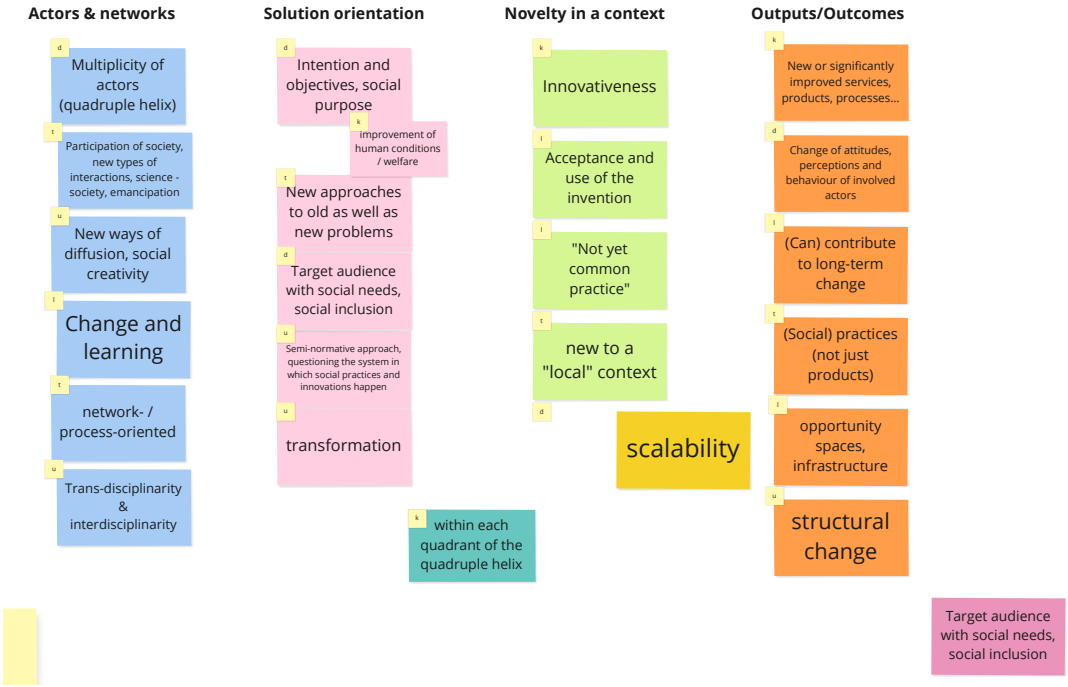
Model_Description

2022-05-11

SI-Characteristics

The following were the initial SI-Characteristics decided through preliminary research and discussion rounds:



SI Characteristics

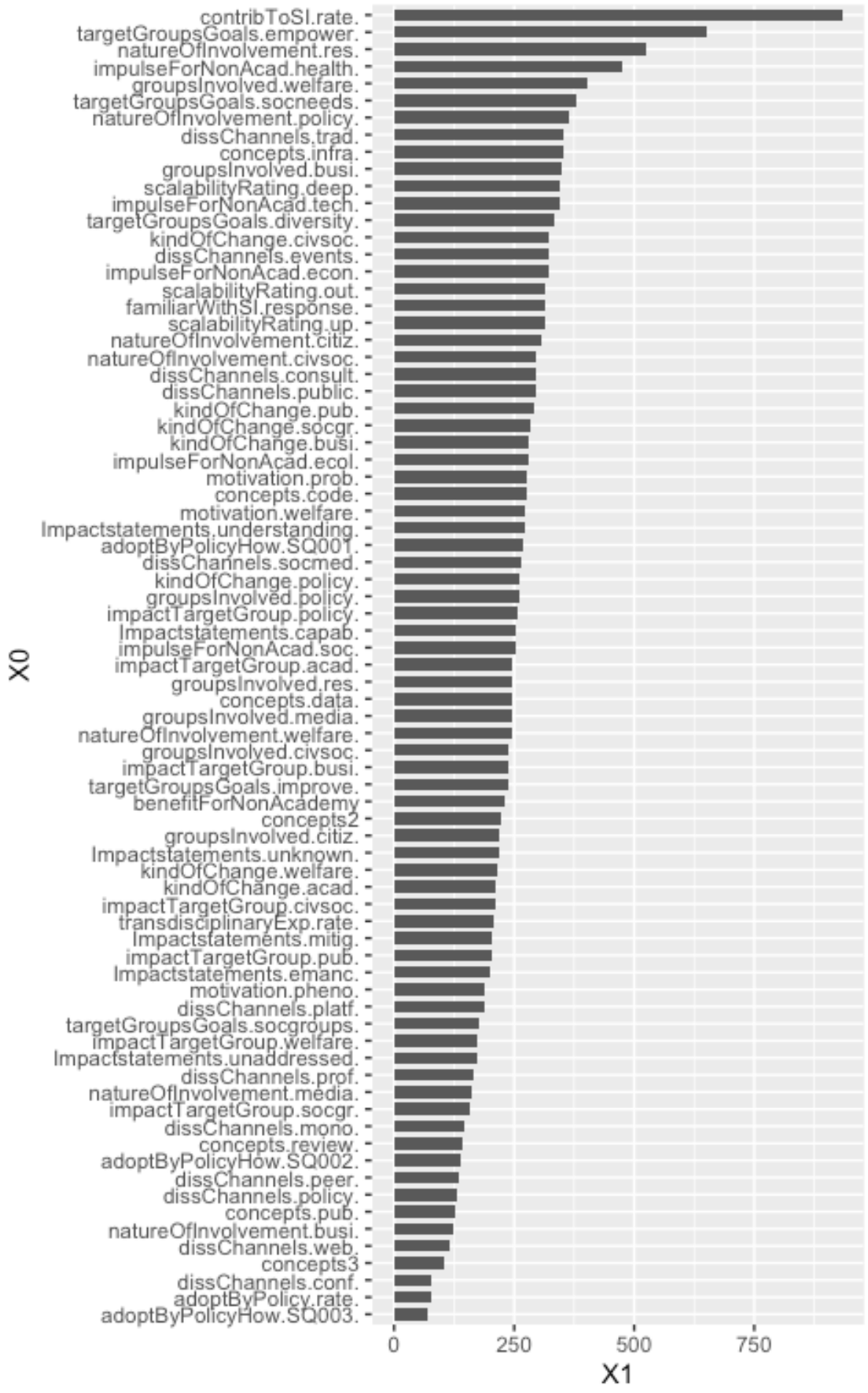
Variable Preprocessing

The elimination of the variables relied on 2 different type of considerations:

