****

*Syntax protocol.

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***Article: Psychological work climate of researchers: Gender, Nationality and their Interaction with Career Level and Care for Children in a large German Research Organization**

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***For this analysis, the file „20191218_MPG Work Culture_FhG Version.sav" is used:**
***This dataset is already cleaned for cases with contradictional answer behavior and is filtered according to the rule „(groupatmo1 > 0) | (groupatmo2 > 0) | (leadstyle1 > 0) | (mentor > 0) | (bully1 > 0)".**
***The filter rule means that this data set only contains cases in which at least 3 items of the listed construct variables are answered.**

```
GET
  FILE='C:\Users\striebin\OneDrive - Fraunhofer\Desktop\2021 Edt
Collection\20191218_MPG Work Culture_FhG Version.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
```

***In this step, the dependent construct variables that opertionalize work climate are created.**

```
COMPUTE
groupatmo1=MEAN.3(groupatmo1_1,groupatmo1_2,groupatmo1_3,groupatmo1_4,group
atmo1_5).
VARIABLE LABELS  groupatmo1 'Vision of a group, its clearness and
relevance'.
COMPUTE groupatmo2=MEAN.3(groupatmo2_1,groupatmo2_2,groupatmo2_3).
VARIABLE LABELS  groupatmo2 'Task orientation of a group'.
COMPUTE
groupatmo3=MEAN.3(groupatmo3_1,groupatmo3_2,groupatmo3_3,groupatmo3_4).
VARIABLE LABELS  groupatmo3 'Participation safety of a group'.
COMPUTE groupatmo4=MEAN.3(groupatmo4_1,groupatmo4_2,groupatmo4_3).
VARIABLE LABELS  groupatmo4 'Support of innovation of a group'.
COMPUTE leadstyle1=MEAN.3(leadstyle1_1,
leadstyle1_2,leadstyle1_3,leadstyle1_4,leadstyle1_5).
VARIABLE LABELS  leadstyle1 'Employee-orientation of a leader'.
COMPUTE leadstyle2=MEAN.3(leadstyle2_1,
leadstyle2_2,leadstyle2_3,leadstyle2_4,leadstyle2_5).
VARIABLE LABELS  leadstyle2 'Change-orientation of a leader'.
COMPUTE leadstyle3=MEAN.3(leadstyle3_1,
leadstyle3_2,leadstyle3_3,leadstyle3_4,leadstyle3_5).
VARIABLE LABELS  leadstyle3 'Structure-orientation of a leader'.
COMPUTE mentor=MEAN.3(mentor1,mentor2,mentor3,mentor4,mentor5).
VARIABLE LABELS  mentor 'Support of a leader as a mentor'.
VARIABLE LEVEL groupatmo1 groupatmo2 groupatmo3 groupatmo4 leadstyle1
leadstyle2 leadstyle3 mentor (SCALE).
```

***The dependent construct variables are merged into two main constructs.**

```
COMPUTE groupclimate=MEAN(groupatmo1,groupatmo2,groupatmo3,groupatmo4).
VARIABLE LABELS  groupclimate 'Group climate'.
COMPUTE leadclimate=MEAN(leadstyle1, leadstyle2, leadstyle3, mentor).
VARIABLE LABELS  leadclimate 'Perception of leader'.
```

***In this step, independent, control and filter variables are created. The created variables are recoded in some cases to adjust reference groups of the regression analysis.**

