Problems in school reported by children in regular and hospital schools

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1 Dataset

The dataset contains questionnaire responses of 573 students from regular and hospital schools. The following tables provides an overview:

gender	N
female	288
male	217
NA	68

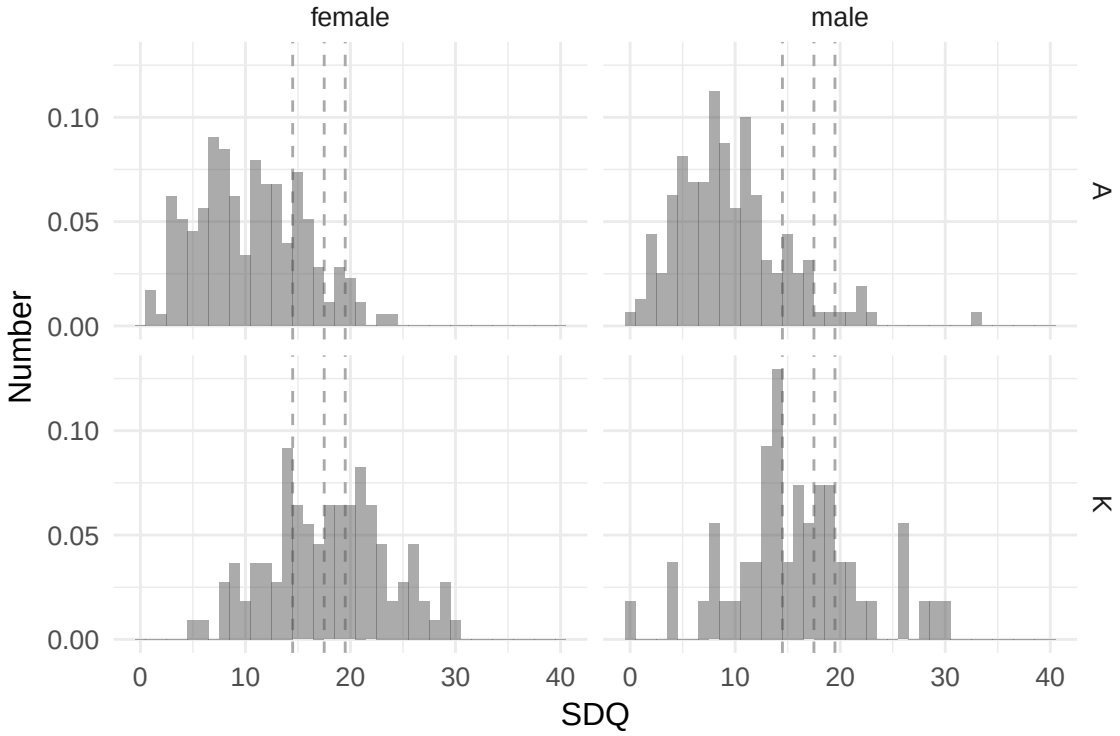
school_type	N
A	388
K	185

gender	school_type	N
female	A	179
female	K	109
male	A	162
male	K	55
NA	A	47
NA	K	21

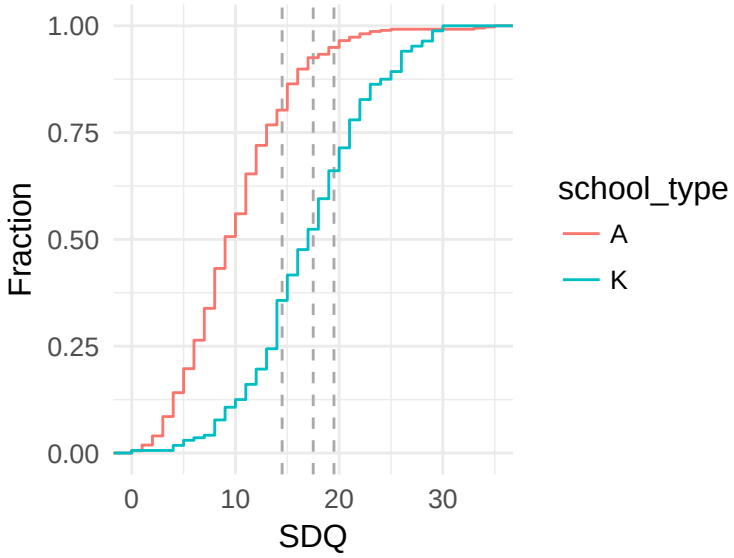
age	N
11-12	60
13-14	205
15-16	167
17-18	110
NA	31

2 Validating the SDQ results

We explore the distribution of SDQ scores for regular (A) and hospital (K) schools separately. The thin lines indicate the four scale levels for a *slightly raised* score (15-17), a *high* score (18-19) and a *very high* score (>20).



