

Exploratory Analysis

Contents

Overview	1
Descriptive Statistics	1
Categorical	1
Numeric	2
Chi-Squared Tests of Association	3
Correlation Tests	3
Visualizations	6
Univariate Plots	6
Bivariate	60
Networks	88

Overview

This Rmarkdown report covers an exploratory analysis of the raw data. A variety of univariate and bivariate visualizations, and descriptive statistics are derived to better understand the underlying structures and patterns within the raw data. Visualizations and descriptive statistics are generated for both the numeric data and the categorical variables.

Descriptive Statistics

Categorical

	nlevels	1st mode	1st mode %	2nd mode	2nd mode %	NA %
From_country	42	Albania	2.38	Armenia	2.38	0.00
To_country	42	Australia	6.85	Ukraine	6.07	0.00
Points	10	1	10.00	2	10.00	0.00
Round	3	f	50.00	sf1	25.00	0.00
Voting_Method	2	J	50.00	T	50.00	0.00
Host_Nation	2	n	97.26	y	2.74	0.00
OOA	26	18	7.98	9	7.14	0.00
VBloc1_TC	21	1	44.88	3	15.06	0.00
VBloc2_TC	6	1	42.74	5	17.98	0.00
VBloc1_FC	20	1	45.24	3	9.52	0.00
VBloc2_FC	6	1	35.71	5	21.43	0.00
ComVBlocs1	2	n	78.21	y	21.79	0.00

	nlevels	1st mode	1st mode %	2nd mode	2nd mode %	NA %
ComVBlocs2	2	n	76.19	y	23.81	0.00
FC_LANGFAM	13	Germanic	28.57	Slavic	28.51	0.00
TC_LANGFAM	12	Slavic	32.68	Germanic	26.07	0.00
ComLANGFAM	2	n	78.93	y	21.07	0.00
Neighbours	2	n	89.11	y	10.89	0.00
TC_NumNeigh	10	3	21.43	5	18.15	0.00
FC_SONGLANG	5	English	80.95	Mixed	11.90	0.00
TC_SONGLANG	5	English	78.04	Mixed	16.55	0.00
ComSONGLAN	2	1	63.69	0	36.31	0.00
TC_PerfType	4	Solo	90.83	Group	7.38	0.00
TC_SingerGender	4	Female	53.04	Male	45.48	0.00
key	12	5	12.50	NA's	11.55	11.55
mode	2	0	49.76	1	38.69	11.55
time_signature	2	4	84.76	NA's	11.55	11.55

Numeric

	mean	stdev	min	max	range	NA %
Average_Points	5.180	2.590	0.000	12.000	12.000	0.000
FC_NonCOB	24641.890	70178.363	1.000	844024.000	844023.000	55.000
FC_NonCitizens	24012.498	75437.495	0.000	928257.000	928257.000	46.131
FC_COB	10189782.737	13529427.732	290507.000	54758099.000	54467592.000	54.762
FC_Citizens	16452411.522	21139328.142	306044.000	73523726.000	73217682.000	45.238
FC_Population	15021478.421	21049723.582	33005.000	82800000.000	82766995.000	4.762
METRIC_COB	0.022	0.065	0.000	0.651	0.651	56.310
METRIC_Citizens	0.019	0.048	0.000	0.476	0.476	49.464
METRIC_COBCit	0.043	0.111	0.000	1.093	1.093	56.369
danceability	0.565	0.132	0.170	0.809	0.639	11.548
loudness	-5.093	1.730	-12.399	-0.482	11.917	11.548
liveness	0.145	0.071	0.021	0.434	0.413	11.548
energy	0.720	0.134	0.414	0.917	0.503	11.548
speechiness	0.050	0.020	0.027	0.158	0.131	11.548
acousticness	0.235	0.246	0.001	0.836	0.835	11.548
instrumentalness	0.001	0.003	0.000	0.027	0.027	11.548
valence	0.382	0.177	-0.548	0.758	1.306	11.548
tempo	123.099	23.461	71.915	205.008	133.093	11.548
duration_ms	184161.459	10162.387	166173.000	232947.000	66774.000	11.548
TC_NumNeigh	3.401	2.435	0.000	9.000	9.000	0.000
FC_CAP_LON	29.460	45.021	-21.817	253.000	274.817	0.000
FC_CAP_LAT	46.088	14.764	-35.474	64.126	99.600	0.000
TC_CAP_LON	41.455	57.386	-21.817	253.000	274.817	0.000
TC_CAP_LAT	41.943	22.160	-35.474	64.126	99.600	0.000
FC_GDP_mil	474131.913	786940.917	1500.000	3466756.880	3465256.880	0.000
TC_GDP_mil	445230.483	622770.868	1500.000	3466756.880	3465256.880	0.000
GDP_PROP	11.072	34.903	0.001	513.897	513.896	0.000
CAP_DIST_km	3404.963	4285.801	82.147	17570.778	17488.631	0.000
OOA	11.756	6.437	1.000	26.000	25.000	0.000

Chi-Squared Tests of Association

Chi-Squared Test Hypothesis:

- Ho: x is independent of y
- Ha: x is associated with y

X	Y	P-Value	Significant
From_country	Points	1.00000	FALSE
To_country	Points	0.00050	TRUE
Points	Points	0.00050	TRUE
Round	Points	1.00000	FALSE
Voting_Method	Points	1.00000	FALSE
Host_Nation	Points	0.74763	FALSE
OOA	Points	0.00050	TRUE
VBlocs1_TC	Points	0.00050	TRUE
VBlocs2_TC	Points	0.00100	TRUE
VBlocs1_FC	Points	1.00000	FALSE
VBlocs2_FC	Points	1.00000	FALSE
ComVBlocs1	Points	0.45677	FALSE
ComVBlocs2	Points	0.00850	TRUE
FC_LANGFAM	Points	1.00000	FALSE
TC_LANGFAM	Points	0.01049	TRUE
ComLANGFAM	Points	0.00050	TRUE
Neighbours	Points	0.00050	TRUE
TC_NumNeigh	Points	0.00050	TRUE
FC_SONGLANG	Points	1.00000	FALSE
TC_SONGLANG	Points	0.10695	FALSE
ComSONGLAN	Points	0.93153	FALSE
TC_PerfType	Points	0.37931	FALSE
TC_SingerGender	Points	0.01399	TRUE
key	Points	0.00050	TRUE
mode	Points	0.21739	FALSE
time_signature	Points	0.03198	TRUE

Correlation Tests

Correlation Test Hypothesis:

- Ho: x is not correlated with y
- Ha: x is correlated with y

Response Tests

X	Y	Correlation	P-Value	Significant
Average_Points	Points	0.27978	0.00000	TRUE
FC_NonCOB	Points	0.15331	0.00002	TRUE
FC_NonCitizens	Points	0.12433	0.00018	TRUE
FC_COB	Points	0.00000	1.00000	FALSE
FC_Citizens	Points	0.00000	1.00000	FALSE

X	Y	Correlation	P-Value	Significant
FC_Population	Points	-0.00014	0.99561	FALSE
METRIC_COB	Points	0.18595	0.00000	TRUE
METRIC_Citizens	Points	0.18617	0.00000	TRUE
METRIC_COBCit	Points	0.19742	0.00000	TRUE
danceability	Points	0.15863	0.00000	TRUE
loudness	Points	0.05444	0.03587	TRUE
liveness	Points	-0.10847	0.00003	TRUE
energy	Points	0.04798	0.06446	FALSE
speechiness	Points	0.18043	0.00000	TRUE
acousticness	Points	0.13797	0.00000	TRUE
instrumentalness	Points	0.07731	0.00286	TRUE
valence	Points	0.05778	0.02594	TRUE
tempo	Points	0.00930	0.72009	FALSE
duration_ms	Points	0.00848	0.74392	FALSE
TC_NumNeigh	Points	0.12083	0.00000	TRUE
FC_CAP_LON	Points	0.00000	1.00000	FALSE
FC_CAP_LAT	Points	0.00000	1.00000	FALSE
TC_CAP_LON	Points	0.10085	0.00003	TRUE
TC_CAP_LAT	Points	-0.10784	0.00001	TRUE
FC_GDP_mil	Points	0.00000	1.00000	FALSE
TC_GDP_mil	Points	0.06960	0.00432	TRUE
GDP_PROP	Points	-0.02374	0.33074	FALSE
CAP_DIST_km	Points	0.07070	0.00374	TRUE
OOA	Points	0.09913	0.00005	TRUE

