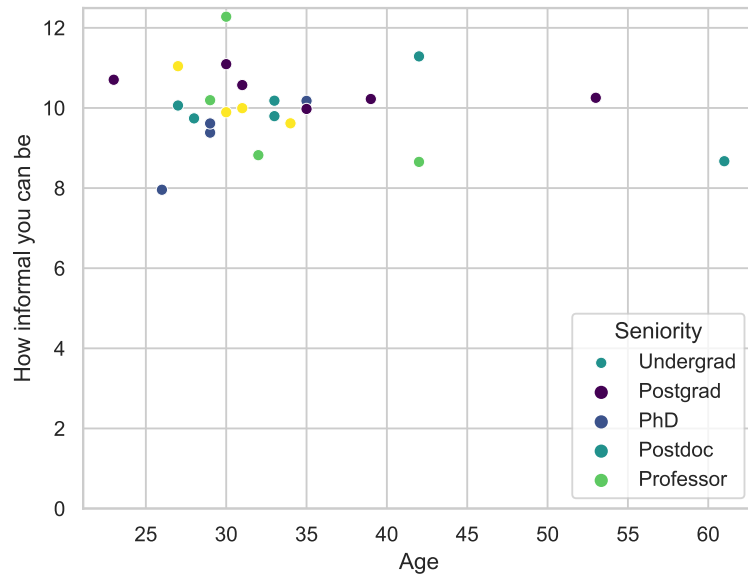


Figure 1.1.: Interaction among Danes: How Danes interact is has very little to do with age and seniority, compared to most other contries.

Seems Danish people act very informally unaffected by age and seniority.

```
informality_age_cor = df.informality.corr(df.age)
informality_age_cor
```

```
-0.1949220780248677
```

```
informality_seniority_cor = df.informality.corr(df.seniority)
informality_seniority_cor
```

```
-0.05515869516915789
```

The correlation between informality and age was -0.195 and the correlation between informality and seniority was -0.055.

```
sns.lmplot(x='age', y='informality', data=df, hue='seniority', palette='viridis')
plt.ylabel('How informal you can be')
plt.xlabel('Age') ;
```

1. Workplace interaction

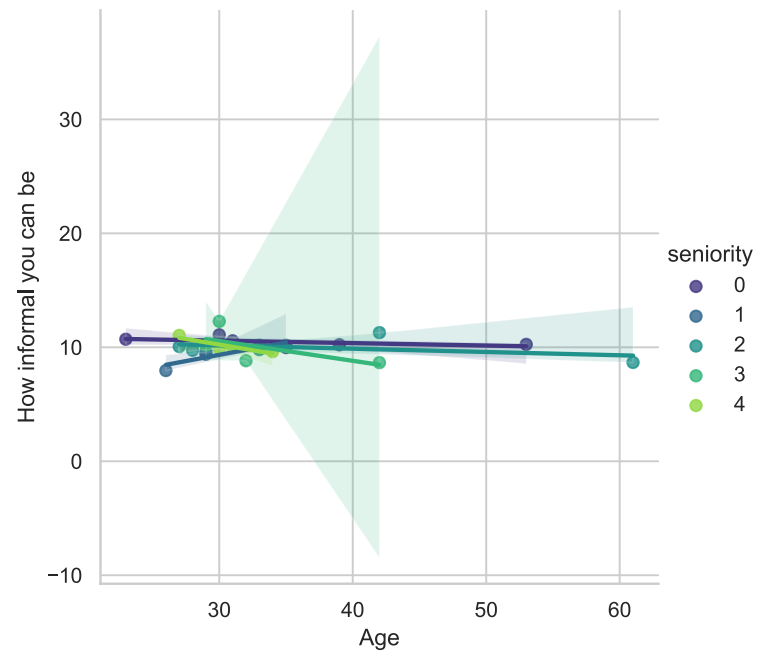


Figure 1.2.: Interaction among Danes: Regressions of informality against age for five levels of seniority.

Part II.