The cumulative SDQ distributions of general (A) and hosptial (K) schools show a clear shift between the two student populations:



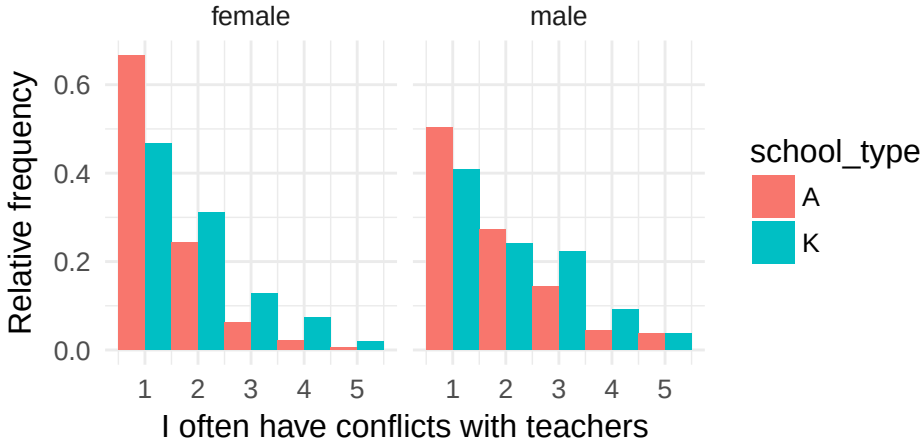
The percentage of students with raised SDQ in general schools corresponds approximately to that expected:

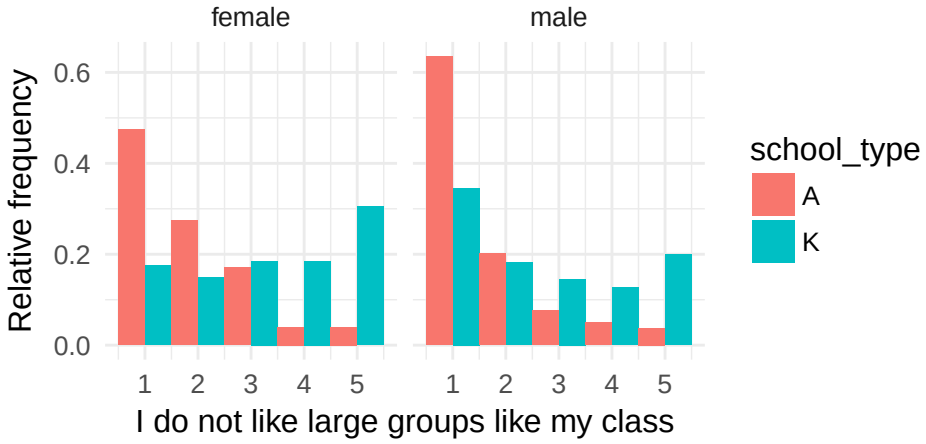
school_type	N	fraction_raised	fraction_vhigh
A	388	0.1973333	0.0506667
K	185	0.6428571	0.3392857

3 Overview of item responses

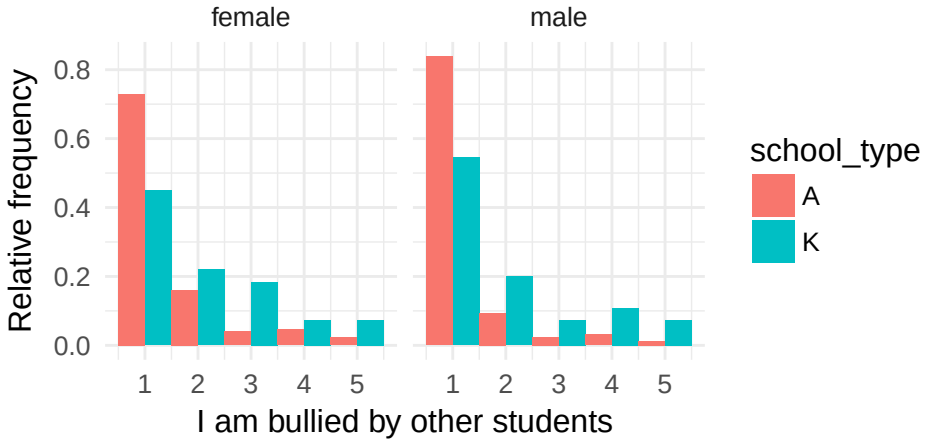
We first provide an overview of several of the response items.