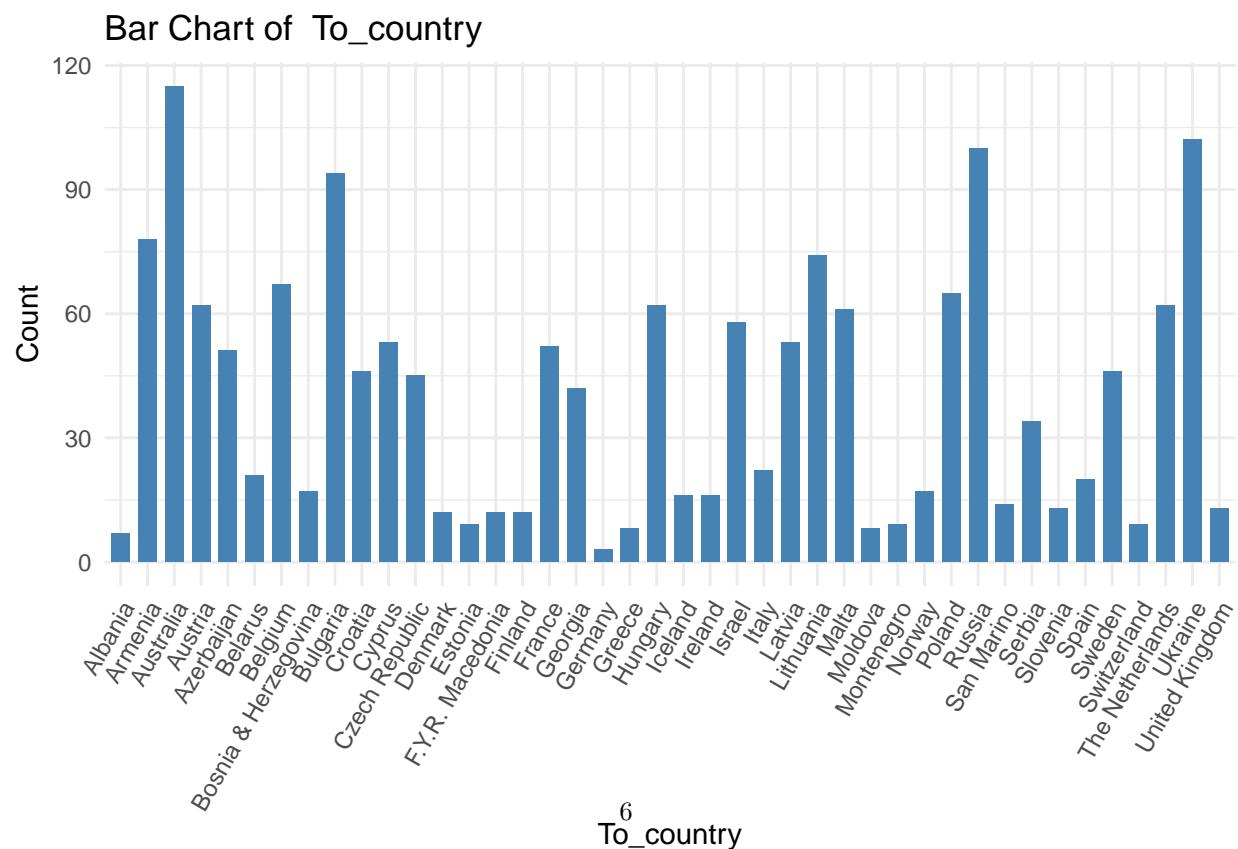
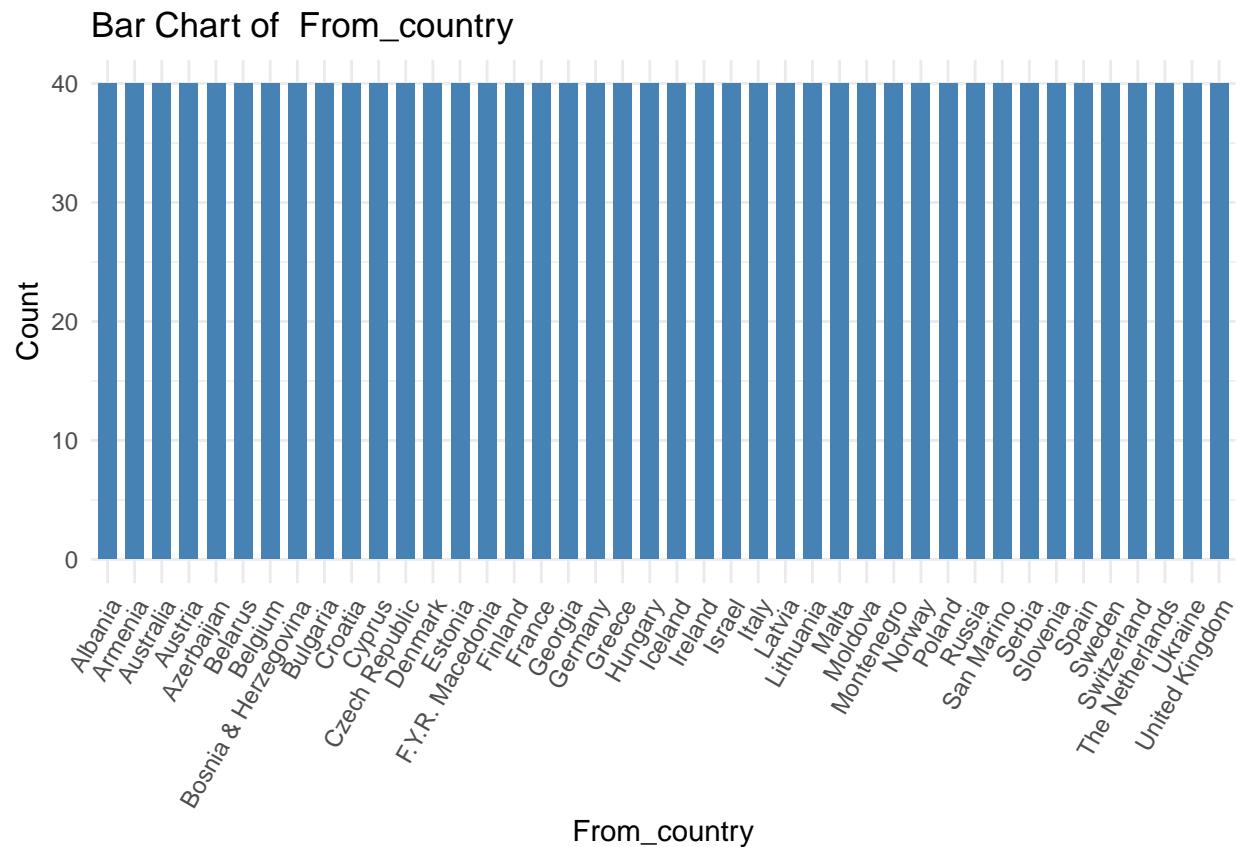
Predictor Tests

X	Y	Correlation	P-Value	Significant
FC_NonCOB	FC_NonCitizens	0.91531	0	TRUE
FC_NonCOB	METRIC_COB	0.54440	0	TRUE
FC_NonCOB	METRIC_Citizens	0.46138	0	TRUE
FC_NonCOB	METRIC_COBCit	0.53012	0	TRUE
FC_NonCOB	FC_GDP_mil	0.43607	0	TRUE
FC_NonCitizens	FC_Population	0.40975	0	TRUE
FC_NonCitizens	METRIC_COBCit	0.43318	0	TRUE
FC_NonCitizens	FC_GDP_mil	0.44188	0	TRUE
FC_COB	FC_Citizens	0.99978	0	TRUE
FC_COB	FC_Population	0.99914	0	TRUE
FC_COB	FC_GDP_mil	0.92752	0	TRUE
FC_Citizens	FC_Population	0.99904	0	TRUE
FC_Citizens	FC_GDP_mil	0.93506	0	TRUE
FC_Citizens	GDP_PROP	0.42348	0	TRUE
FC_Population	FC_GDP_mil	0.91609	0	TRUE
FC_Population	GDP_PROP	0.44412	0	TRUE
METRIC_COB	METRIC_Citizens	0.83307	0	TRUE
METRIC_COB	METRIC_COBCit	0.96724	0	TRUE
METRIC_Citizens	METRIC_COBCit	0.94621	0	TRUE
loudness	energy	0.50748	0	TRUE
loudness	TC_GDP_mil	0.49045	0	TRUE
energy	TC_GDP_mil	0.45341	0	TRUE
duration_ms	TC_GDP_mil	0.49387	0	TRUE