- Elimination by Principal Feature Analysis
- Explained Variance

Principal Feature Analysis

After the 1000 iterations of PFA, the following are the frequency of each variable being in the “significant” variables list:


contribToSI.rate.
targetGroupsGoals.empower.
natureOfInvolvement.res.
impulseForNonAcad.health.
groupsInvolved.welfare.
targetGroupsGoals.socneeds.
natureOfInvolvement.policy.
dissChannels.trad.
concepts.infra.
groupsInvolved.busi.
scalabilityRating.deep.
impulseForNonAcad.tech.
targetGroupsGoals.diversity.
kindOfChange.civsoc.
dissChannels.events.
impulseForNonAcad.econ.
scalabilityRating.out.
familiarWithSI.response.
scalabilityRating.up.
natureOfInvolvement.citiz.
natureOfInvolvement.civsoc.
dissChannels.consult.
dissChannels.public.
kindOfChange.pub.
kindOfChange.socgr.
kindOfChange.busi.
impulseForNonAcad.ecol.
motivation.prob.
concepts.code.
motivation.welfare.
Impactstatements.understanding.
adoptByPolicyHow.SQ001.
dissChannels.socmed.
kindOfChange.policy.
groupsInvolved.policy.
impactTargetGroup.policy.
Impactstatements.capab.
impulseForNonAcad.soc.
impactTargetGroup.acad.
groupsInvolved.res.
concepts.data.
groupsInvolved.media.
natureOfInvolvement.welfare.
groupsInvolved.civsoc.
impactTargetGroup.busi.
targetGroupsGoals.improve.
benefitForNonAcademy
concepts2
groupsInvolved.citiz.
Impactstatements.unknown.
kindOfChange.welfare.
kindOfChange.acad.
impactTargetGroup.civsoc.
transdisciplinaryExp.rate.
Impactstatements.mitig.
impactTargetGroup.pub.
Impactstatements.emanc.
motivation.pheno.
dissChannels.platf.
targetGroupsGoals.socgroups.
impactTargetGroup.welfare.
Impactstatements.unaddressed.
dissChannels.prof.
natureOfInvolvement.media.
impactTargetGroup.socgr.
dissChannels.mono.
concepts.review.
adoptByPolicyHow.SQ002.
dissChannels.peer.
dissChannels.policy.
concepts.pub.
natureOfInvolvement.busi.
dissChannels.web.
concepts3
dissChannels.conf.
adoptByPolicy.rate.
adoptByPolicyHow.SQ003.
X0
0
250
500
750
X1

Removed Features

Note: Some of the features have been kept despite being rated low importance by PFA

Eliminated Variables

* Dissemination related Variables

* Policy Adoption related variables

* If specific concepts like open access, open data/code ... considered in the project

* Did your project aimed to impact policy-making (not enough variance)

* How were the proj. results taken up by the policy makers

* Interdisciplinary aspects (not something we wanted to measure)

* SI-rate (self assesment), a control variable

Full list:

"dissChannels.platf." "dissChannels.prof."
"dissChannels.mono." "concepts.review."
"adoptByPolicyHow.SQ002." "dissChannels.peer."
"dissChannels.policy." "concepts.pub."
"natureOfInvolvement.busi." "dissChannels.web."
"concepts3" "dissChannels.conf."
"adoptByPolicy.rate." "adoptByPolicyHow.SQ003."
"dissChannels.trad." "dissChannels.socmed."
"dissChannels.consult." "dissChannels.events."
"dissChannels.public." "concepts.data."
"concepts.code." "concepts.infra."
"contribToSI.rate." "groupsInvolved.res."
"natureOfInvolvement.res." "contribToSI.rate."