***Computing a variable nationality.**

```
IF (Code43_SQ001 EQ 1) nationality = 1.
IF (Code43_SQ002 EQ 1) nationality = 2.
IF (Code43_SQ003 EQ 1) nationality = 3.
IF (SUM(Code43_SQ001, Code43_SQ002, Code43_SQ003) EQ 2) nationality = 4.
IF (SUM(Code43_SQ001, Code43_SQ002, Code43_SQ003) EQ 3) nationality = 5.
IF (SUM(Code43_SQ001, Code43_SQ002, Code43_SQ003) EQ 0) nationality = 9.
VARIABLE LABELS  nationality 'Nationality'.
VALUE LABELS nationality
1 "German"
2 "Other EU country"
3 "Non-EU country"
4 "Two nationalities"
5 "Three nationalities (invalid)"
9 "No nationality (missing)".
MISSING VALUES nationality ('  ', 4 thru hi).
VARIABLE LEVEL nationality (NOMINAL).

RECODE nationality (1=3) (2=1) (3=2).
VALUE LABELS nationality
1 "Other EU country"
2 "Non-EU country"
3 "German".
EXECUTE.
```

***Computing a variable scientific/nonscientific.**

```
IF (Code47_SQ001 EQ 1) scientific = 1.
IF (Code47_SQ002 EQ 1) scientific = 2.
IF (SUM(Code47_SQ001, Code47_SQ002) EQ 2) scientific = 3.
IF (SUM(Code47_SQ001, Code47_SQ002) EQ 0) scientific = 9.
VARIABLE LABELS scientific 'Scientific or non-scientific staff with
employment contract'.
VALUE LABELS scientific
1 "Non-scientific staff"
2 "Scientific staff"
3 "Scientific and non-scientific"
9 "No status determined (missing)".
MISSING VALUES scientific ('  ', 3, 9).
VARIABLE LEVEL scientific (NOMINAL).
```

***Computing a variable scientific position.**

```
IF (Code48b_001 EQ 1) sciencestaff = 1.
IF (Code48b_003 EQ 1) sciencestaff = 2.
IF (Code48b_004 EQ 1) sciencestaff = 3.
IF (Code48b_005 EQ 1) sciencestaff = 4.
IF (Code48b_006 EQ 1) sciencestaff = 5.
IF (Code48c_SQ001 EQ 1) sciencestaff = 6.
IF (Code48c_SQ002 EQ 1) sciencestaff = 7.
IF (Code48c_SQ003 EQ 1) sciencestaff = 8.
IF (SUM(Code48b_001, Code48b_003, Code48b_004, Code48b_005, Code48b_006,
Code48c_SQ001, Code48c_SQ002, Code48c_SQ003) EQ 2) sciencestaff = 9.
IF (SUM(Code48b_001, Code48b_003, Code48b_004, Code48b_005, Code48b_006,
Code48c_SQ001, Code48c_SQ002, Code48c_SQ003) GE 3) sciencestaff = 10.
IF (SUM(Code48b_001, Code48b_003, Code48b_004, Code48b_005, Code48b_006,
Code48c_SQ001, Code48c_SQ002, Code48c_SQ003) GE 2) sciencestaff = 11.
VARIABLE LABELS sciencestaff 'Position of scientific staff'.
```

```
VALUE LABELS sciencestaff
1 "Director, research group leader employed"
2 "Doctoral candidate employed"
3 "Postdoc employed"
4 "Other research associates employed"
5 "Student assistant/graduate assistant, trainee, intern employed"
6 "Doctoral candidate funded"
7 "Postdoc funded and other research scholarship holders"
8 "Research scholarship holder, IMPRS scholarship holder"
9 "Two positions"
10 "Three positions and more (invalid)"
11 "No position determined (missing)".
MISSING VALUES sciencestaff ('  ', 9 thru hi).
VARIABLE LEVEL sciencestaff (NOMINAL).
```