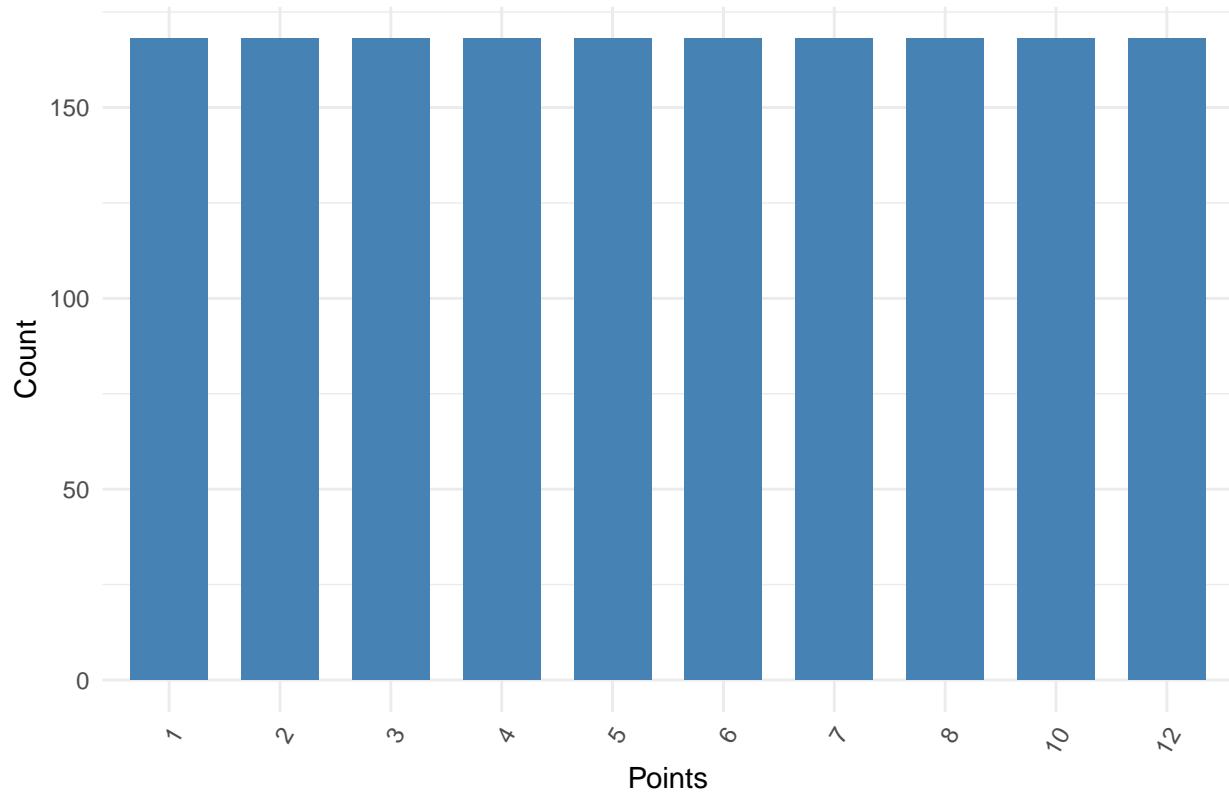
X	Y	Correlation	P-Value	Significant
TC_NumNeigh	TC_CAP_LAT	0.50228	0	TRUE
TC_CAP_LON	CAP_DIST_km	0.60951	0	TRUE
FC_GDP_mil	GDP_PROP	0.46708	0	TRUE