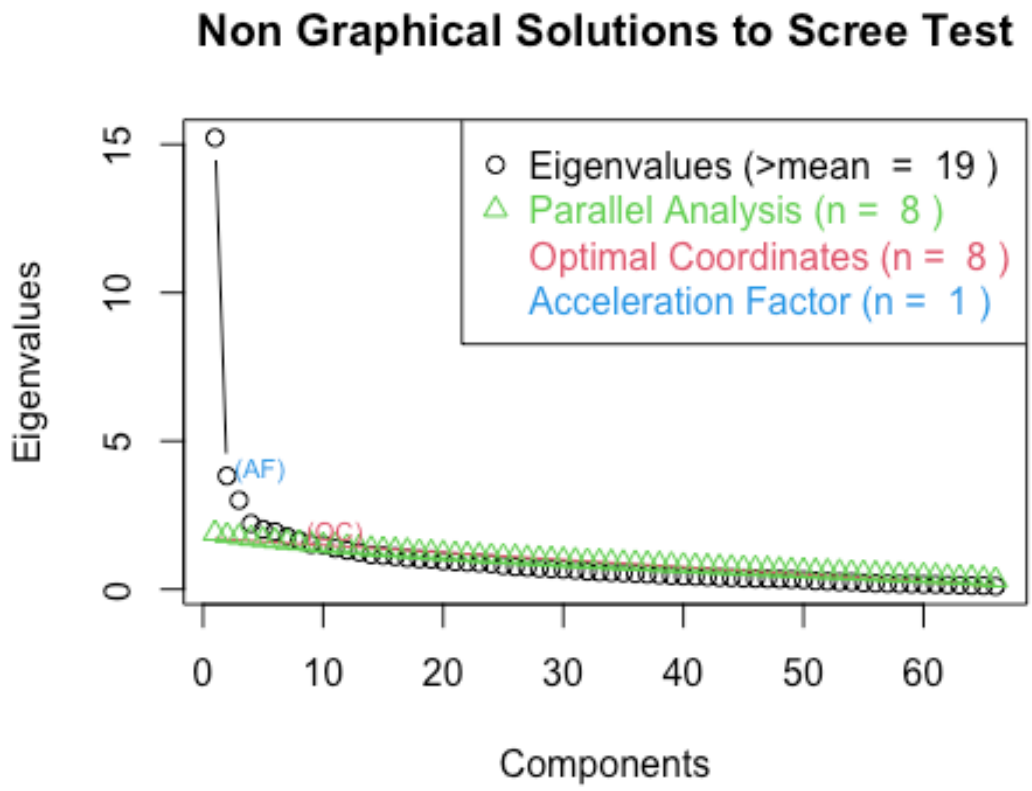
Removed Variables

Model Approach Considerations

Factor analysis

Scree Plot

Determine Number of Factors to Extract



The optimal number of factors is 8

Exploratory Factor Analysis

```
##
## Call:
## factanal(x = df_red, factors = 8, rotation = "varimax")
##
## Uniquenesses:
##      transdisciplinaryExp.rate.        familiarWithSI.response.
##                            0.75                            0.66
##               motivation.pheno.                motivation.prob.
##                            0.95                            0.90
##            motivation.welfare.            benefitForNonAcademy
##                            0.39                            0.32
##         impulseForNonAcad.soc.         impulseForNonAcad.econ.
##                            0.54                            0.77
##         impulseForNonAcad.ecol.       impulseForNonAcad.health.
##                            0.83                            0.63
##         impulseForNonAcad.tech.            groupsInvolved.busi.
##                            0.92                            0.25
##          groupsInvolved.civsoc.          groupsInvolved.policy.
##                            0.20                            0.24
##           groupsInvolved.citiz.           groupsInvolved.media.
```