3.1 Social problems





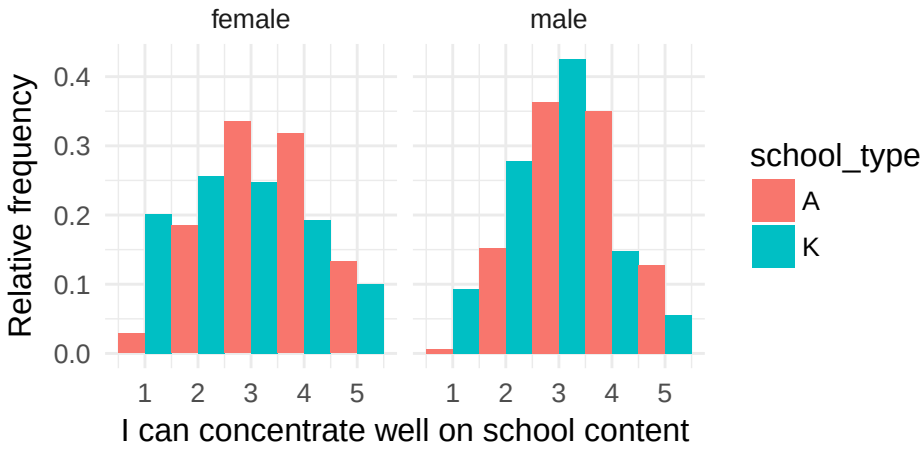
school_type	gender	N	conflict_stud	conflict_teach	isolation	large_groups
A	female	179	1.653409	1.457627	2.040230	1.897143
A	male	162	1.662500	1.838509	1.961539	1.654088
K	female	109	2.037736	1.862385	3.731482	3.296296
K	male	55	2.148148	2.111111	3.384615	2.654545

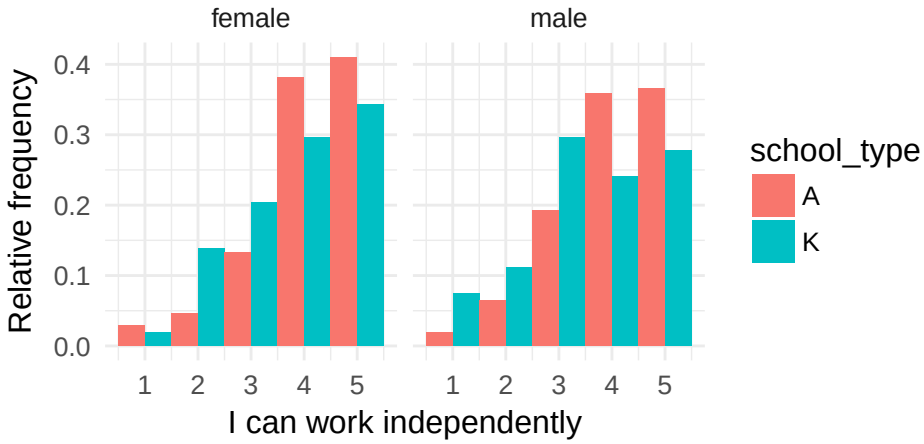


school_type	gender	N	friends	bullying	outsider	agressive
A	female	179	4.646067	1.471264	1.482954	1.511236
A	male	162	4.776397	1.285714	1.462500	1.691824
K	female	109	3.833333	2.100917	2.528302	1.944954
K	male	55	3.830189	1.963636	2.351852	2.166667