Visualizations

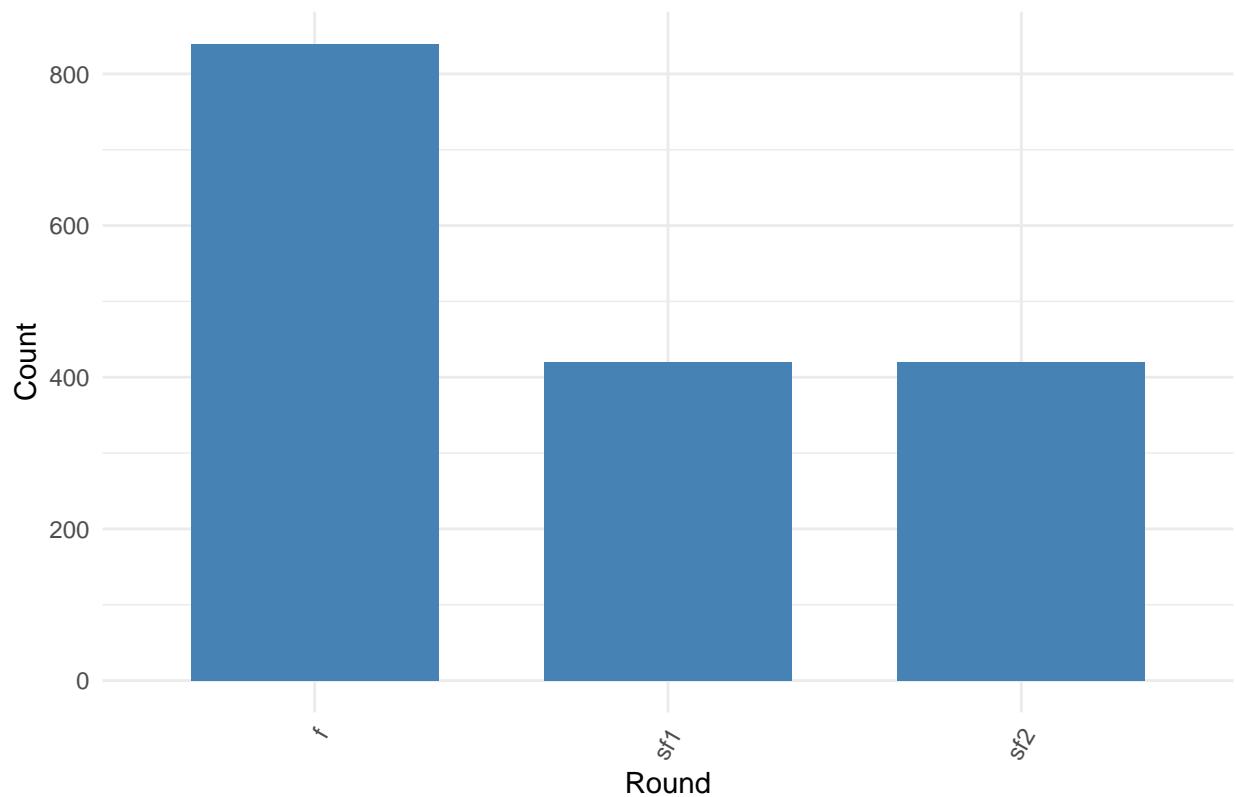
Univariate Plots



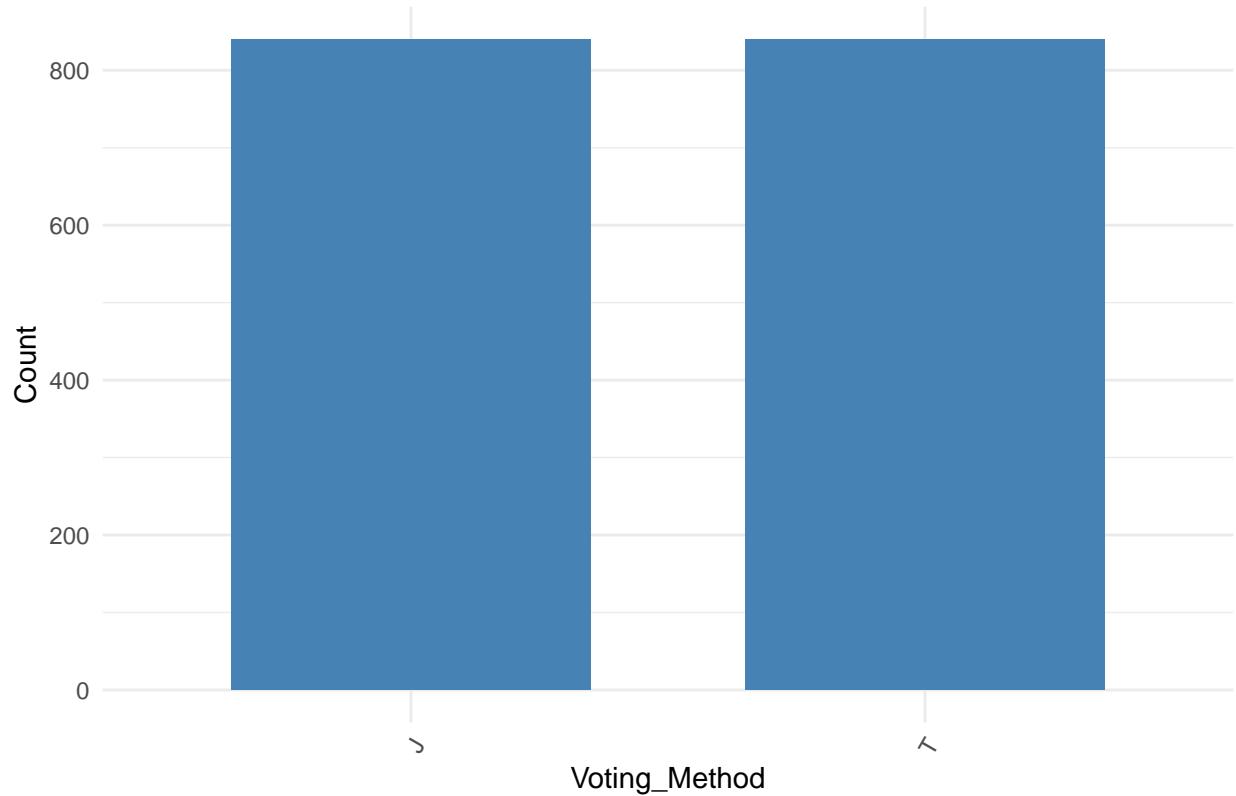
Bar Chart of Points



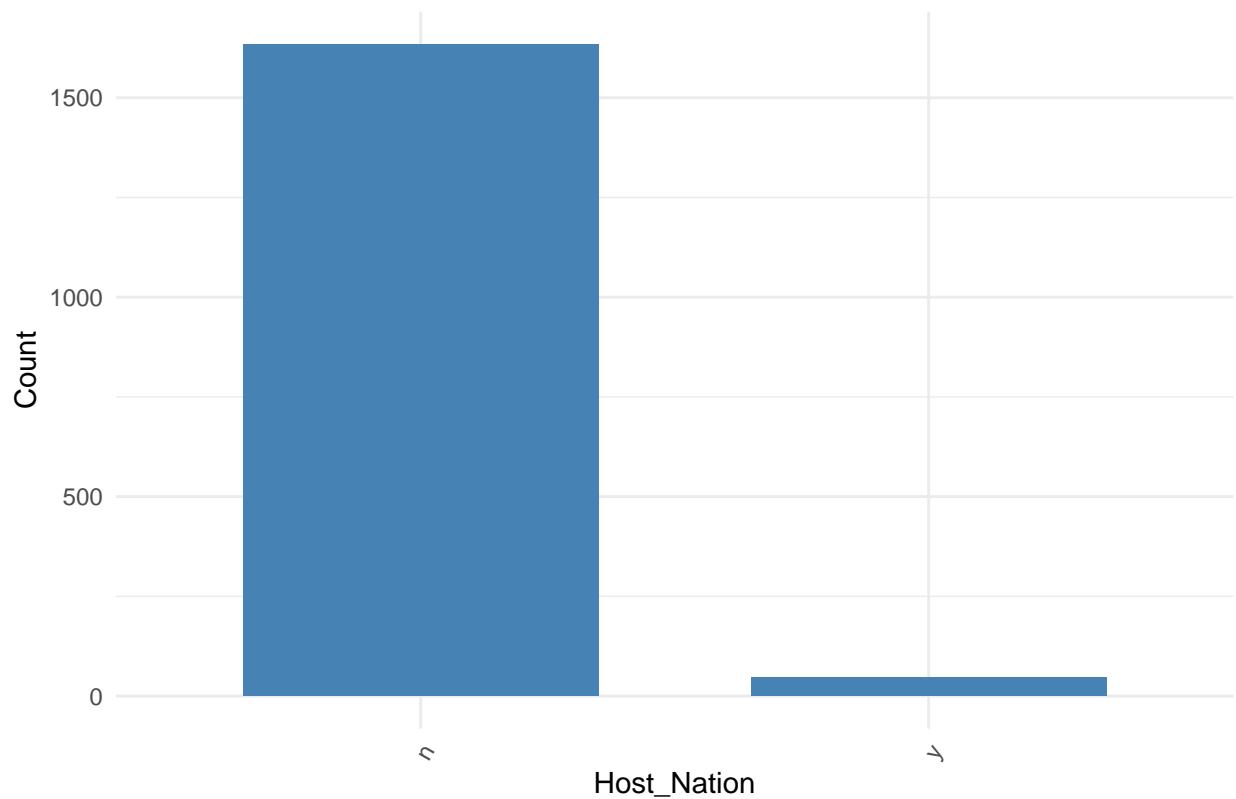
