Latent Gender Score

Process Data: Causal Discovery

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## Load: SEM Domain Knowledge Model, Preprocessed Data

## Causal Discovery: Continuous Imputed Data

[1] "DAG (continuous, gaussCItest)"

dag {  
age  
age\_group\_at\_immigration  
alcohol\_consumption  
career\_sacrifices  
current\_health  
current\_life\_satisfaction\_scale  
current\_mat\_parent\_leave  
current\_monthly\_gross\_labor\_income  
daily\_hours\_childcare\_weekdays  
daily\_hours\_housework\_weekdays  
diabetes  
diabetes\_before\_migraine  
diabetes\_before\_stroke  
east\_german\_residence  
employment\_status\_imp  
felt\_discriminated\_ethnic\_12mo  
felt\_discriminated\_gender\_12mo  
frequency\_homeoffice  
gender  
gross\_hourly\_wage  
health\_insurance\_status  
highest\_educational\_degree  
hypertension  
hypertension\_before\_migraine  
hypertension\_before\_stroke  
immigration\_history  
leadership\_position  
migraine  
migraine\_incidence  
num\_children\_in\_household  
num\_physician\_visits  
partner  
political\_interest  
refugee\_exp  
risk\_taking\_driving\_scale  
risk\_taking\_health\_scale  
risk\_taking\_scale  
self\_esteem  
sex\_binary  
sex\_entry\_change  
sex\_or  
smoke  
smoke\_before\_migraine  
smoke\_before\_stroke  
stroke  
stroke\_incidence  
using\_period\_of\_care  
work\_time  
working\_overtime  
worried\_health  
worried\_pension  
age -> diabetes\_before\_migraine  
age -> gross\_hourly\_wage  
age -> hypertension\_before\_migraine  
age -> hypertension\_before\_stroke  
age -> num\_children\_in\_household  
age -> stroke\_incidence  
age\_group\_at\_immigration -> hypertension\_before\_migraine  
alcohol\_consumption -> age  
alcohol\_consumption -> current\_monthly\_gross\_labor\_income  
alcohol\_consumption -> diabetes\_before\_stroke  
alcohol\_consumption -> highest\_educational\_degree  
alcohol\_consumption -> migraine  
alcohol\_consumption -> smoke\_before\_stroke  
career\_sacrifices -> age  
career\_sacrifices -> current\_health  
career\_sacrifices -> current\_life\_satisfaction\_scale  
career\_sacrifices -> migraine\_incidence  
career\_sacrifices -> work\_time  
current\_health -> age  
current\_health -> employment\_status\_imp  
current\_health -> migraine\_incidence  
current\_health -> num\_physician\_visits  
current\_health -> self\_esteem  
current\_health -> stroke\_incidence  
current\_health -> worried\_health  
current\_life\_satisfaction\_scale -> current\_health  
current\_life\_satisfaction\_scale -> current\_monthly\_gross\_labor\_income  
current\_life\_satisfaction\_scale -> num\_physician\_visits  
current\_life\_satisfaction\_scale -> self\_esteem  
current\_mat\_parent\_leave -> age  
current\_mat\_parent\_leave -> current\_life\_satisfaction\_scale  
current\_mat\_parent\_leave -> daily\_hours\_childcare\_weekdays  
current\_mat\_parent\_leave -> gender  
current\_mat\_parent\_leave -> working\_overtime  
current\_monthly\_gross\_labor\_income -> gender  
current\_monthly\_gross\_labor\_income -> gross\_hourly\_wage  
current\_monthly\_gross\_labor\_income -> work\_time  
daily\_hours\_childcare\_weekdays -> gender  
daily\_hours\_childcare\_weekdays -> num\_children\_in\_household  
daily\_hours\_childcare\_weekdays -> political\_interest  
daily\_hours\_housework\_weekdays -> current\_monthly\_gross\_labor\_income  
daily\_hours\_housework\_weekdays -> gender  
daily\_hours\_housework\_weekdays -> work\_time  
diabetes -> diabetes\_before\_migraine  
diabetes -> diabetes\_before\_stroke  
diabetes -> hypertension  
diabetes\_before\_migraine -> hypertension\_before\_migraine  
diabetes\_before\_migraine -> migraine\_incidence  