3.2 School performance

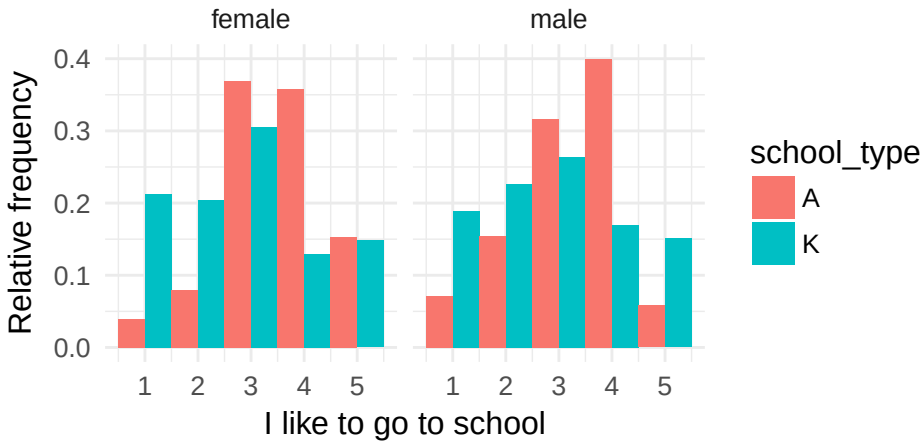
The next item shows a pretty centered, almost Normal distribution. This is interesting - I would imaginge this may indicate that the students did not understand the question properly.

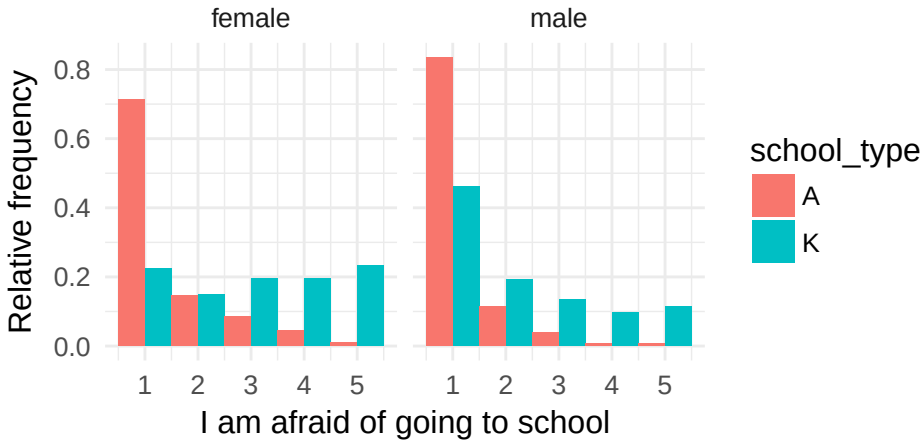




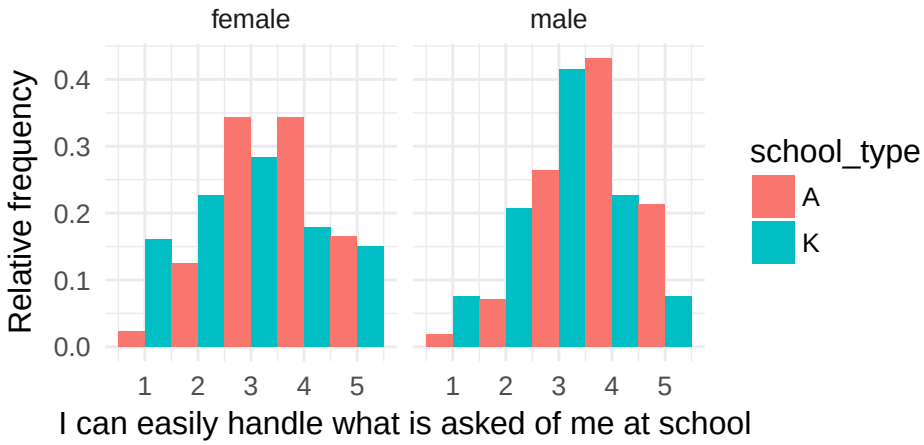
school_type	gender	N	perf_down	concentrate	independent	loose_mot
A	female	179	2.591716	3.341041	4.098266	2.948571
A	male	162	2.483871	3.439490	3.987179	3.018987
K	female	109	3.377359	2.733945	3.805556	3.373832
K	male	55	3.666667	2.796296	3.537037	3.425926