Bar Chart of Round



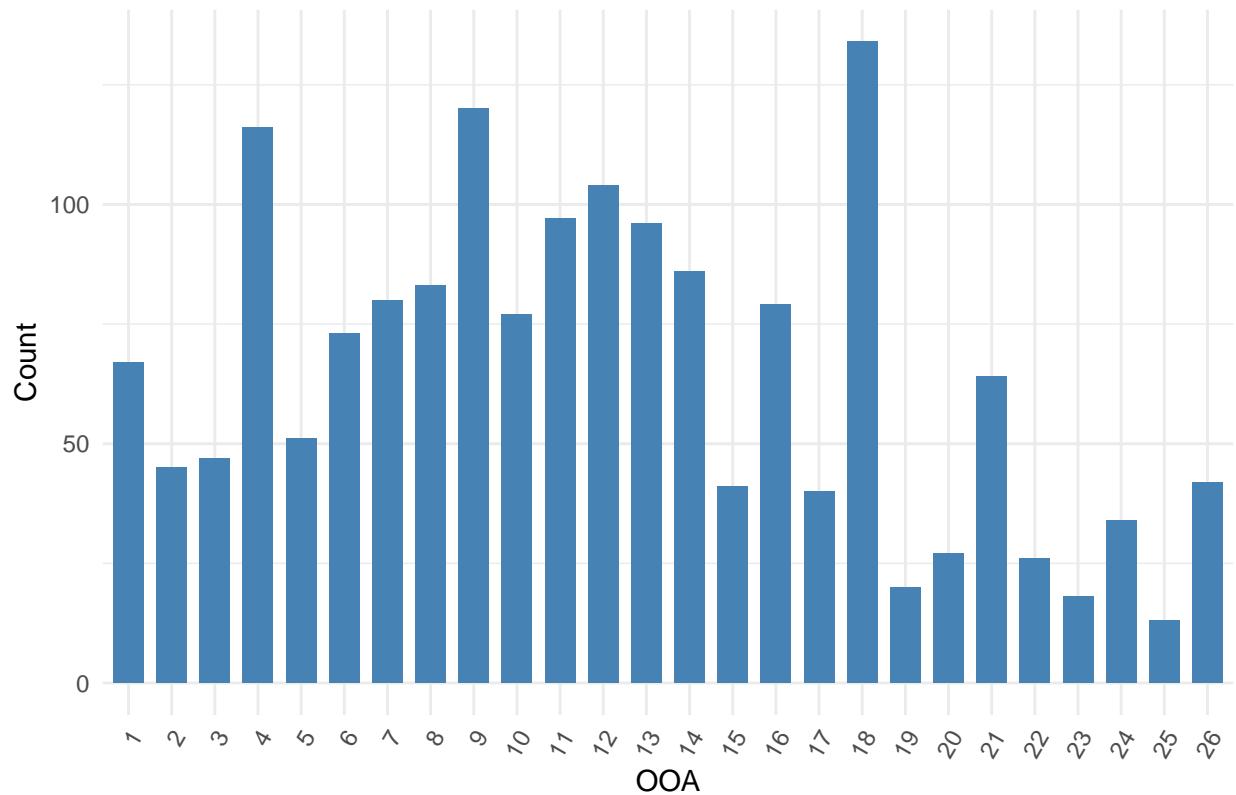
Bar Chart of Voting_Method



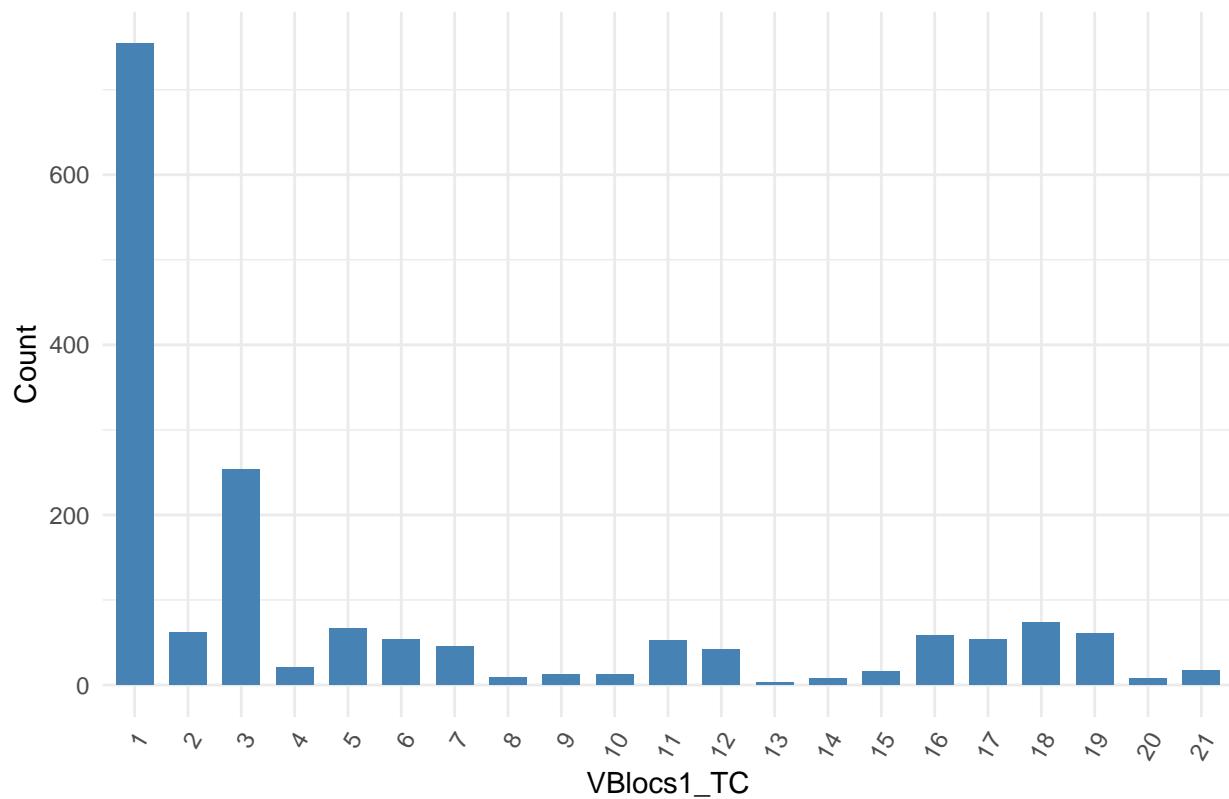
Bar Chart of Host_Nation



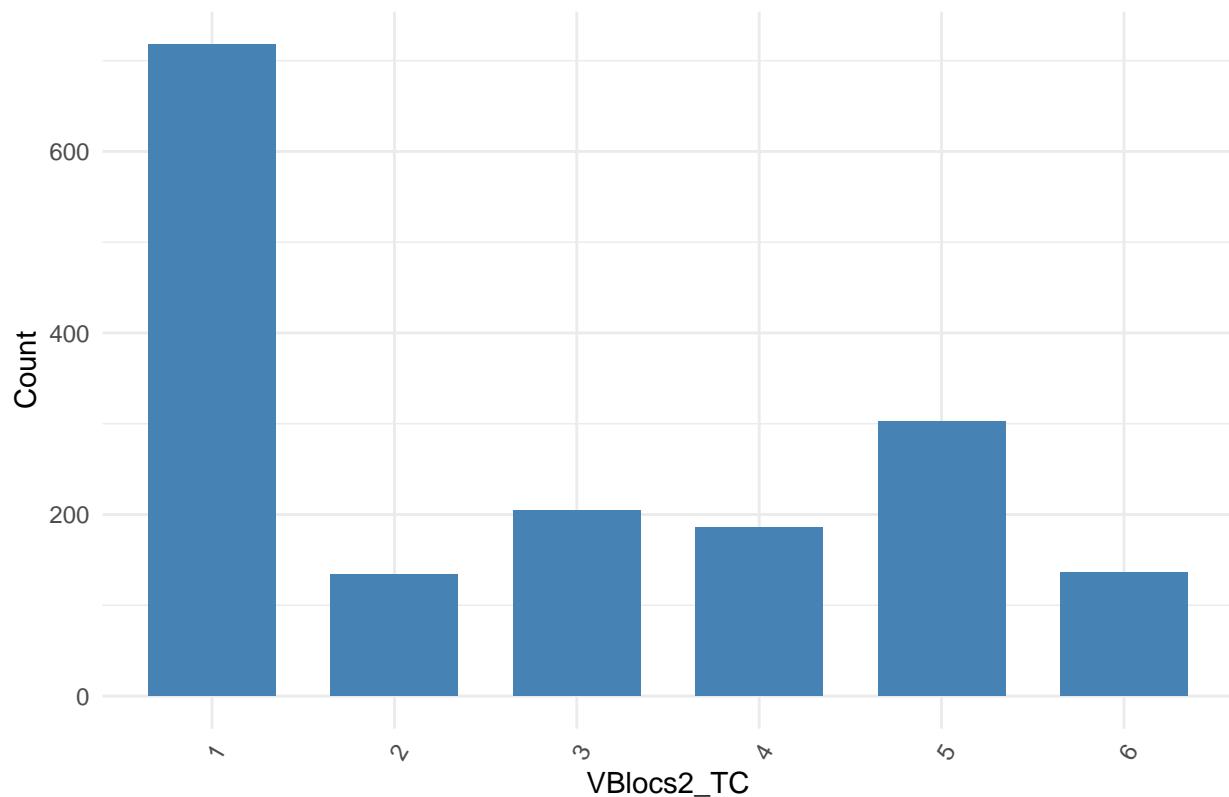