diabetes\_before\_migraine -> stroke\_incidence  
diabetes\_before\_stroke -> diabetes\_before\_migraine  
diabetes\_before\_stroke -> hypertension\_before\_stroke  
east\_german\_residence -> age\_group\_at\_immigration  
east\_german\_residence -> alcohol\_consumption  
east\_german\_residence -> career\_sacrifices  
east\_german\_residence -> current\_life\_satisfaction\_scale  
east\_german\_residence -> current\_monthly\_gross\_labor\_income  
east\_german\_residence -> felt\_discriminated\_gender\_12mo  
east\_german\_residence -> gross\_hourly\_wage  
east\_german\_residence -> highest\_educational\_degree  
east\_german\_residence -> migraine  
east\_german\_residence -> num\_physician\_visits  
east\_german\_residence -> risk\_taking\_health\_scale  
east\_german\_residence -> sex\_entry\_change  
east\_german\_residence -> work\_time  
east\_german\_residence -> worried\_health  
east\_german\_residence -> worried\_pension  
employment\_status\_imp -> age  
employment\_status\_imp -> gender  
employment\_status\_imp -> smoke  
employment\_status\_imp -> stroke\_incidence  
employment\_status\_imp -> work\_time  
felt\_discriminated\_ethnic\_12mo -> age\_group\_at\_immigration  
felt\_discriminated\_ethnic\_12mo -> alcohol\_consumption  
felt\_discriminated\_ethnic\_12mo -> highest\_educational\_degree  
felt\_discriminated\_ethnic\_12mo -> migraine\_incidence  
felt\_discriminated\_ethnic\_12mo -> self\_esteem  
felt\_discriminated\_ethnic\_12mo -> stroke  
felt\_discriminated\_ethnic\_12mo -> using\_period\_of\_care  
felt\_discriminated\_ethnic\_12mo -> worried\_health  
felt\_discriminated\_gender\_12mo -> age  
felt\_discriminated\_gender\_12mo -> age\_group\_at\_immigration  
felt\_discriminated\_gender\_12mo -> career\_sacrifices  
felt\_discriminated\_gender\_12mo -> current\_health  
felt\_discriminated\_gender\_12mo -> daily\_hours\_childcare\_weekdays  
felt\_discriminated\_gender\_12mo -> felt\_discriminated\_ethnic\_12mo  
felt\_discriminated\_gender\_12mo -> hypertension\_before\_migraine  
felt\_discriminated\_gender\_12mo -> hypertension\_before\_stroke  
felt\_discriminated\_gender\_12mo -> migraine  
felt\_discriminated\_gender\_12mo -> political\_interest  
felt\_discriminated\_gender\_12mo -> risk\_taking\_health\_scale  
felt\_discriminated\_gender\_12mo -> stroke  
felt\_discriminated\_gender\_12mo -> worried\_health  
frequency\_homeoffice -> alcohol\_consumption  
frequency\_homeoffice -> career\_sacrifices  
frequency\_homeoffice -> current\_monthly\_gross\_labor\_income  
frequency\_homeoffice -> employment\_status\_imp  
frequency\_homeoffice -> gross\_hourly\_wage  
frequency\_homeoffice -> health\_insurance\_status  
frequency\_homeoffice -> highest\_educational\_degree  
frequency\_homeoffice -> num\_children\_in\_household  
frequency\_homeoffice -> political\_interest  
frequency\_homeoffice -> smoke\_before\_migraine  
frequency\_homeoffice -> working\_overtime  
gross\_hourly\_wage -> gender  
health\_insurance\_status -> age  
health\_insurance\_status -> employment\_status\_imp  
health\_insurance\_status -> hypertension\_before\_migraine  
health\_insurance\_status -> smoke  
health\_insurance\_status -> work\_time  
highest\_educational\_degree -> current\_monthly\_gross\_labor\_income  
highest\_educational\_degree -> gender  
highest\_educational\_degree -> gross\_hourly\_wage  
highest\_educational\_degree -> smoke  
hypertension -> hypertension\_before\_migraine  
hypertension -> hypertension\_before\_stroke  
hypertension -> migraine\_incidence  
hypertension -> num\_children\_in\_household  
hypertension -> smoke  
hypertension\_before\_migraine -> stroke\_incidence  