Reports

1. My manuscript

1.1. Abstract

Denmmark ... Lorem ipsum dolor sit amet, consectetur adipiscing elit. Duis sagittis posuere ligula sit amet lacinia. Duis dignissim pellentesque magna, rhoncus congue sapien finibus mollis. Ut eu sem laoreet, vehicula ipsum in, convallis erat. Vestibulum magna sem, blandit pulvinar augue sit amet, auctor malesuada sapien. Nullam faucibus leo eget eros hendrerit, non laoreet ipsum lacinia. Curabitur cursus diam elit, non tempus ante volutpat a. Quisque hendrerit blandit purus non fringilla. Integer sit amet elit viverra ante dapibus semper. Vestibulum viverra rutrum enim, at luctus enim posuere eu. Orci varius natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus.

1.2. Introduction

Denmark is Ut ut condimentum augue, nec eleifend nisl. Sed facilisis egestas odio ac pretium. Pellentesque consequat magna sed venenatis sagittis. Vivamus feugiat lobortis magna vitae accumsan. Pellentesque euismod malesuada hendrerit. Ut non mauris non arcu condimentum sodales vitae vitae dolor. Nullam dapibus, velit eget lacinia rutrum, ipsum justo malesuada odio, et lobortis sapien magna vel lacus. Nulla purus neque, hendrerit non malesuada eget, mattis vel erat. Suspendisse potenti. Nullam dapibus cursus dolor sit amet consequat. Nulla facilisi. Curabitur vel nulla non magna lacinia tincidunt. Duis porttitor quam leo, et blandit velit efficitur ut. Etiam auctor tincidunt porttitor. Phasellus sed accumsan mi. Fusce ut erat dui. Suspendisse eu augue eget turpis condimentum finibus eu non lorem. Donec finibus eros eu ante condimentum, sed pharetra sapien sagittis. Phasellus non dolor ac ante mollis auctor nec et sapien.

1. *My manuscript*

Pellentesque vulputate at nisi eu tincidunt. Vestibulum at dolor aliquam, hendrerit purus eu, eleifend massa. Morbi consectetur eros id tincidunt gravida. Fusce ut enim quis orci hendrerit lacinia sed vitae enim. Nulla eget cursus ipsum. Vivamus porttitor leo diam, sed volutpat lectus facilisis sit amet. Maecenas et pulvinar metus. Ut at dignissim tellus. In in tincidunt elit. Etiam vulputate lobortis arcu, vel faucibus leo lobortis ac. Aliquam erat volutpat. In interdum orci ac est euismod euismod. Nunc eleifend tristique risus, at lacinia odio commodo in. Sed aliquet ligula odio, sed tempor neque ultricies sit amet.

1.3. Results

1.3.1. Social norms

In Denmark, the workplace interaction is very informal and largely unaffected by seniority and age.

The 24 subjects from workplaces in Denmark were interviewed blah

I found that neither academic seniority or age of workplace individuals much affected how informal our interaction was (see Figure 1.2).

The correlation between informality and age was -0.195 and the correlation between informality and seniority was -0.055.

Proin sodales neque erat, varius cursus diam tincidunt sit amet. Etiam scelerisque fringilla nisl eu venenatis. Donec sem ipsum, scelerisque ac venenatis quis, hendrerit vel mauris. Praesent semper erat sit amet purus condimentum, sit amet auctor mi feugiat. In hac habitasse platea dictumst. Nunc ac mauris in massa feugiat bibendum id in dui. Praesent accumsan urna at lacinia aliquet. Proin ultricies eu est quis pellentesque. In vel lorem at nisl rhoncus cursus eu quis mi. In eu rutrum ante, quis placerat justo. Etiam euismod nibh nibh, sed elementum nunc imperdiet in. Praesent gravida