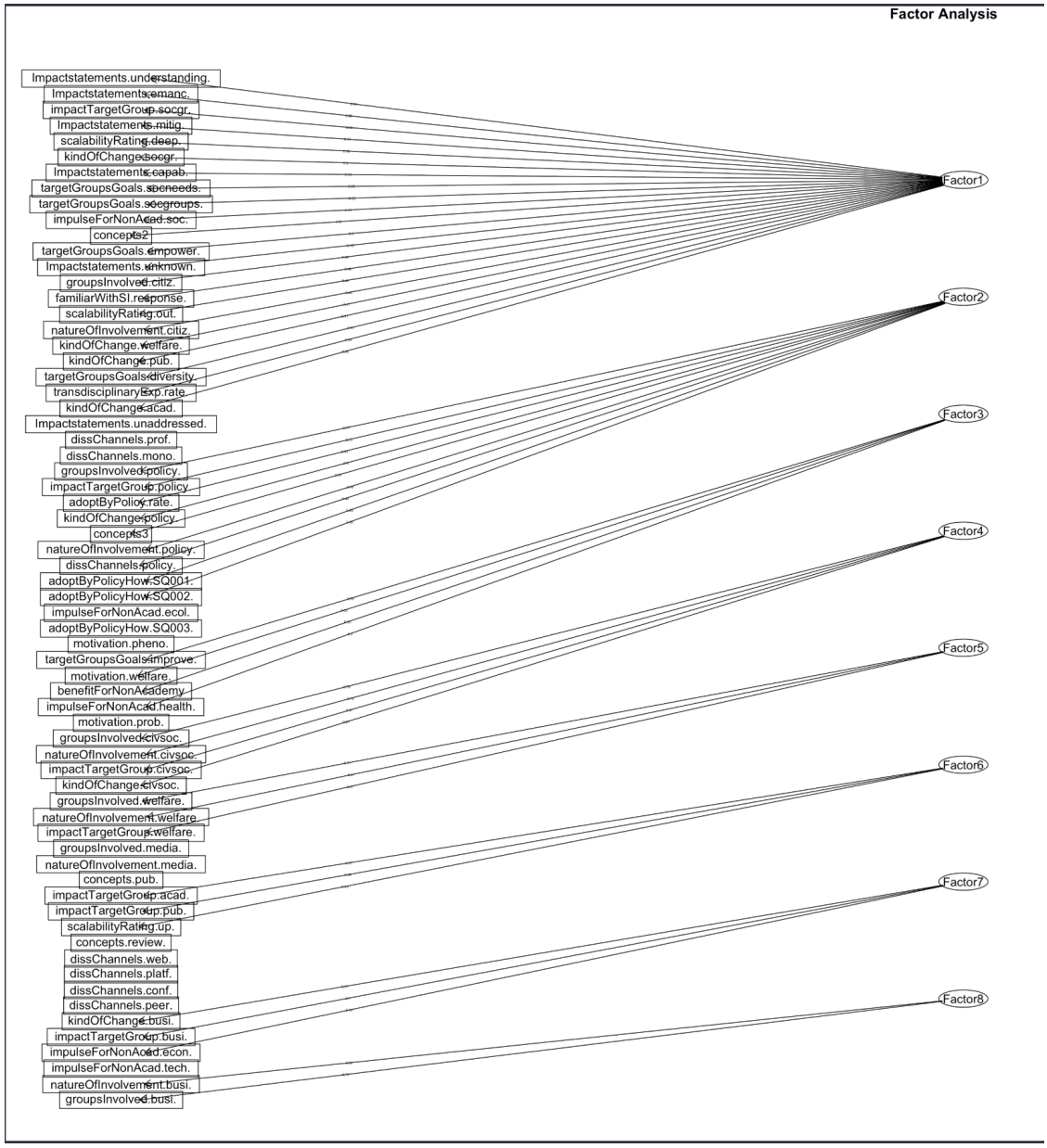
```
##                              0.52                              0.76
##         groupsInvolved.welfare.       natureOfInvolvement.busi.
##                              0.33                              0.19
##     natureOfInvolvement.civsoc.     natureOfInvolvement.policy.
##                              0.37                              0.60
##      natureOfInvolvement.citiz.      natureOfInvolvement.media.
##                              0.64                              0.90
##    natureOfInvolvement.welfare.     targetGroupsGoals.socneeds.
##                              0.43                              0.51
##    targetGroupsGoals.socgroups.      targetGroupsGoals.improve.
##                              0.57                              0.40
##      targetGroupsGoals.empower.    targetGroupsGoals.diversity.
##                              0.50                              0.64
##                   concepts.pub.                concepts.review.
##                              0.94                              0.88
##                        concepts2                         concepts3
##                              0.65                              0.52
##          impactTargetGroup.pub.         impactTargetGroup.busi.
##                              0.35                              0.22
##        impactTargetGroup.socgr.      impactTargetGroup.welfare.
##                              0.45                              0.45
##       impactTargetGroup.civsoc.       impactTargetGroup.policy.
##                              0.42                              0.27
##         impactTargetGroup.acad.               kindOfChange.pub.
##                              0.72                              0.66
##              kindOfChange.busi.             kindOfChange.socgr.
##                              0.34                              0.59
##           kindOfChange.welfare.            kindOfChange.civsoc.
##                              0.58                              0.65
##            kindOfChange.policy.              kindOfChange.acad.
##                              0.47                              0.76
##             adoptByPolicy.rate.         adoptByPolicyHow.SQ001.
##                              0.36                              0.75
##         adoptByPolicyHow.SQ002.         adoptByPolicyHow.SQ003.
##                              0.82                              0.88
##         Impactstatements.capab.         Impactstatements.emanc.
##                              0.45                              0.42
## Impactstatements.understanding.         Impactstatements.mitig.
##                              0.44                              0.44
##       Impactstatements.unknown.   Impactstatements.unaddressed.
##                              0.62                              0.80
##              dissChannels.peer.              dissChannels.mono.
##                              0.96                              0.83
##              dissChannels.conf.            dissChannels.policy.
##                              0.97                              0.75
##              dissChannels.prof.               dissChannels.web.
##                              0.75                              0.92
##             dissChannels.platf.           scalabilityRating.up.
##                              0.96                              0.45
##          scalabilityRating.out.         scalabilityRating.deep.
```

```
##                                0.43                                0.33
##
## Loadings:
##                                Factor1 Factor2 Factor3 Factor4 Factor5
Factor6
## impulseForNonAcad.soc.          0.53
## targetGroupsGoals.socneeds.     0.55
## targetGroupsGoals.socgroups.    0.55
## concepts2                       0.50
## impactTargetGroup.socgr.        0.65
## kindOfChange.socgr.             0.60
## Impactstatements.capab.         0.55
## Impactstatements.emanc.         0.65
## Impactstatements.understanding. 0.66   0.32
## Impactstatements.mitig.         0.63   0.32
## scalabilityRating.deep.         0.62   0.38
0.30
## groupsInvolved.policy.                 0.77
## concepts3                              0.57
## impactTargetGroup.policy.       0.34   0.72
## kindOfChange.policy.            0.38   0.60
## adoptByPolicy.rate.             0.35   0.69
## motivation.welfare.             0.37          0.65
## benefitForNonAcademy            0.37          0.65
## impulseForNonAcad.health.                     0.50
## targetGroupsGoals.improve.                    0.69
## groupsInvolved.civsoc.          0.30                 0.78
## natureOfInvolvement.civsoc.                          0.75
## impactTargetGroup.civsoc.       0.40   0.33          0.51
## groupsInvolved.welfare.         0.30                        0.71
## natureOfInvolvement.welfare.    0.39                        0.61
## impactTargetGroup.busi.
0.38
## kindOfChange.busi.
## groupsInvolved.busi.
## natureOfInvolvement.busi.
## transdisciplinaryExp.rate.      0.38
## familiarWithSI.response.        0.46
## motivation.pheno.
## motivation.prob.
## impulseForNonAcad.econ.
## impulseForNonAcad.ecol.
## impulseForNonAcad.tech.
## groupsInvolved.citiz.           0.49                 0.35
## groupsInvolved.media.
## natureOfInvolvement.policy.            0.49
## natureOfInvolvement.citiz.      0.45                 0.34
## natureOfInvolvement.media.
## targetGroupsGoals.empower.      0.50
## targetGroupsGoals.diversity.    0.41
```

```
## concepts.pub.
## concepts.review.
## impactTargetGroup.pub.           0.37           0.41
0.44
## impactTargetGroup.welfare.       0.39                          0.41
0.37
## impactTargetGroup.acad.
0.47
## kindOfChange.pub.                0.41
## kindOfChange.welfare.            0.41                          0.41
## kindOfChange.civsoc.             0.34                  0.37
## kindOfChange.acad.               0.38
## adoptByPolicyHow.SQ001.                  0.39
## adoptByPolicyHow.SQ002.                  0.36
## adoptByPolicyHow.SQ003.
## Impactstatements.unknown.        0.49    0.32
## Impactstatements.unaddressed.
## dissChannels.peer.
## dissChannels.mono.
## dissChannels.conf.
## dissChannels.policy.                     0.44
## dissChannels.prof.
## dissChannels.web.
## dissChannels.platf.
## scalabilityRating.up.            0.34           0.33
0.43
## scalabilityRating.out.           0.46    0.37
0.36
##                                Factor7 Factor8
## impulseForNonAcad.soc.
## targetGroupsGoals.socneeds.
## targetGroupsGoals.socgroups.
## concepts2
## impactTargetGroup.socgr.
## kindOfChange.socgr.
## Impactstatements.capab.
## Impactstatements.emanc.
## Impactstatements.understanding.
## Impactstatements.mitig.
## scalabilityRating.deep.
## groupsInvolved.policy.
## concepts3
## impactTargetGroup.policy.
## kindOfChange.policy.
## adoptByPolicy.rate.
## motivation.welfare.
## benefitForNonAcademy
## impulseForNonAcad.health.
## targetGroupsGoals.improve.
## groupsInvolved.civsoc.
```

```
## natureOfInvolvement.civsoc.
## impactTargetGroup.civsoc.
## groupsInvolved.welfare.
## natureOfInvolvement.welfare.
## impactTargetGroup.busi.          0.70    0.31
## kindOfChange.busi.               0.77
## groupsInvolved.busi.                     0.79
## natureOfInvolvement.busi.                0.86
## transdisciplinaryExp.rate.
## familiarWithSI.response.
## motivation.pheno.
## motivation.prob.
## impulseForNonAcad.econ.          0.34
## impulseForNonAcad.ecol.
## impulseForNonAcad.tech.
## groupsInvolved.citiz.
## groupsInvolved.media.
## natureOfInvolvement.policy.
## natureOfInvolvement.citiz.
## natureOfInvolvement.media.
## targetGroupsGoals.empower.
## targetGroupsGoals.diversity.
## concepts.pub.
## concepts.review.
## impactTargetGroup.pub.
## impactTargetGroup.welfare.
## impactTargetGroup.acad.
## kindOfChange.pub.                0.30
## kindOfChange.welfare.
## kindOfChange.civsoc.
## kindOfChange.acad.
## adoptByPolicyHow.SQ001.
## adoptByPolicyHow.SQ002.
## adoptByPolicyHow.SQ003.
## Impactstatements.unknown.
## Impactstatements.unaddressed.
## dissChannels.peer.
## dissChannels.mono.
## dissChannels.conf.
## dissChannels.policy.
## dissChannels.prof.
## dissChannels.web.
## dissChannels.platf.
## scalabilityRating.up.
## scalabilityRating.out.
##
##                Factor1 Factor2 Factor3 Factor4 Factor5 Factor6 Factor7
Factor8
## SS loadings       8.37    5.15    2.68    2.57    2.29    2.10    1.98
1.89
```

```
## Proportion Var    0.13    0.08    0.04    0.04    0.03    0.03    0.03
0.03
## Cumulative Var    0.13    0.20    0.25    0.28    0.32    0.35    0.38
0.41
##
## Test of the hypothesis that 8 factors are sufficient.
## The chi square statistic is 3587.36 on 1645 degrees of freedom.
## The p-value is 6.28e-146
```