Bar Chart of OOA



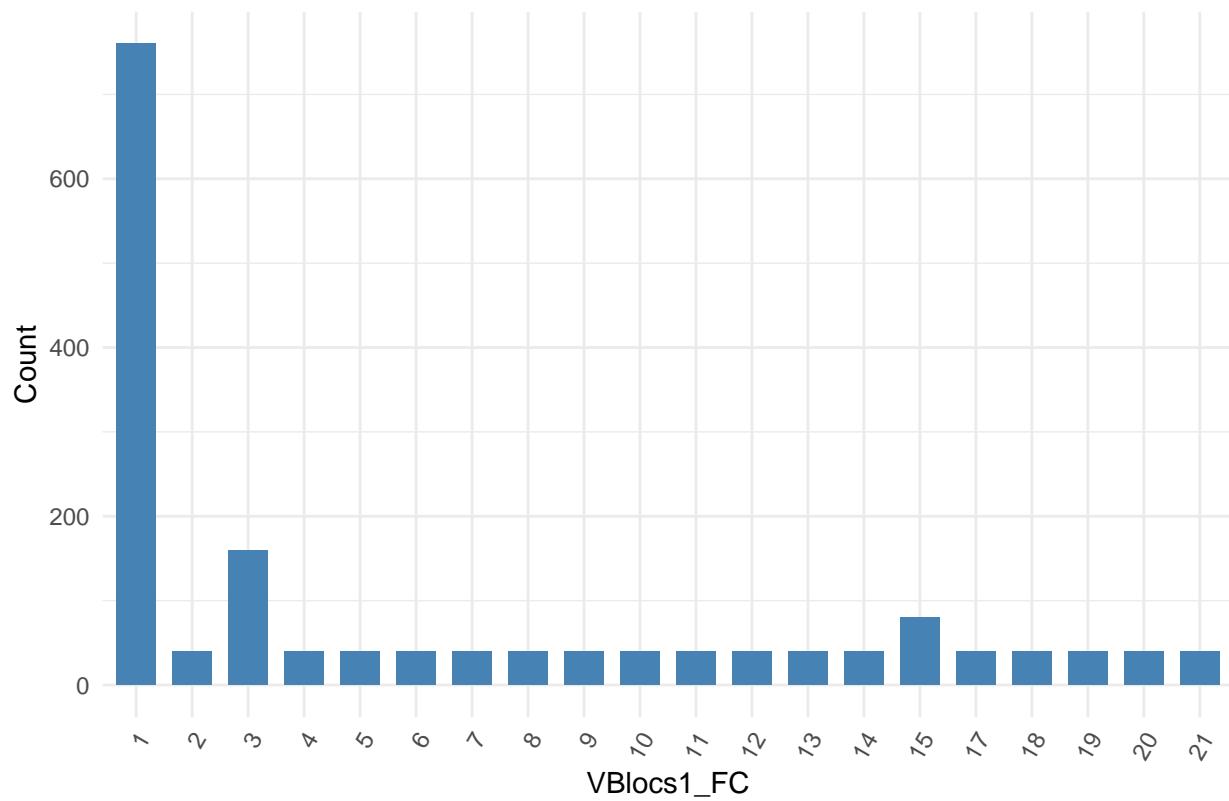
Bar Chart of VBlocs1_TC



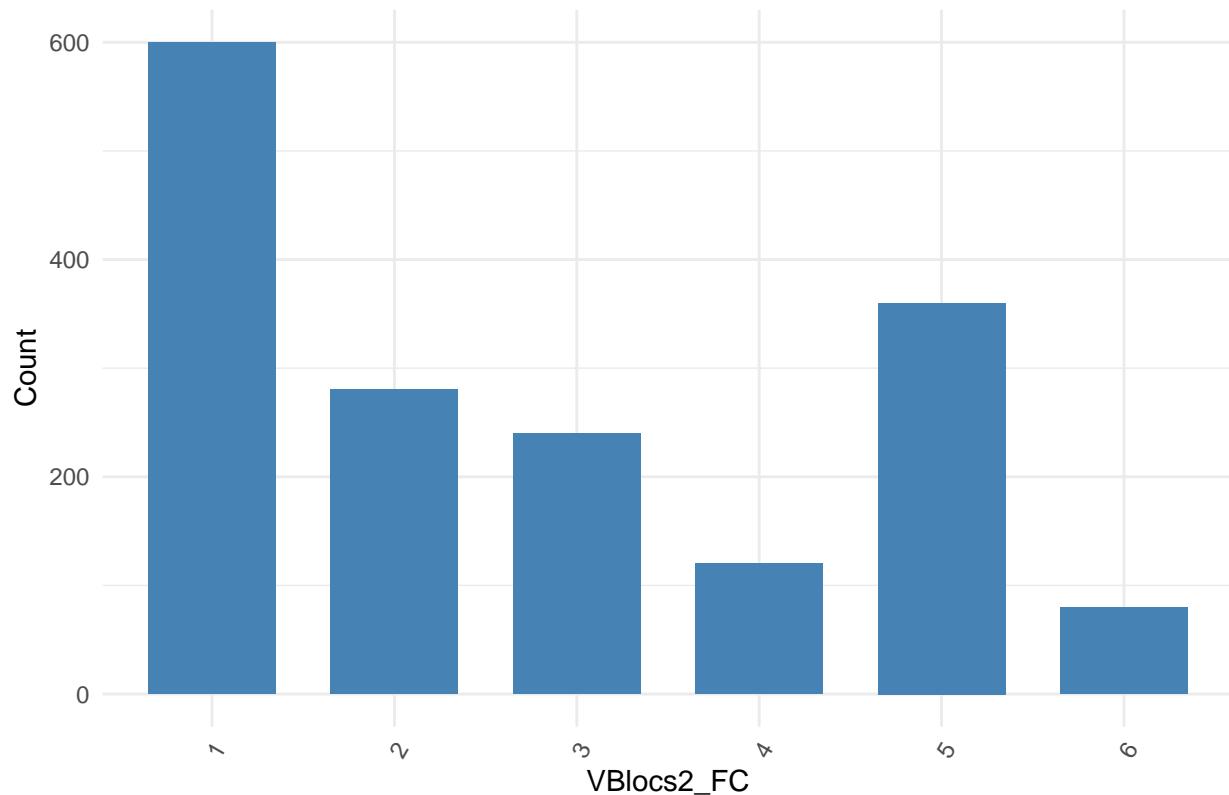
Bar Chart of VBlocs2_TC



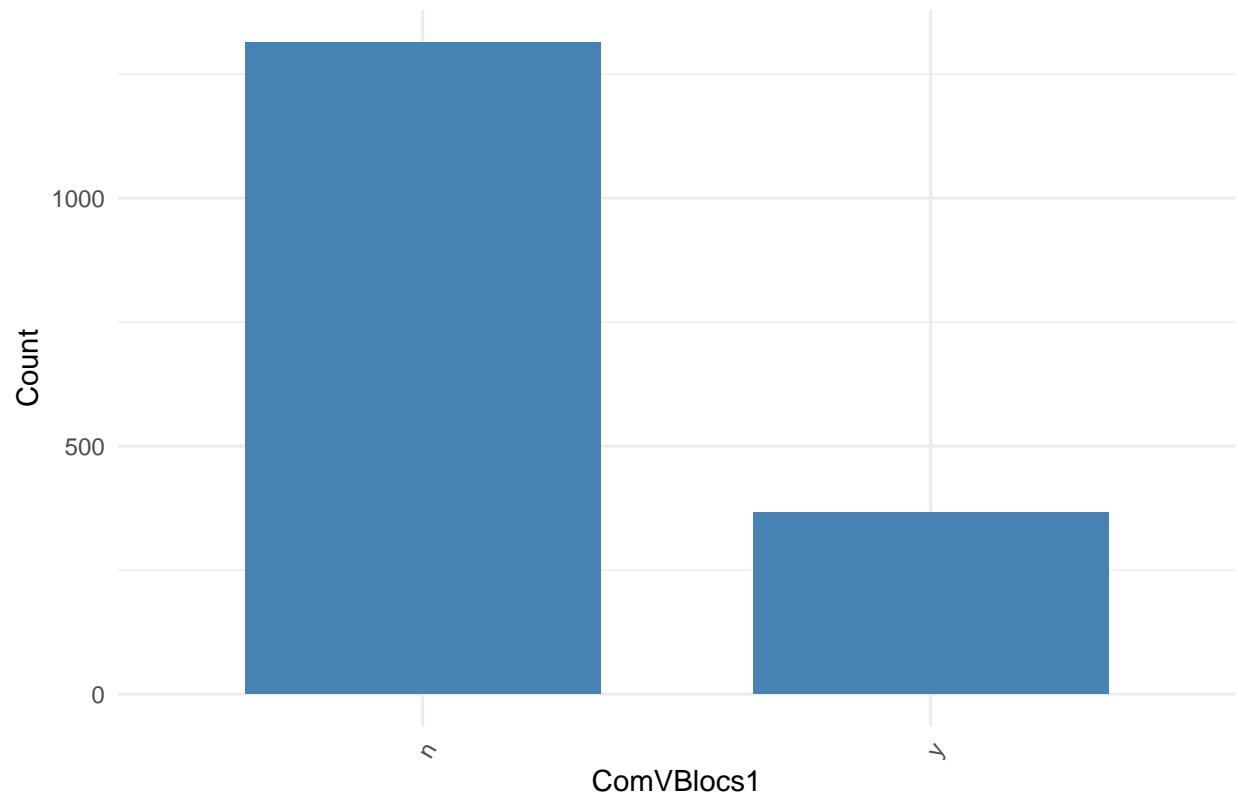