1.4. Discussion

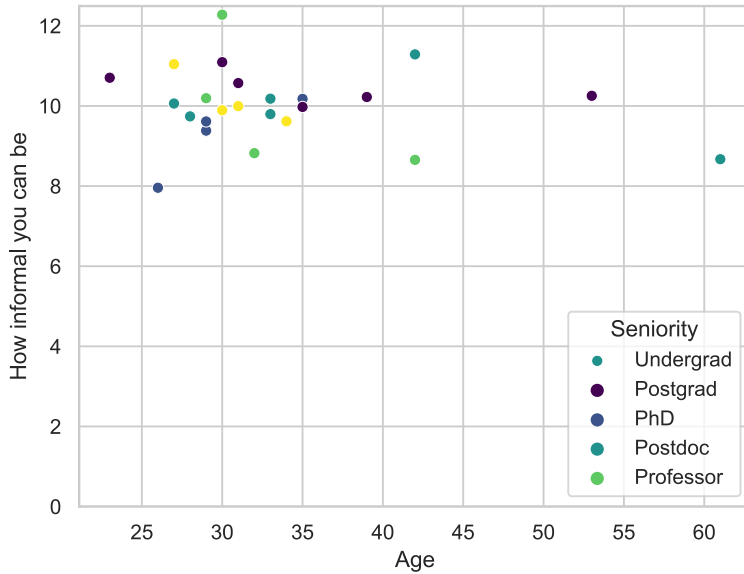


Figure 1.1.: Interaction among Danes: How Danes interact is has very little to do with age and seniority, compared to most other contries.

nunc vel odio lacinia, at tempus nisl placerat. Aenean id ipsum sed est sagittis hendrerit non in tortor.

1.4. Discussion

This this investigation of 24 Danes...,

Proin sodales neque erat, varius cursus diam tincidunt sit amet. Etiam scelerisque fringilla nisl eu venenatis. Donec sem ipsum, scelerisque ac venenatis quis, hendrerit vel mauris. Praesent semper erat sit amet purus condimentum, sit amet auctor mi feugiat. In hac habitasse platea dictumst. Nunc ac mauris in massa feugiat bibendum id in dui. Praesent accumsan urna at lacinia aliquet. Proin ultricies eu est quis pellentesque. In vel lorem at nisl rhoncus cursus eu quis mi. In eu rutrum ante, quis placerat justo. Etiam euismod nibh nibh, sed elementum nunc imperdiet in. Praesent gravida nunc vel odio lacinia, at tempus nisl placerat. Aenean id ipsum sed est sagittis hendrerit non in tortor.

1.5. Methods

1.5.1. Interaction analysis

Nunc ac dignissim magna. Vestibulum vitae egestas elit. Proin feugiat leo quis ante condimentum, eu ornare mauris feugiat. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris cursus laoreet ex, dignissim bibendum est posuere iaculis. Suspendisse et maximus elit. In fringilla gravida ornare. Aenean id lectus pulvinar, sagittis felis nec, rutrum risus. Nam vel neque eu arcu blandit fringilla et in quam. Aliquam luctus est sit amet vestibulum eleifend. Phasellus elementum sagittis molestie. Proin tempor lorem arcu, at condimentum purus volutpat eu. Fusce et pellentesque ligula. Pellentesque id tellus at erat luctus fringilla. Suspendisse potenti.

Table 1.1 lists the samples included in the analysis.

Table 1.1.: People included in the analysis.

| | name | age | sex | position | nationality |
|----|----------|-----|-----|------------|-------------|
| 0 | Julie | 27 | F | PhDstudent | DK |
| 1 | Thomas | 33 | M | Postdoc | GB |
| 2 | Emilie | 23 | F | PhDstudent | CH |
| 3 | Sofie | 31 | F | Postdoc | DK |
| 4 | Sara | 29 | F | Postdoc | US |
| 5 | Cecilie | 34 | F | Postdoc | DK |
| 6 | Anders | 32 | M | PhDstudent | UK |
| 7 | Emma | 42 | F | Professor | DK |
| 8 | Caroline | 31 | F | PhDstudent | DK |
| 9 | Laura | 30 | F | Postdoc | DK |
| 10 | Mikkel | 33 | M | Postdoc | NL |
| 11 | Jens | 27 | M | PhDstudent | DK |
| 12 | Andreas | 29 | M | PhDstudent | DK |
| 13 | Jakob | 28 | M | PhDstudent | DK |
| 14 | Mathilde | 61 | F | Professor | DK |
| 15 | Katrine | 35 | F | Postdoc | DK |
| 16 | Poul | 30 | M | Postdoc | DK |
| 17 | Anna | 26 | F | PhDstudent | DK |
| 18 | Peter | 42 | M | Professor | GB |
| 19 | Ida | 53 | F | Postdoc | DK |
| 20 | Freja | 30 | F | Postdoc | DK |

1.6. References

Table 1.1.: People included in the analysis.