hypertension\_before\_stroke -> hypertension\_before\_migraine  
hypertension\_before\_stroke -> migraine\_incidence  
immigration\_history -> age  
immigration\_history -> age\_group\_at\_immigration  
immigration\_history -> alcohol\_consumption  
immigration\_history -> career\_sacrifices  
immigration\_history -> east\_german\_residence  
immigration\_history -> felt\_discriminated\_ethnic\_12mo  
immigration\_history -> leadership\_position  
immigration\_history -> num\_children\_in\_household  
immigration\_history -> political\_interest  
immigration\_history -> sex\_entry\_change  
leadership\_position -> alcohol\_consumption  
leadership\_position -> career\_sacrifices  
leadership\_position -> current\_monthly\_gross\_labor\_income  
leadership\_position -> frequency\_homeoffice  
leadership\_position -> highest\_educational\_degree  
leadership\_position -> political\_interest  
leadership\_position -> self\_esteem  
leadership\_position -> work\_time  
leadership\_position -> working\_overtime  
migraine -> migraine\_incidence  
migraine -> smoke\_before\_migraine  
migraine -> smoke\_before\_stroke  
migraine -> stroke\_incidence  
migraine\_incidence -> stroke\_incidence  
num\_children\_in\_household -> hypertension\_before\_stroke  
num\_children\_in\_household -> smoke\_before\_stroke  
num\_physician\_visits -> diabetes  
num\_physician\_visits -> employment\_status\_imp  
num\_physician\_visits -> gender  
num\_physician\_visits -> stroke  
partner -> age  
partner -> age\_group\_at\_immigration  
partner -> current\_life\_satisfaction\_scale  
partner -> current\_monthly\_gross\_labor\_income  
partner -> daily\_hours\_childcare\_weekdays  
partner -> daily\_hours\_housework\_weekdays  
partner -> health\_insurance\_status  
partner -> highest\_educational\_degree  
partner -> leadership\_position  
partner -> num\_children\_in\_household  
partner -> smoke  
partner -> working\_overtime  
political\_interest -> age  
political\_interest -> alcohol\_consumption  
political\_interest -> gender  
political\_interest -> highest\_educational\_degree  
political\_interest -> smoke  
refugee\_exp -> age\_group\_at\_immigration  
refugee\_exp -> alcohol\_consumption  
refugee\_exp -> east\_german\_residence  
refugee\_exp -> felt\_discriminated\_ethnic\_12mo  
refugee\_exp -> felt\_discriminated\_gender\_12mo  
refugee\_exp -> health\_insurance\_status  
refugee\_exp -> highest\_educational\_degree  
refugee\_exp -> migraine\_incidence  
refugee\_exp -> num\_children\_in\_household  
refugee\_exp -> risk\_taking\_scale  
refugee\_exp -> self\_esteem  
refugee\_exp -> sex\_entry\_change  
refugee\_exp -> using\_period\_of\_care  
risk\_taking\_driving\_scale -> age  
risk\_taking\_driving\_scale -> age\_group\_at\_immigration  
risk\_taking\_driving\_scale -> alcohol\_consumption  
risk\_taking\_driving\_scale -> employment\_status\_imp  
risk\_taking\_driving\_scale -> leadership\_position  
risk\_taking\_driving\_scale -> risk\_taking\_health\_scale  
risk\_taking\_driving\_scale -> work\_time  
risk\_taking\_health\_scale -> age  
risk\_taking\_health\_scale -> alcohol\_consumption  
risk\_taking\_health\_scale -> num\_physician\_visits  
risk\_taking\_health\_scale -> self\_esteem  
risk\_taking\_health\_scale -> smoke  
risk\_taking\_scale -> age  
risk\_taking\_scale -> age\_group\_at\_immigration  
risk\_taking\_scale -> current\_health  
risk\_taking\_scale -> current\_life\_satisfaction\_scale  
risk\_taking\_scale -> current\_monthly\_gross\_labor\_income  
risk\_taking\_scale -> daily\_hours\_housework\_weekdays  
risk\_taking\_scale -> gender  
risk\_taking\_scale -> leadership\_position  
risk\_taking\_scale -> risk\_taking\_driving\_scale  