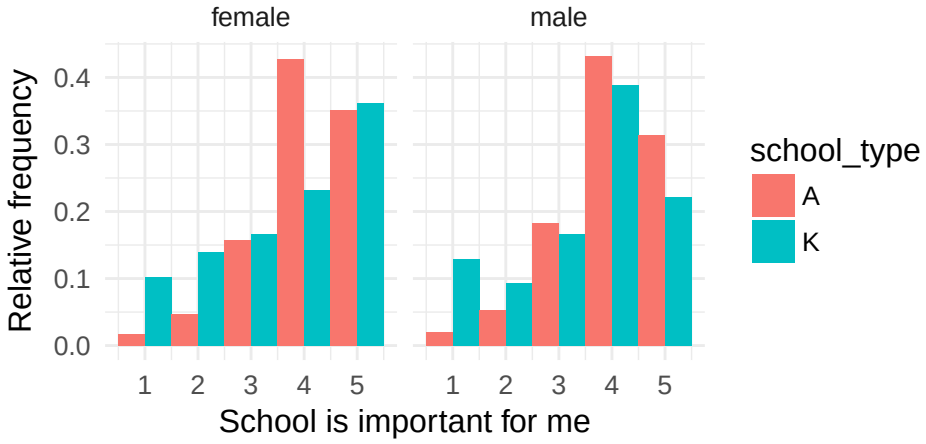
3.3 Wellbeing/attitude





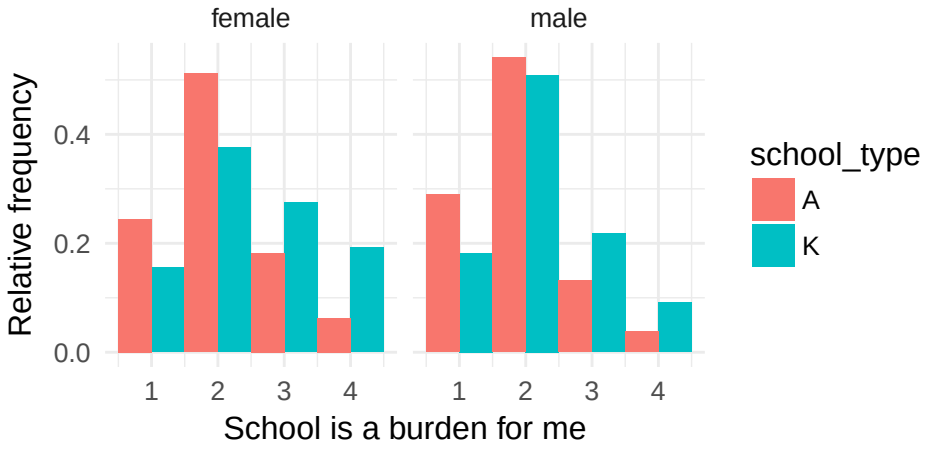
The next item again may not have been properly understood:

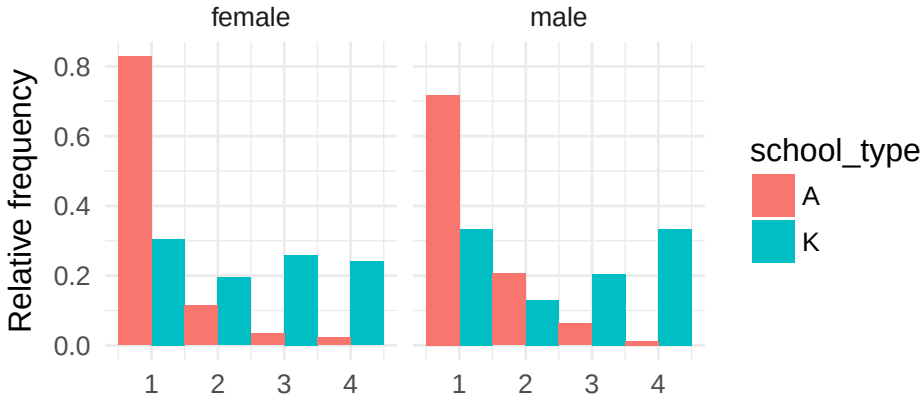


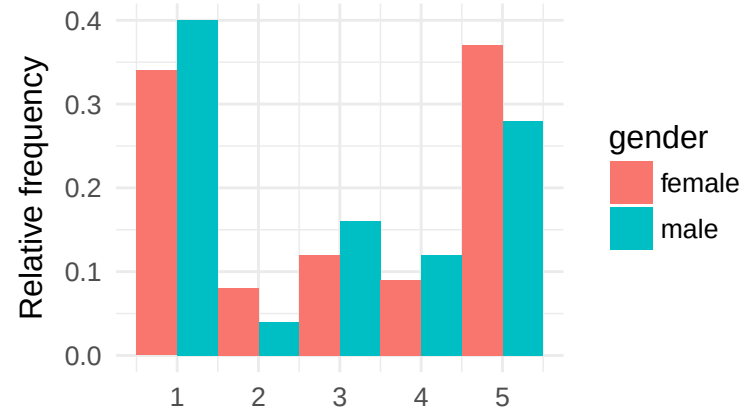


school_type	gender	N	like_school	afraid	handle	important
A	female	179	3.505682	1.494382	3.502959	4.046784
A	male	162	3.219355	1.234177	3.748387	3.967320
K	female	109	2.796296	3.065421	2.933962	3.611111
K	male	55	2.867924	2.211539	3.018868	3.481482