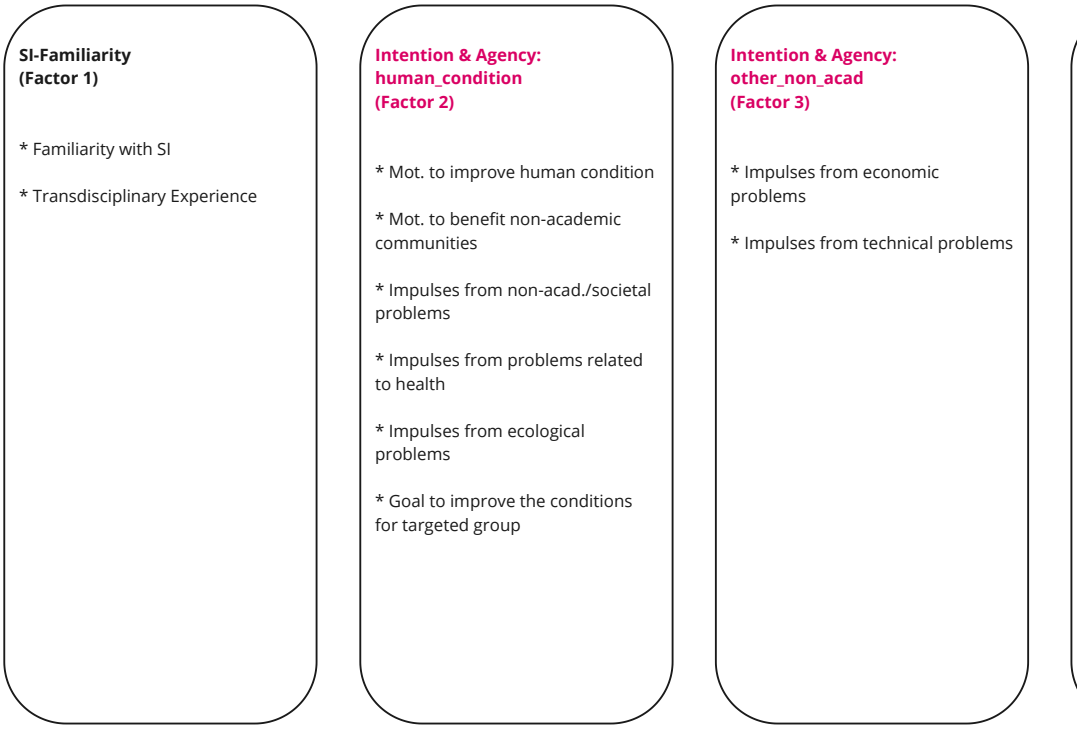


EFA Factors

Confirmatory Factory Analysis (Theory driven model)

The final model structure to be fed into the confirmatory factor analysis has been decided with the consideration of both the results of the exploratory factor analysis and the initial theory driven structure presented above.

Model structure:



Actors & Networks: transdisciplinary_aspects (Factor 4)

* Involved Groups: Citizens

* Involved Groups: Civil soc. orgs

* Involved Groups: Welfare org.

* Nature of involvement: Citizens

* Nature of involvement: CivSoc

* Nature of involvement: Welfare

* Goals related to target groups: Addres sepcific soc. needs

* Goals related to target groups: Specific scial groups

* Goals related to target groups: Empowering targeted groups

* Goals related to target groups: enabling more diversity

Outcome Orientation : public_outcome (Factor 5)

* Created impact towards (impactTargetGroup), Intended to bring change to (kindOfChange):: general population

* Created impact towards (impactTargetGroup), Intended to bring change to (kindOfChange):: specific social groups

* Created impact towards (impactTargetGroup), Intended to bring change to (kindOfChange):: welfare groups/orgs

* Created impact towards (impactTargetGroup), Intended to bring change to (kindOfChange): civil soc. organisations

Outcome Orientation : outcome_statement (Factor 6)

* Apply to your project: increased capabilities (of involved/targeted social groups)

* Apply to your project: played emancipatory role

* Apply to your project: created understanding

* Apply to your project: contributed to mitigation of a problem

* Apply to your project: addressed unknown issues

* Apply to your project: addressed unaddressed issues

MISC: Scalability
(Factor 7, to be removed?)

* Up-Scalability

* Deep-Scalability

* Out-Scalability

MISC: Business
(Factor 8)

* Involved groups: Business ...

* Crated impact towards: Business ...