risk\_taking\_scale -> risk\_taking\_health\_scale  
risk\_taking\_scale -> self\_esteem  
risk\_taking\_scale -> working\_overtime  
self\_esteem -> age\_group\_at\_immigration  
self\_esteem -> migraine\_incidence  
sex\_binary -> alcohol\_consumption  
sex\_binary -> current\_mat\_parent\_leave  
sex\_binary -> daily\_hours\_childcare\_weekdays  
sex\_binary -> daily\_hours\_housework\_weekdays  
sex\_binary -> diabetes  
sex\_binary -> felt\_discriminated\_ethnic\_12mo  
sex\_binary -> felt\_discriminated\_gender\_12mo  
sex\_binary -> gender  
sex\_binary -> gross\_hourly\_wage  
sex\_binary -> migraine\_incidence  
sex\_binary -> refugee\_exp  
sex\_binary -> risk\_taking\_driving\_scale  
sex\_binary -> risk\_taking\_health\_scale  
sex\_binary -> self\_esteem  
sex\_binary -> stroke\_incidence  
sex\_binary -> work\_time  
sex\_entry\_change -> alcohol\_consumption  
sex\_entry\_change -> daily\_hours\_housework\_weekdays  
sex\_entry\_change -> diabetes\_before\_stroke  
sex\_entry\_change -> employment\_status\_imp  
sex\_entry\_change -> felt\_discriminated\_ethnic\_12mo  
sex\_entry\_change -> felt\_discriminated\_gender\_12mo  
sex\_entry\_change -> migraine  
sex\_entry\_change -> num\_children\_in\_household  
sex\_entry\_change -> risk\_taking\_scale  
sex\_entry\_change -> smoke\_before\_migraine  
sex\_entry\_change -> smoke\_before\_stroke  
sex\_or -> age  
sex\_or -> felt\_discriminated\_ethnic\_12mo  
sex\_or -> felt\_discriminated\_gender\_12mo  
sex\_or -> frequency\_homeoffice  
sex\_or -> migraine  
sex\_or -> num\_children\_in\_household  
sex\_or -> num\_physician\_visits  
sex\_or -> partner  
sex\_or -> political\_interest  
sex\_or -> risk\_taking\_health\_scale  
sex\_or -> self\_esteem  
sex\_or -> smoke  
smoke -> smoke\_before\_migraine  
smoke -> smoke\_before\_stroke  
smoke\_before\_migraine -> migraine\_incidence  
smoke\_before\_migraine -> stroke\_incidence  
smoke\_before\_stroke -> migraine\_incidence  
smoke\_before\_stroke -> smoke\_before\_migraine  
smoke\_before\_stroke -> stroke\_incidence  
stroke -> diabetes\_before\_stroke  
stroke -> migraine\_incidence  
stroke -> smoke\_before\_migraine  
stroke -> smoke\_before\_stroke  
stroke -> stroke\_incidence  
using\_period\_of\_care -> age\_group\_at\_immigration  
using\_period\_of\_care -> alcohol\_consumption  
using\_period\_of\_care -> current\_life\_satisfaction\_scale  
using\_period\_of\_care -> daily\_hours\_housework\_weekdays  
using\_period\_of\_care -> employment\_status\_imp  
using\_period\_of\_care -> gender  
using\_period\_of\_care -> work\_time  
using\_period\_of\_care -> worried\_health  
work\_time -> gross\_hourly\_wage  
work\_time -> smoke  
working\_overtime -> alcohol\_consumption  
working\_overtime -> career\_sacrifices  
working\_overtime -> current\_monthly\_gross\_labor\_income  
working\_overtime -> employment\_status\_imp  
working\_overtime -> health\_insurance\_status  
working\_overtime -> stroke\_incidence  
working\_overtime -> work\_time  
worried\_health -> career\_sacrifices  
worried\_health -> current\_life\_satisfaction\_scale  
worried\_health -> diabetes  
worried\_health -> num\_physician\_visits  
worried\_health -> stroke\_incidence  
worried\_health -> worried\_pension  
worried\_pension -> age  
worried\_pension -> alcohol\_consumption  
worried\_pension -> career\_sacrifices  
worried\_pension -> current\_life\_satisfaction\_scale  
worried\_pension -> current\_monthly\_gross\_labor\_income  
worried\_pension -> employment\_status\_imp  
worried\_pension -> health\_insurance\_status  
worried\_pension -> migraine  
worried\_pension -> self\_esteem  
worried\_pension -> smoke  
}