| | name | age | sex | position | nationality |
|----|---------|-----|-----|------------|-------------|
| 21 | Maria | 39 | F | Professor | UK |
| 22 | Amalie | 29 | F | PhDstudent | DK |
| 23 | Camilla | 35 | F | Postdoc | DK |

Nullam dapibus cursus dolor sit amet consequat. Nulla facilisi. Curabitur vel nulla non magna lacinia tincidunt. Duis porttitor quam leo, et blandit velit efficitur ut. Etiam auctor tincidunt porttitor. Phasellus sed accumsan mi. Fusce ut erat dui. Suspendisse eu augue eget turpis condimentum finibus eu non lorem. Donec finibus eros eu ante condimentum, sed pharetra sapien sagittis. Phasellus non dolor ac ante mollis auctor nec et sapien. Pellentesque vulputate at nisi eu tincidunt. Vestibulum at dolor aliquam, hendrerit purus eu, eleifend massa. Morbi consectetur eros id tincidunt gravida. Fusce ut enim quis orci hendrerit lacinia sed vitae enim.

The 24 subjects were asked to score the follow statements:

1. Blah blah blah
2. Blah blah blah
3. Blah blah blah
4. Blah blah blah

1.6. References

Part III.

Tables

1. Result tables

This is a table of results from a csv file:

Table 1.1.: This could be a table listing results of an analysis.

| | pos | when_DAF_is_half | when_mutation_has_freq2 | population |
|----|-----------|------------------|-------------------------|------------|
| 0 | 10122953 | -1.390610 | -6.29509 | CDX |
| 1 | 11859476 | -2.693320 | -6.64483 | CDX |
| 2 | 11864438 | -2.693320 | -6.64483 | CDX |
| 3 | 32635171 | -2.224110 | -6.58804 | CDX |
| 4 | 105249963 | -1.406140 | -6.11750 | CDX |
| 5 | 3712725 | -1.086690 | -6.50623 | CHB |
| 6 | 3713920 | -2.062530 | -9.86443 | CHB |
| 7 | 3717514 | -2.635040 | -6.90527 | CHB |
| 8 | 3720564 | -2.399250 | -6.07486 | CHB |
| 9 | 3720591 | -2.399250 | -6.07486 | CHB |
| 10 | 3721203 | -2.399250 | -6.07486 | CHB |
| 11 | 3721452 | -2.399250 | -6.07486 | CHB |
| 12 | 32812742 | -3.157760 | -6.19174 | CHB |
| 13 | 47349640 | -1.544110 | -6.06731 | CHB |
| 14 | 47352820 | -2.056060 | -8.20242 | CHB |
| 15 | 151669901 | -1.644880 | -8.53576 | CHB |
| 16 | 3706646 | -2.436120 | -6.34196 | CHS |
| 17 | 10214581 | -2.539500 | -9.20117 | CHS |
| 18 | 122431333 | -0.937105 | -6.22082 | CHS |
| 19 | 141669308 | -1.019170 | -6.12830 | CHS |
| 20 | 49962327 | -1.766100 | -6.61933 | JPT |
| 21 | 142111497 | -1.409290 | -6.26781 | JPT |
| 22 | 20348765 | -2.042520 | -6.05583 | KHV |
| 23 | 20349644 | -1.773100 | -8.27088 | KHV |
| 24 | 69126919 | -1.338150 | -6.76224 | KHV |
| 25 | 151669901 | -2.155580 | -7.15834 | KHV |
| 26 | 153982797 | -1.289470 | -6.11440 | KHV |

Show more tables (these are the same again):