* Intended to bring change to: business areas

Model evaluation:

```
## lavaan 0.6-11 ended normally after 247 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                       126
##
##   Number of observations                           361
##
## Model Test User Model:
##
##   Test statistic                              3688.183
##   Degrees of freedom                              909
##   P-value (Chi-square)                          0.000
```

```
##
## Model Test Baseline Model:
##
##   Test statistic                                 9363.946
##   Degrees of freedom                                 990
##   P-value                                          0.000
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                      0.668
##   Tucker-Lewis Index (TLI)                         0.639
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)                -21230.573
##   Loglikelihood unrestricted model (H1)        -19386.481
##
##   Akaike (AIC)                                  42713.145
##   Bayesian (BIC)                                43203.144
##   Sample-size adjusted Bayesian (BIC)           42803.405
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                            0.092
##   90 Percent confidence interval - lower           0.089
##   90 Percent confidence interval - upper           0.095
##   P-value RMSEA <= 0.05                            0.000
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                             0.086
##
## Parameter Estimates:
##
##   Standard errors                               Standard
##   Information                                   Expected
##   Information saturated (h1) model          Structured
##
## Latent Variables:
##                              Estimate  Std.Err  z-value  P(>|z|)   Std.lv
##   fam =~
##     fmlrWthSI.rsp.              1.000                               2.155
##     trnsdscplnrE..              0.772    0.096    8.024    0.000    1.663
##   ia_human_condition =~
##     motivatn.wlfr.              1.000                               2.567
##     benftFrNnAcdmy              0.263    0.017   15.427    0.000    0.674
##     implsFrNnAcd..              0.058    0.010    6.049    0.000    0.148
##     trgtGrpsGls.m.              0.149    0.011   14.051    0.000    0.382
##     implsFrNnAcd..              0.054    0.010    5.240    0.000    0.138
##     implsFrNnAcd..              0.002    0.008    0.305    0.760    0.006
```

```
##   ia_non_academic =~
##     implsFrNnAcd..               1.000                               NA
##     implsFrNnAcd..               0.371    0.200    1.853    0.064       NA
##   transdisciplinary_social =~
##     grpsInvlvd.ct.               1.000                               0.432
##     grpsInvlvd.cv.               0.680    0.067   10.125    0.000    0.294
##     grpsInvlvd.wl.               0.844    0.082   10.308    0.000    0.365
##     ntrOfInvlvmn..               0.733    0.076    9.691    0.000    0.316
##     ntrOfInvlvmn..               0.415    0.054    7.682    0.000    0.179
##     ntrOfInvlvmn..               0.768    0.079    9.750    0.000    0.332
##     trgtGrpsGls.s.               0.602    0.054   11.179    0.000    0.260
##     trgtGrpsGls.s.               0.508    0.047   10.913    0.000    0.219
##     trgtGrpsGls.m.               0.714    0.060   11.991    0.000    0.308
##     trgtGrpsGls.d.               0.637    0.063   10.184    0.000    0.275
##   outcome_public =~
##     impctTrgtGrp..               1.000                               1.878
##     impctTrgtGrp..               1.032    0.093   11.089    0.000    1.938
##     impctTrgtGrp..               0.977    0.098   10.014    0.000    1.835
##     impctTrgtGrp..               0.711    0.074    9.615    0.000    1.335
##     kindOfChng.pb.               0.153    0.023    6.738    0.000    0.288
##     kndOfChng.scg.               0.221    0.024    9.317    0.000    0.414
##     kndOfChng.wlf.               0.221    0.024    9.120    0.000    0.416
##     kndOfChng.cvs.               0.166    0.020    8.312    0.000    0.312
##   outcome_statement =~
##     Impctsttmnts..               1.000                               2.319
##     Impctsttmnts..               0.843    0.059   14.297    0.000    1.954
##     Impctsttmnts..               1.105    0.082   13.448    0.000    2.563
##     Impctsttmnts..               0.774    0.056   13.699    0.000    1.795
##     Impctsttmnts..               0.939    0.085   11.094    0.000    2.179
##     Impctsttmnts..               0.660    0.089    7.418    0.000    1.532
##   scale =~
##     sclbltyRtng.p.               1.000                               2.917
##     sclbltyRtng.t.               0.973    0.067   14.444    0.000    2.838
##     sclbltyRtng.d.               0.877    0.058   15.067    0.000    2.557
##   policy =~
##     grpsInvlvd.pl.               1.000                               0.455
##     impctTrgtGrp..               5.984    0.394   15.185    0.000    2.725
##     kndOfChng.plc.               1.460    0.113   12.894    0.000    0.665
##     ntrOfInvlvmn..               0.786    0.096    8.195    0.000    0.358
##     adptBPH.SQ001.               0.280    0.034    8.118    0.000    0.127
##   busi =~
##     grpsInvlvd.bs.               1.000                               0.336
##     impctTrgtGrp..               7.811    0.792    9.858    0.000    2.628
##     kindOfChng.bs.               1.618    0.164    9.852    0.000    0.544
##   Std.all
##
##     0.717
##     0.545
##
##     0.753
```

```
##     0.861
##     0.338
##     0.766
##     0.294
##     0.017
##
##        NA
##        NA
##
##     0.668
##     0.589
##     0.601
##     0.561
##     0.438
##     0.565
##     0.658
##     0.640
##     0.713
##     0.593
##
##     0.603
##     0.742
##     0.644
##     0.610
##     0.398
##     0.586
##     0.570
##     0.508
##
##     0.735
##     0.768
##     0.724
##     0.737
##     0.602
##     0.407
##
##     0.748
##     0.787
##     0.823
##
##     0.721
##     0.884
##     0.724
##     0.459
##     0.454
##
##     0.550
##     0.930
##     0.718
##
```

```
## Covariances:
##                              Estimate  Std.Err  z-value  P(>|z|)   Std.lv
##   fam ~~
##     ia_human_cndtn              3.086    0.474    6.503    0.000    0.558
##     ia_non_academc              0.076    0.039    1.958    0.050    0.518
##     trnsdscplnry_s              0.634    0.088    7.247    0.000    0.682
##     outcome_public              2.984    0.414    7.208    0.000    0.737
##     outcome_sttmnt              3.828    0.476    8.041    0.000    0.766
##     scale                       4.084    0.566    7.210    0.000    0.650
##     policy                      0.545    0.085    6.443    0.000    0.556
##     busi                        0.260    0.060    4.331    0.000    0.358
##   ia_human_condition ~~
##     ia_non_academc              0.070    0.039    1.799    0.072    0.398
##     trnsdscplnry_s              0.728    0.095    7.662    0.000    0.657
##     outcome_public              3.339    0.447    7.465    0.000    0.693
##     outcome_sttmnt              3.542    0.473    7.494    0.000    0.595
##     scale                       4.601    0.604    7.620    0.000    0.614
##     policy                      0.591    0.088    6.703    0.000    0.505
##     busi                        0.265    0.061    4.377    0.000    0.307
##   ia_non_academic ~~
##     trnsdscplnry_s              0.001    0.006    0.083    0.934    0.018
##     outcome_public              0.038    0.029    1.328    0.184    0.299
##     outcome_sttmnt              0.107    0.036    3.004    0.003    0.678
##     scale                       0.124    0.045    2.756    0.006    0.625
##     policy                      0.032    0.007    4.383    0.000    1.022
##     busi                        0.030    0.006    5.053    0.000    1.314
##   transdisciplinary_social ~~
##     outcome_public              0.701    0.089    7.851    0.000    0.864
##     outcome_sttmnt              0.836    0.098    8.539    0.000    0.835
##     scale                       0.766    0.104    7.328    0.000    0.608
##     policy                      0.119    0.016    7.251    0.000    0.604
##     busi                        0.032    0.010    3.318    0.001    0.218
##   outcome_public ~~
##     outcome_sttmnt              3.630    0.451    8.053    0.000    0.833
##     scale                       4.135    0.534    7.738    0.000    0.755
##     policy                      0.565    0.078    7.219    0.000    0.660
##     busi                        0.177    0.045    3.932    0.000    0.279
##   outcome_statement ~~
##     scale                       5.214    0.605    8.612    0.000    0.771
##     policy                      0.774    0.093    8.287    0.000    0.733
##     busi                        0.258    0.056    4.621    0.000    0.331
##   scale ~~
##     policy                      0.935    0.115    8.114    0.000    0.704
##     busi                        0.448    0.079    5.657    0.000    0.456
##   policy ~~
##     busi                        0.047    0.011    4.362    0.000    0.306
##   Std.all
##
##     0.558
##     0.518
```

```
##     0.682
##     0.737
##     0.766
##     0.650
##     0.556
##     0.358
##
##     0.398
##     0.657
##     0.693
##     0.595
##     0.614
##     0.505
##     0.307
##
##     0.018
##     0.299
##     0.678
##     0.625
##     1.022
##     1.314
##
##     0.864
##     0.835
##     0.608
##     0.604
##     0.218
##
##     0.833
##     0.755
##     0.660
##     0.279
##
##     0.771
##     0.733
##     0.331
##
##     0.704
##     0.456
##
##     0.306
##
## Variances:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .fmlrWthSI.rsp.    4.393    0.614    7.149    0.000    4.393    0.486
##    .trnsdscplnrE..    6.554    0.578   11.341    0.000    6.554    0.703
##    .motivatn.wlfr.    5.032    0.472   10.670    0.000    5.032    0.433
##    .benftFrNnAcdmy    0.158    0.021    7.445    0.000    0.158    0.258
##    .implsFrNnAcd..    0.171    0.013   13.178    0.000    0.171    0.886
##    .trgtGrpsGls.m.    0.103    0.010   10.417    0.000    0.103    0.413
```