Bar Chart of VBlocs1_FC



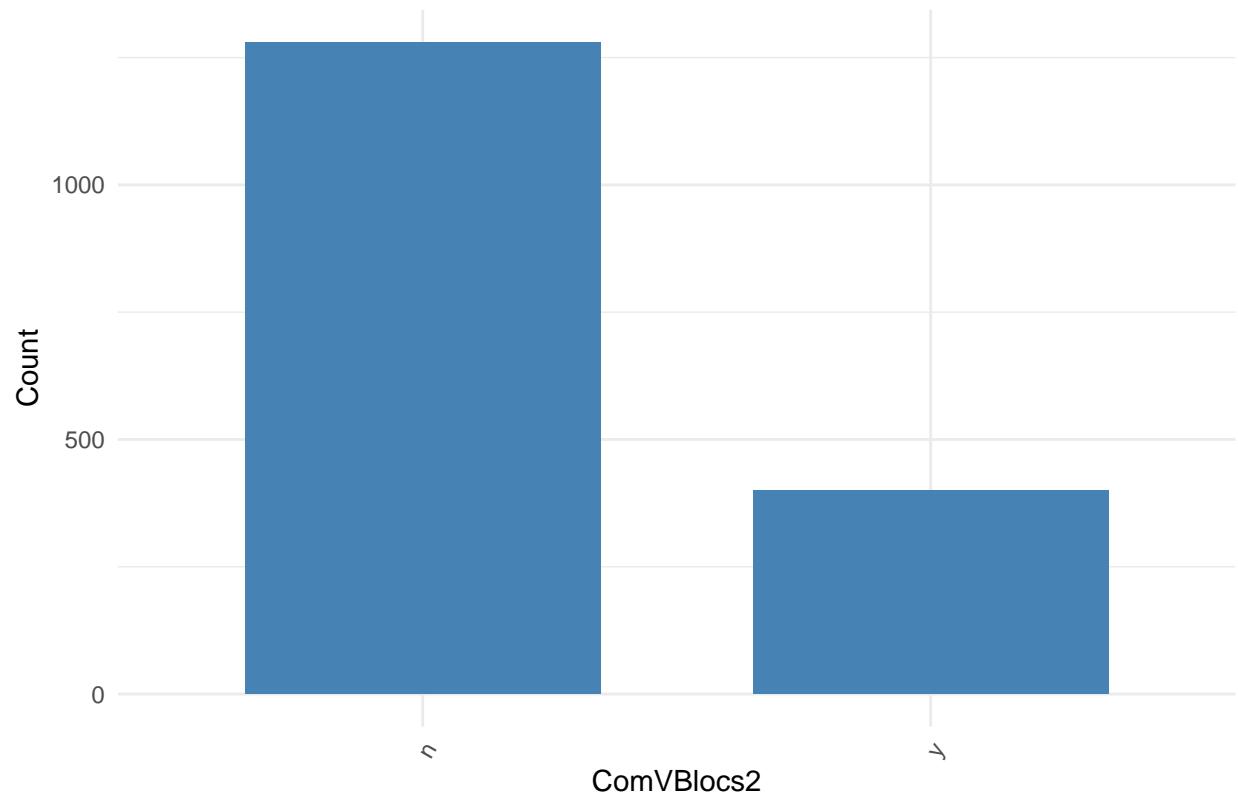
Bar Chart of VBlocs2_FC



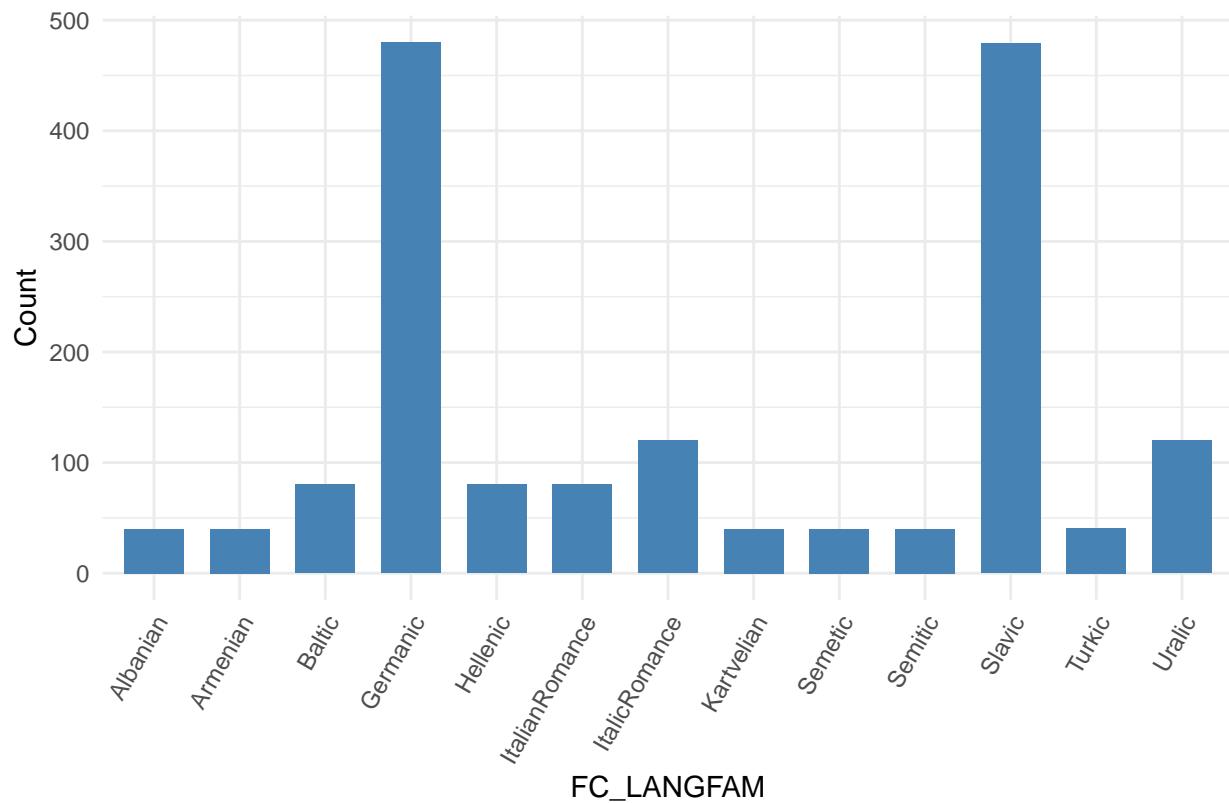
Bar Chart of ComVBlocs1