*** Computing a variable simplified position.**

```
IF (Code48b_001 EQ 1) sciencestaff_short = 1.
IF (Code48b_003 EQ 1) sciencestaff_short = 2.
IF (Code48b_004 EQ 1) sciencestaff_short = 3.
IF (Code48b_005 EQ 1) sciencestaff_short = 4.
IF (Code48c_SQ001 EQ 1) sciencestaff_short = 2.
IF (Code48c_SQ002 EQ 1) sciencestaff_short = 3.
IF (Code48c_SQ003 EQ 1) sciencestaff_short = 2.
IF (SUM(Code48b_001, Code48b_003, Code48b_004, Code48b_005, Code48b_006,
Code48c_SQ001, Code48c_SQ002, Code48c_SQ003) EQ 2) sciencestaff_short = 6.
IF (SUM(Code48b_001, Code48b_003, Code48b_004, Code48b_005, Code48b_006,
Code48c_SQ001, Code48c_SQ002, Code48c_SQ003) GE 3) sciencestaff_short = 7.
IF (SUM(Code48b_001, Code48b_003, Code48b_004, Code48b_005, Code48b_006,
Code48c_SQ001, Code48c_SQ002, Code48c_SQ003) GE 2) sciencestaff_short = 9.
VARIABLE LABELS sciencestaff_short 'Simplified Position of scientific staff
(PhDs employed and funded and IMPRS, Postdocs employed and funded)'.
VALUE LABELS sciencestaff_short
1 "Director, research group leader"
2 "Doctoral candidate"
3 "Postdoc"
4 "Other research associates employed"
6 "Two positions"
7 "Three positions and more (invalid)"
9 "No relevant position determined (missing)".
MISSING VALUES sciencestaff_short ('  ', 6 thru hi).
VARIABLE LEVEL sciencestaff_short (NOMINAL).

RECODE sciencestaff_short (1=1) (2=4) (3=2) (4=3).
VALUE LABELS sciencestaff_short
1 "Director, research group leader"
2 "Postdoc"
3 "Other research associates employed"
4 "Doctoral candidate".
EXECUTE.
```

***Computing a variable childrenbelow18.**

```
IF (Code36 EQ 1) childrenbelow18 = 0.
IF (Code36 EQ 0) childrenbelow18 = 1.
IF (Code35 EQ 0) childrenbelow18 = 1.
VARIABLE LABELS childrenbelow18 'Children below 18 living in the same
household'.
VALUE LABELS childrenbelow18
0 "yes"
1 "no".
MISSING VALUES childrenbelow18 ('  ').
VARIABLE LEVEL childrenbelow18 (NOMINAL).
```

***Setting value 3 „No answer / Other gender" to missing.**

```
MISSING VALUES Code42 ('  ', 3).
```

***Setting filter on scientific employees.**

```
USE ALL.
COMPUTE filter_$=(scientific = 2).
VARIABLE LABELS filter_$ 'scientific = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
```

***Calculating Cronbach's Alpha for dependent variables (table 2).**

```
RELIABILITY
  /VARIABLES=groupatmo1_1 groupatmo1_2 groupatmo1_3 groupatmo1_4
groupatmo1_5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=groupatmo2_1 groupatmo2_2 groupatmo2_3
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=groupatmo3_1 groupatmo3_2 groupatmo3_3 groupatmo3_4
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=groupatmo4_1 groupatmo4_2 groupatmo4_3
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=groupatmo1 groupatmo2 groupatmo3 groupatmo4
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=leadstyle1_1 leadstyle1_2 leadstyle1_3 leadstyle1_4
leadstyle1_5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=leadstyle2_1 leadstyle2_2 leadstyle2_3 leadstyle2_4
leadstyle2_5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=leadstyle3_1 leadstyle3_2 leadstyle3_3 leadstyle3_4
leadstyle3_5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=mentor1 mentor2 mentor3 mentor4 mentor5
```

```
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
RELIABILITY
  /VARIABLES=leadstyle1 leadstyle2 leadstyle3 mentor
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
```

***Cross-tabulation of nationality and section (section „Independent variables").**

```
CROSSTABS
  /TABLES=section BY nationality
  /FORMAT=AVALUE TABLES
  /STATISTICS=PHI CHISQ
  /CELLS=COUNT COLUMN
  /COUNT ROUND CELL.
```