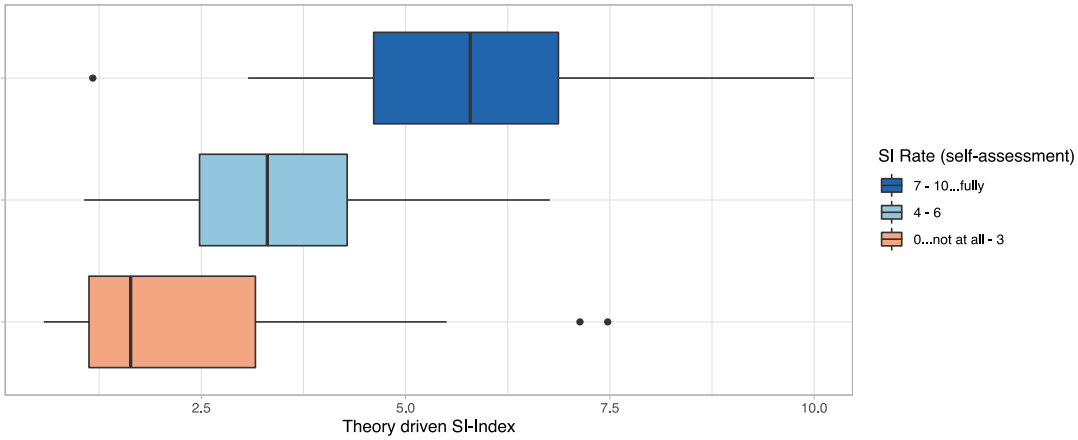
```
##    .implsFrNnAcd..    0.201    0.015   13.248    0.000    0.201    0.914
##    .implsFrNnAcd..    0.125    0.009   13.434    0.000    0.125    1.000
##    .implsFrNnAcd..    0.079    0.017    4.502    0.000    0.079    1.063
##    .implsFrNnAcd..    0.157    0.012   13.190    0.000    0.157    1.004
##    .grpsInvlvd.ct.    0.231    0.019   12.226    0.000    0.231    0.553
##    .grpsInvlvd.cv.    0.162    0.013   12.642    0.000    0.162    0.653
##    .grpsInvlvd.wl.    0.235    0.019   12.592    0.000    0.235    0.639
##    .ntrOfInvlvmn..    0.217    0.017   12.749    0.000    0.217    0.685
##    .ntrOfInvlvmn..    0.135    0.010   13.083    0.000    0.135    0.808
##    .ntrOfInvlvmn..    0.235    0.018   12.736    0.000    0.235    0.681
##    .trgtGrpsGls.s.    0.089    0.007   12.292    0.000    0.089    0.567
##    .trgtGrpsGls.s.    0.069    0.006   12.396    0.000    0.069    0.590
##    .trgtGrpsGls.m.    0.092    0.008   11.880    0.000    0.092    0.492
##    .trgtGrpsGls.d.    0.139    0.011   12.626    0.000    0.139    0.648
##    .impctTrgtGrp..    6.163    0.493   12.504    0.000    6.163    0.636
##    .impctTrgtGrp..    3.060    0.269   11.375    0.000    3.060    0.449
##    .impctTrgtGrp..    4.762    0.388   12.278    0.000    4.762    0.586
##    .impctTrgtGrp..    3.010    0.241   12.470    0.000    3.010    0.628
##    .kindOfChng.pb.    0.439    0.033   13.134    0.000    0.439    0.842
##    .kndOfChng.scg.    0.329    0.026   12.588    0.000    0.329    0.657
##    .kndOfChng.wlf.    0.359    0.028   12.656    0.000    0.359    0.675
##    .kndOfChng.cvs.    0.279    0.022   12.874    0.000    0.279    0.742
##    .Impctsttmnts..    4.565    0.390   11.715    0.000    4.565    0.459
##    .Impctsttmnts..    2.652    0.234   11.315    0.000    2.652    0.410
##    .Impctsttmnts..    5.945    0.503   11.826    0.000    5.945    0.475
##    .Impctsttmnts..    2.702    0.231   11.695    0.000    2.702    0.456
##    .Impctsttmnts..    8.340    0.661   12.619    0.000    8.340    0.637
##    .Impctsttmnts..   11.829    0.899   13.153    0.000   11.829    0.834
##    .sclbltyRtng.p.    6.691    0.611   10.952    0.000    6.691    0.440
##    .sclbltyRtng.t.    4.951    0.484   10.226    0.000    4.951    0.381
##    .sclbltyRtng.d.    3.105    0.336    9.249    0.000    3.105    0.322
##    .grpsInvlvd.pl.    0.192    0.017   11.394    0.000    0.192    0.480
##    .impctTrgtGrp..    2.072    0.304    6.826    0.000    2.072    0.218
##    .kndOfChng.plc.    0.402    0.035   11.360    0.000    0.402    0.476
##    .ntrOfInvlvmn..    0.481    0.037   12.957    0.000    0.481    0.790
##    .adptBPH.SQ001.    0.062    0.005   12.969    0.000    0.062    0.793
##    .grpsInvlvd.bs.    0.261    0.021   12.423    0.000    0.261    0.698
##    .impctTrgtGrp..    1.077    0.431    2.502    0.012    1.077    0.135
##    .kindOfChng.bs.    0.278    0.028    9.985    0.000    0.278    0.484
##     fam               4.643    0.785    5.915    0.000    1.000    1.000
##     ia_human_cndtn    6.591    0.831    7.933    0.000    1.000    1.000
##     ia_non_academc   -0.005    0.016   -0.285    0.775       NA       NA
##     trnsdscplnry_s    0.186    0.027    6.894    0.000    1.000    1.000
##     outcome_public    3.528    0.585    6.030    0.000    1.000    1.000
##     outcome_sttmnt    5.380    0.685    7.857    0.000    1.000    1.000
##     scale             8.506    1.076    7.909    0.000    1.000    1.000
##     policy            0.207    0.028    7.534    0.000    1.000    1.000
##     busi              0.113    0.022    5.260    0.000    1.000    1.000
```