3.4 Other items



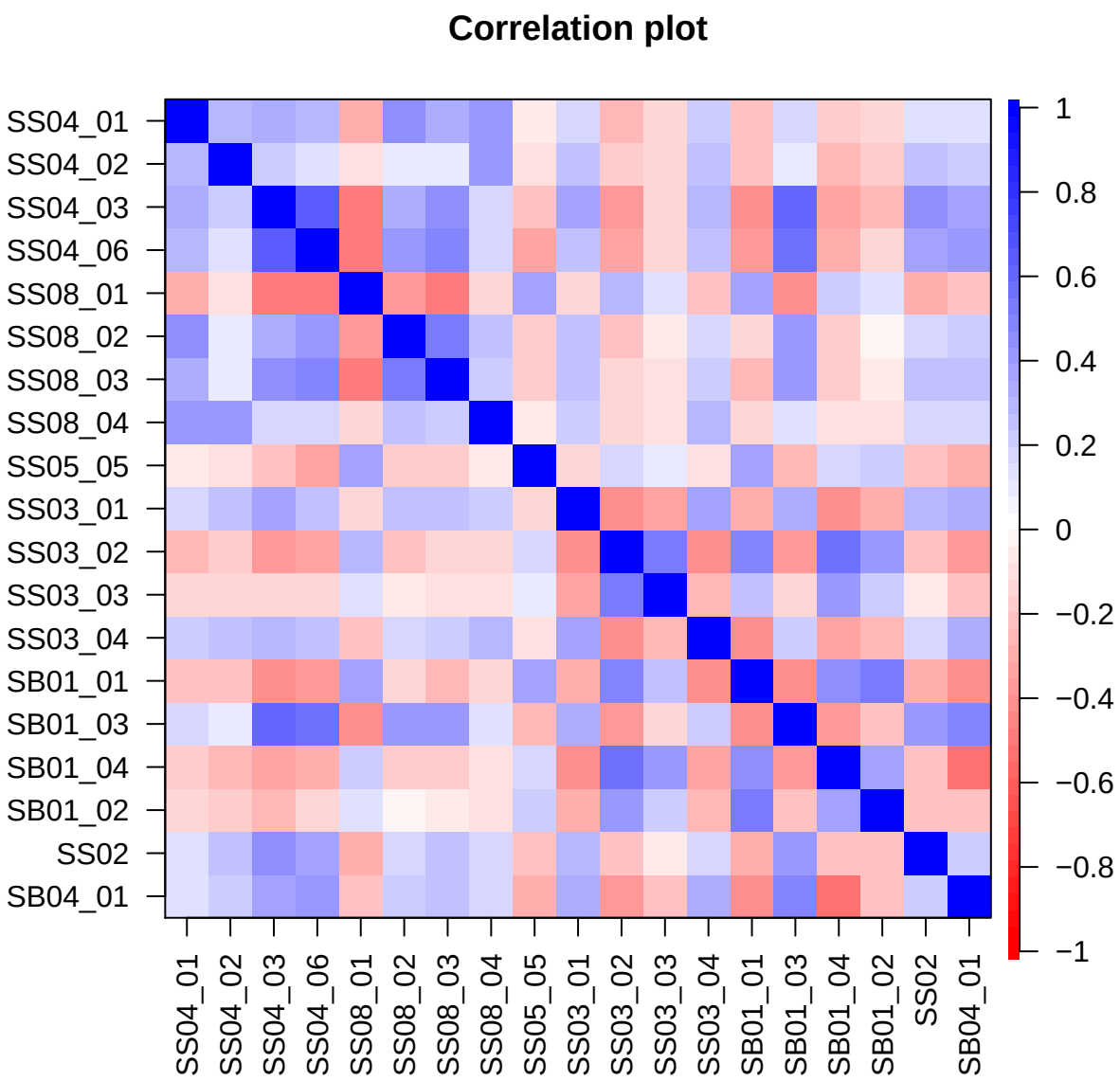




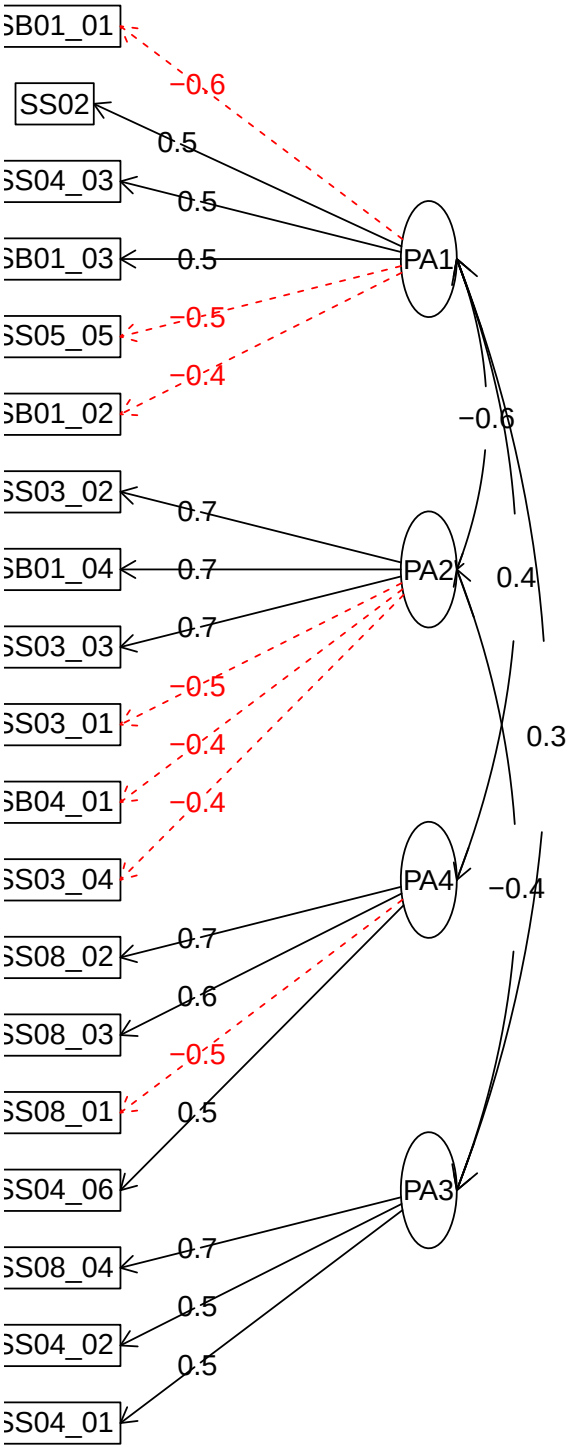
school_type	gender	N	burden	absence	goback
A	female	179	1.653409	1.251429	NaN
A	male	162	1.662500	1.368750	NaN
K	female	109	2.037736	2.435185	3.07
K	male	55	2.148148	2.537037	2.84

4 Exploratory factor analysis

We use exploratory factor analysis to identify latent factors in the data. We use the psych package. The correlation matrix of all considered items looks like this:


Correlation plot
SS04_01
SS04_02
SS04_03
SS04_06
SS08_01
SS08_02
SS08_03
SS08_04
SS05_05
SS03_01
SS03_02
SS03_03
SS03_04
SB01_01
SB01_03
SB01_04
SB01_02
SS02
SB04_01
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1

Factor Analysis



A provisional interpretation of the factors could be:

- PA1: Affinity to school and a well-being at school
- PA2: Ability to cope with school demands
- PA3: Social integration
- PA4: Aggressive Behavior

4.1 Reliability analysis