1. Result tables

```
import pandas as pd
pd.read_csv('../results/result_table.csv')
```

| | pos | when_DAF_is_half | when_mutation_has_freq2 | popu |
|----|-----------|------------------|-------------------------|------|
| 0 | 10122953 | -1.390610 | -6.29509 | CDX |
| 1 | 11859476 | -2.693320 | -6.64483 | CDX |
| 2 | 11864438 | -2.693320 | -6.64483 | CDX |
| 3 | 32635171 | -2.224110 | -6.58804 | CDX |
| 4 | 105249963 | -1.406140 | -6.11750 | CDX |
| 5 | 3712725 | -1.086690 | -6.50623 | CHB |
| 6 | 3713920 | -2.062530 | -9.86443 | CHB |
| 7 | 3717514 | -2.635040 | -6.90527 | CHB |
| 8 | 3720564 | -2.399250 | -6.07486 | CHB |
| 9 | 3720591 | -2.399250 | -6.07486 | CHB |
| 10 | 3721203 | -2.399250 | -6.07486 | CHB |
| 11 | 3721452 | -2.399250 | -6.07486 | CHB |
| 12 | 32812742 | -3.157760 | -6.19174 | CHB |
| 13 | 47349640 | -1.544110 | -6.06731 | CHB |
| 14 | 47352820 | -2.056060 | -8.20242 | CHB |
| 15 | 151669901 | -1.644880 | -8.53576 | CHB |
| 16 | 3706646 | -2.436120 | -6.34196 | CHS |
| 17 | 10214581 | -2.539500 | -9.20117 | CHS |
| 18 | 122431333 | -0.937105 | -6.22082 | CHS |
| 19 | 141669308 | -1.019170 | -6.12830 | CHS |
| 20 | 49962327 | -1.766100 | -6.61933 | JPT |
| 21 | 142111497 | -1.409290 | -6.26781 | JPT |
| 22 | 20348765 | -2.042520 | -6.05583 | KHV |
| 23 | 20349644 | -1.773100 | -8.27088 | KHV |
| 24 | 69126919 | -1.338150 | -6.76224 | KHV |
| 25 | 151669901 | -2.155580 | -7.15834 | KHV |
| 26 | 153982797 | -1.289470 | -6.11440 | KHV |

```
import pandas as pd
pd.read_csv('../results/result_table.csv')
```

| | pos | when_DAF_is_half | when_mutation_has_freq2 | popu |
|---|----------|------------------|-------------------------|------|
| 0 | 10122953 | -1.390610 | -6.29509 | CDX |
| 1 | 11859476 | -2.693320 | -6.64483 | CDX |
| 2 | 11864438 | -2.693320 | -6.64483 | CDX |
| 3 | 32635171 | -2.224110 | -6.58804 | CDX |

| | pos | when_DAF_is_half | when_mutation_has_freq2 | population |
|----|-----------|------------------|-------------------------|------------|
| 4 | 105249963 | -1.406140 | -6.11750 | CDX |
| 5 | 3712725 | -1.086690 | -6.50623 | CHB |
| 6 | 3713920 | -2.062530 | -9.86443 | CHB |
| 7 | 3717514 | -2.635040 | -6.90527 | CHB |
| 8 | 3720564 | -2.399250 | -6.07486 | CHB |
| 9 | 3720591 | -2.399250 | -6.07486 | CHB |
| 10 | 3721203 | -2.399250 | -6.07486 | CHB |
| 11 | 3721452 | -2.399250 | -6.07486 | CHB |
| 12 | 32812742 | -3.157760 | -6.19174 | CHB |
| 13 | 47349640 | -1.544110 | -6.06731 | CHB |
| 14 | 47352820 | -2.056060 | -8.20242 | CHB |
| 15 | 151669901 | -1.644880 | -8.53576 | CHB |
| 16 | 3706646 | -2.436120 | -6.34196 | CHS |
| 17 | 10214581 | -2.539500 | -9.20117 | CHS |
| 18 | 122431333 | -0.937105 | -6.22082 | CHS |
| 19 | 141669308 | -1.019170 | -6.12830 | CHS |
| 20 | 49962327 | -1.766100 | -6.61933 | JPT |
| 21 | 142111497 | -1.409290 | -6.26781 | JPT |
| 22 | 20348765 | -2.042520 | -6.05583 | KHV |
| 23 | 20349644 | -1.773100 | -8.27088 | KHV |
| 24 | 69126919 | -1.338150 | -6.76224 | KHV |
| 25 | 151669901 | -2.155580 | -7.15834 | KHV |
| 26 | 153982797 | -1.289470 | -6.11440 | KHV |

Part IV.

Slides

1. Main talk

1.1. Admixture displacement in each geographical region

1.1.1. This is a subtitle

Here we have some text that may run over several lines of the slide frame, depending on how long it is.

- first item
 - A sub item

Next, we'll brief review some theme-specific components.

- Note that *all* of the standard Reveal.js features can be used with this theme, even if we don't highlight them here.