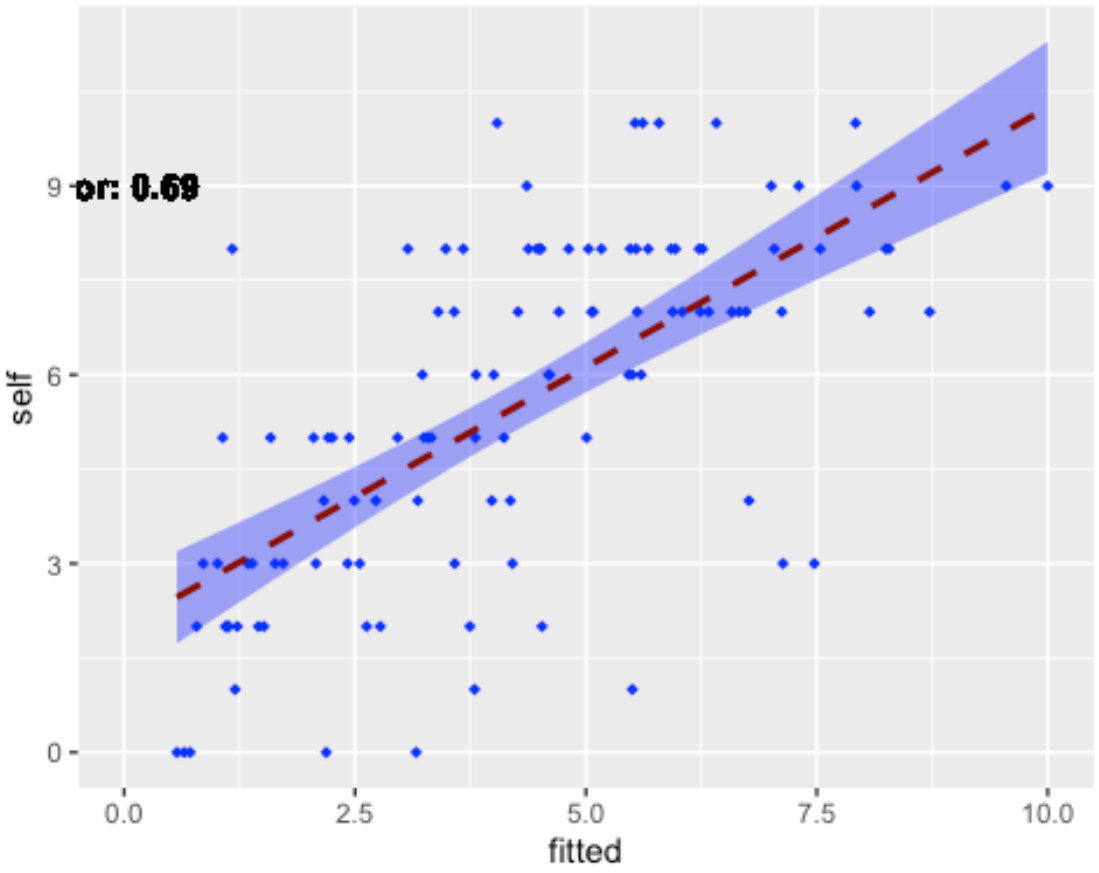
Observations:

- Goodness of fit, Chi-Squared p value is very small (0.000)
- CFI and TFI are questionable but not too low (~0.65), normailly expected ~0.9
- RMSEA is surprisingly high (0.092) and stat. significant (0.000), the values I've seen so far were always ~0.05 and rarely significant
- SRMR is high (0.086), indication of a good fitting model.
- P values of the loadings are almost too good other than a couple of variables (to be addressed)
- Covariances are to be discussed
- Variance estimates are to be discussed (e.g. ia_non:academic has very low variance - 0.0005, what does it indicate)

Model Output

Correlation between the *self assessment SI-Rate* and the prediction





Challenges Ahead

1. How to reason the legitimacy of the model?
2. How/if should we reduce the model to its most important elements?
3. How to describe the model numerically?
4. Should we also go for “prediction”?