***Generalized Linear Models for group climate.**

```
GENLIN groupclimate BY Code42 nationality childrenbelow18 sciencestaff_short
(ORDER=ASCENDING)
  /MODEL Code42 nationality childrenbelow18 sciencestaff_short Code42*nationality
    Code42*childrenbelow18 Code42*sciencestaff_short INTERCEPT=YES
 DISTRIBUTION=NORMAL LINK=IDENTITY
  /CRITERIA SCALE=MLE COVB=ROBUST PCONVERGE=1E-006(ABSOLUTE) SINGULAR=1E-012
ANALYSISTYPE=3(WALD)
    CILEVEL=95 CITYPE=WALD LIKELIHOOD=FULL
  /EMMEANS TABLES=Code42 SCALE=ORIGINAL COMPARE=Code42 CONTRAST=PAIRWISE
PADJUST=LSD
  /EMMEANS TABLES=nationality SCALE=ORIGINAL COMPARE=nationality CONTRAST=PAIRWISE
PADJUST=LSD
  /EMMEANS TABLES=childrenbelow18 SCALE=ORIGINAL COMPARE=childrenbelow18
CONTRAST=PAIRWISE
    PADJUST=LSD
  /EMMEANS TABLES=sciencestaff_short SCALE=ORIGINAL COMPARE=sciencestaff_short
CONTRAST=PAIRWISE
    PADJUST=LSD
  /EMMEANS TABLES=Code42*nationality SCALE=ORIGINAL COMPARE=Code42*nationality
CONTRAST=PAIRWISE
    PADJUST=LSD
  /EMMEANS TABLES=Code42*childrenbelow18 SCALE=ORIGINAL
COMPARE=Code42*childrenbelow18
    CONTRAST=PAIRWISE PADJUST=LSD
  /EMMEANS TABLES=Code42*sciencestaff_short SCALE=ORIGINAL
COMPARE=Code42*sciencestaff_short
    CONTRAST=PAIRWISE PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /PRINT CPS DESCRIPTIVES SUMMARY SOLUTION CORB.

MISSING VALUES sciencestaff_short (1, 6 thru hi).
EXECUTE.
```

*** Generalized Linear Model für perception of leader.**

```
GENLIN leadclimate BY Code42 nationality childrenbelow18 sciencestaff_short
(ORDER=ASCENDING)
  /MODEL Code42 nationality childrenbelow18 sciencestaff_short Code42*nationality
    Code42*childrenbelow18 Code42*sciencestaff_short INTERCEPT=YES
 DISTRIBUTION=NORMAL LINK=IDENTITY
  /CRITERIA SCALE=MLE COVB=ROBUST PCONVERGE=1E-006(ABSOLUTE) SINGULAR=1E-012
ANALYSISTYPE=3(WALD)
    CILEVEL=95 CITYPE=WALD LIKELIHOOD=FULL
  /EMMEANS TABLES=Code42 SCALE=ORIGINAL COMPARE=Code42 CONTRAST=PAIRWISE
PADJUST=LSD
```

```
  /EMMEANS TABLES=nationality SCALE=ORIGINAL COMPARE=nationality CONTRAST=PAIRWISE
PADJUST=LSD
  /EMMEANS TABLES=childrenbelow18 SCALE=ORIGINAL COMPARE=childrenbelow18
CONTRAST=PAIRWISE
    PADJUST=LSD
  /EMMEANS TABLES=sciencestaff_short SCALE=ORIGINAL COMPARE=sciencestaff_short
CONTRAST=PAIRWISE
    PADJUST=LSD
  /EMMEANS TABLES=Code42*nationality SCALE=ORIGINAL COMPARE=Code42*nationality
CONTRAST=PAIRWISE
    PADJUST=LSD
  /EMMEANS TABLES=Code42*childrenbelow18 SCALE=ORIGINAL
COMPARE=Code42*childrenbelow18
    CONTRAST=PAIRWISE PADJUST=LSD
  /EMMEANS TABLES=Code42*sciencestaff_short SCALE=ORIGINAL
COMPARE=Code42*sciencestaff_short
    CONTRAST=PAIRWISE PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /PRINT CPS DESCRIPTIVES SUMMARY SOLUTION CORB.
```