1.2. Additional theme classes

1.2.1. Some extra things you can do with the clean theme

Special classes for emphasis

- `.alert` class for default emphasis, e.g. important note.
- `.fg` class for custom colour, e.g. important note.
- `.bg` class for custom background, e.g. important note.

Cross-references

- `.button` class provides a Beamer-like button, e.g. Summary

1. Main talk

1.3. Social norms

1.3.1. Sampling

We used a sample size of 24.

In Denmark, the workplace interaction is very informal and largely unaffected by seniority and age.

The 24 subjects from workplaces in Denmark were interviewed blah

1.4. Social norms

1.4.1. Neither academic seniority or age affected interaction

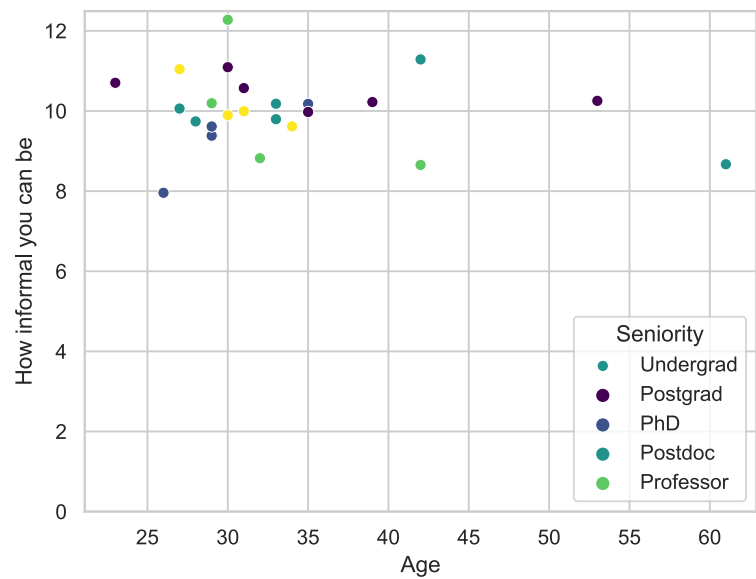


Figure 1.1.: Interaction among Danes: How Danes interact is has very little to do with age and seniority, compared to most other contries.

1.5. Slide title

The correlation between informality and age was -0.195 and the correlation between informality and seniority was -0.055.

1.5. Slide title

- Eat spaghetti
- Drink wine

1.6. Slide title

Left column

- One
- Two
- Three

1.7. Admixture displacement in each geographical region

The correlation between informality and age was -0.195 and the correlation between informality and seniority was -0.055.

1.8. Slide Title

Slide content

Schumer et al. (2018)

1. Main talk

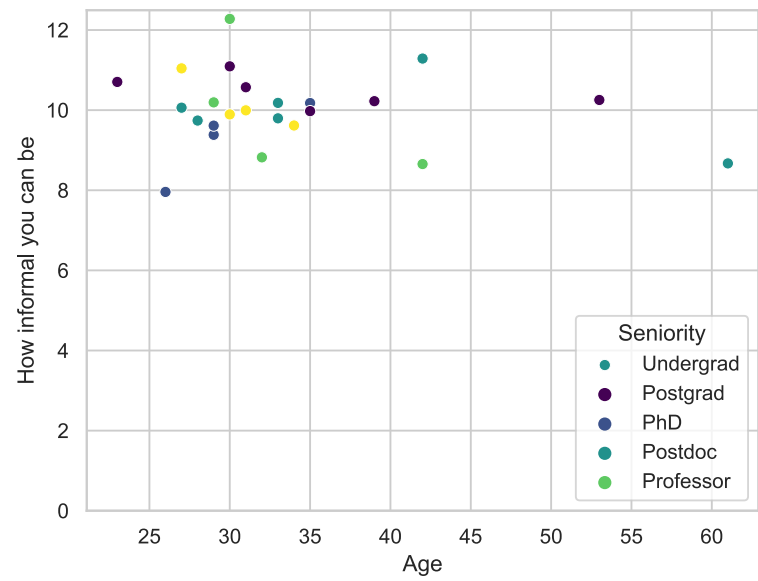


Figure 1.2.: Interaction among Danes: How Danes interact is has very little to do with age and seniority, compared to most other contries.