## Causal Discovery: Categorical Raw Data

[1] "DAG (flexCItwd)"

dag {  
age  
age\_group\_at\_immigration  
alcohol\_consumption  
career\_sacrifices  
current\_health  
current\_life\_satisfaction\_scale  
current\_mat\_parent\_leave  
current\_monthly\_gross\_labor\_income  
daily\_hours\_childcare\_weekdays  
daily\_hours\_housework\_weekdays  
diabetes  
diabetes\_before\_migraine  
diabetes\_before\_stroke  
east\_german\_residence  
employment\_status\_imp  
felt\_discriminated\_ethnic\_12mo  
felt\_discriminated\_gender\_12mo  
frequency\_homeoffice  
gender  
gross\_hourly\_wage  
health\_insurance\_status  
highest\_educational\_degree  
hypertension  
hypertension\_before\_migraine  
hypertension\_before\_stroke  
immigration\_history  
leadership\_position  
migraine  
migraine\_incidence  
num\_children\_in\_household  
num\_physician\_visits  
partner  
political\_interest  
refugee\_exp  
risk\_taking\_driving\_scale  
risk\_taking\_health\_scale  
risk\_taking\_scale  
self\_esteem  
sex\_binary  
sex\_entry\_change  
sex\_or  
smoke  
smoke\_before\_migraine  
smoke\_before\_stroke  
stroke  
stroke\_incidence  
using\_period\_of\_care  
work\_time  
working\_overtime  
worried\_health  
worried\_pension  
age -> num\_children\_in\_household  
alcohol\_consumption -> current\_monthly\_gross\_labor\_income  
career\_sacrifices -> work\_time  
current\_health -> gross\_hourly\_wage  
current\_health -> self\_esteem  
current\_life\_satisfaction\_scale -> current\_health  
current\_life\_satisfaction\_scale -> self\_esteem  
current\_life\_satisfaction\_scale -> smoke  
current\_monthly\_gross\_labor\_income -> gender  
current\_monthly\_gross\_labor\_income -> gross\_hourly\_wage  
current\_monthly\_gross\_labor\_income -> hypertension\_before\_migraine  
current\_monthly\_gross\_labor\_income -> smoke  
current\_monthly\_gross\_labor\_income -> work\_time  
daily\_hours\_housework\_weekdays -> current\_health  
daily\_hours\_housework\_weekdays -> health\_insurance\_status  
daily\_hours\_housework\_weekdays -> num\_children\_in\_household  
daily\_hours\_housework\_weekdays -> worried\_pension  
diabetes\_before\_migraine -- diabetes\_before\_stroke  
diabetes\_before\_migraine -> hypertension\_before\_migraine  
east\_german\_residence -> career\_sacrifices  
employment\_status\_imp -> health\_insurance\_status  
felt\_discriminated\_gender\_12mo -> sex\_binary  
frequency\_homeoffice -> risk\_taking\_health\_scale  
health\_insurance\_status -> age  
health\_insurance\_status -> gross\_hourly\_wage  
health\_insurance\_status -> work\_time  
hypertension -- hypertension\_before\_stroke  
hypertension -> hypertension\_before\_migraine  
hypertension\_before\_stroke -> hypertension\_before\_migraine  
immigration\_history -> age  
immigration\_history -> age\_group\_at\_immigration  
leadership\_position -> current\_monthly\_gross\_labor\_income  
leadership\_position -> work\_time  
migraine -- migraine\_incidence  
num\_physician\_visits -> current\_health  
partner -> current\_monthly\_gross\_labor\_income  
political\_interest -> gross\_hourly\_wage  
political\_interest -> self\_esteem  
refugee\_exp -> age\_group\_at\_immigration  
risk\_taking\_driving\_scale -> leadership\_position  
risk\_taking\_driving\_scale -> risk\_taking\_health\_scale  
risk\_taking\_driving\_scale -> smoke  
risk\_taking\_health\_scale -> smoke  
risk\_taking\_health\_scale -> worried\_health  
risk\_taking\_scale -> alcohol\_consumption  
risk\_taking\_scale -> current\_life\_satisfaction\_scale  
risk\_taking\_scale -> gender  
risk\_taking\_scale -> political\_interest  
risk\_taking\_scale -> risk\_taking\_driving\_scale  
risk\_taking\_scale -> risk\_taking\_health\_scale  
risk\_taking\_scale -> smoke  
sex\_binary -> current\_monthly\_gross\_labor\_income  
sex\_or -> num\_children\_in\_household  
smoke\_before\_migraine -- smoke\_before\_stroke  
smoke\_before\_stroke -> smoke  
stroke -- stroke\_incidence  
work\_time -> gender  
working\_overtime -> career\_sacrifices  
worried\_health -> current\_monthly\_gross\_labor\_income  
worried\_health -> gross\_hourly\_wage  
worried\_pension -> current\_life\_satisfaction\_scale  
worried\_pension -> worried\_health  
}

## Done

Time difference of 7.117904 hours