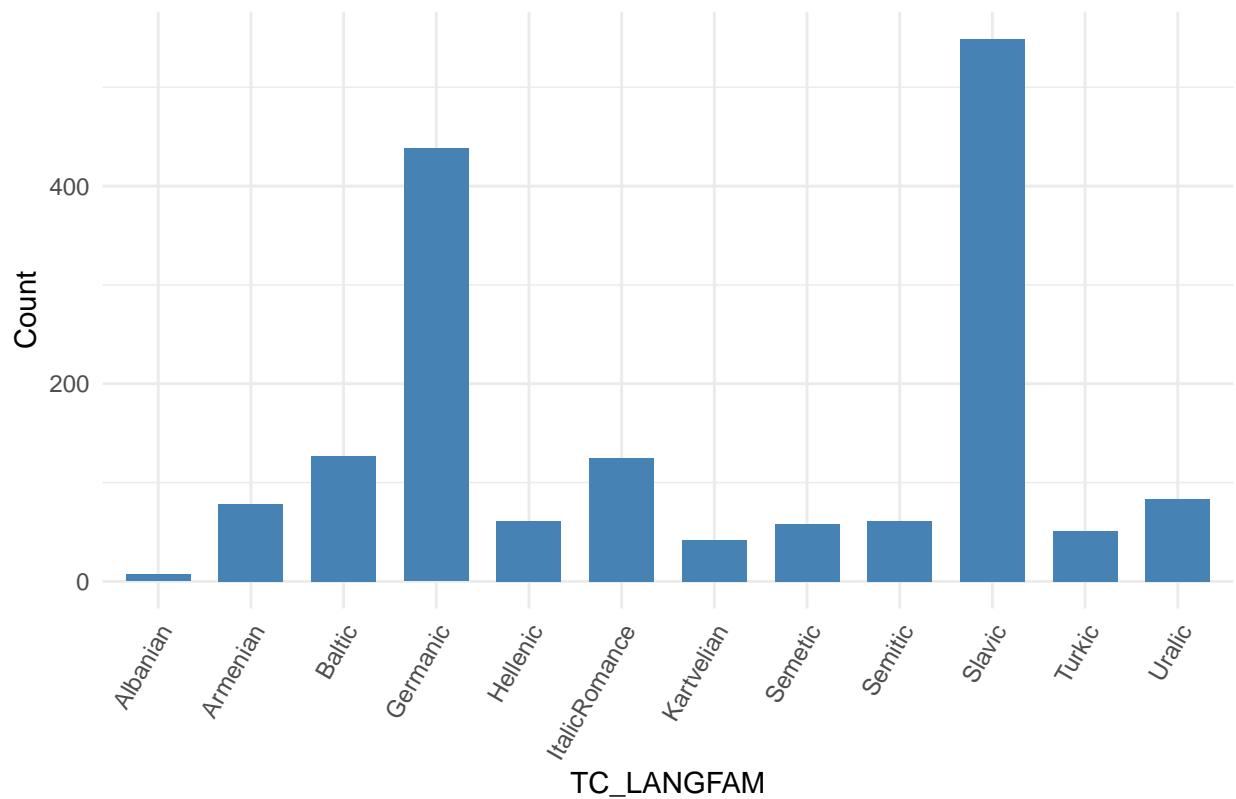
Bar Chart of ComVBlocs2



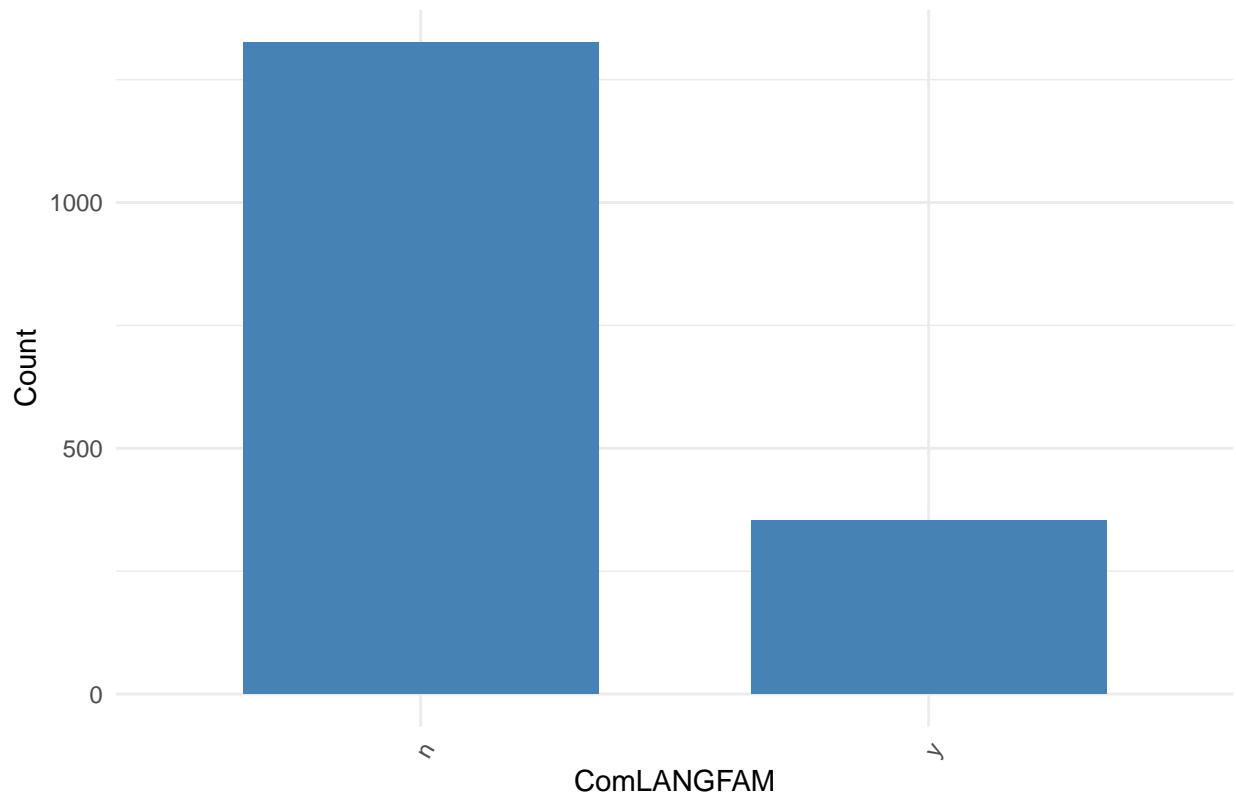
Bar Chart of FC_LANGFAM



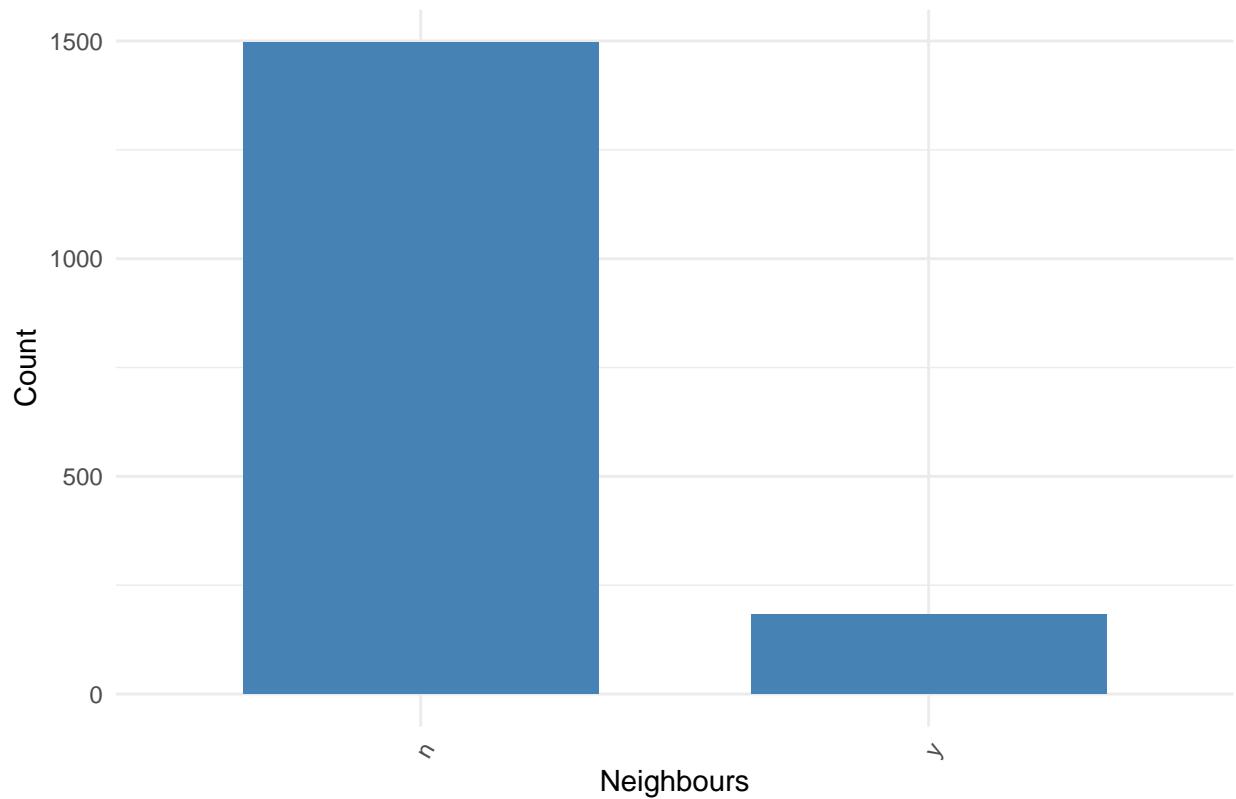
Bar Chart of TC_LANGFAM



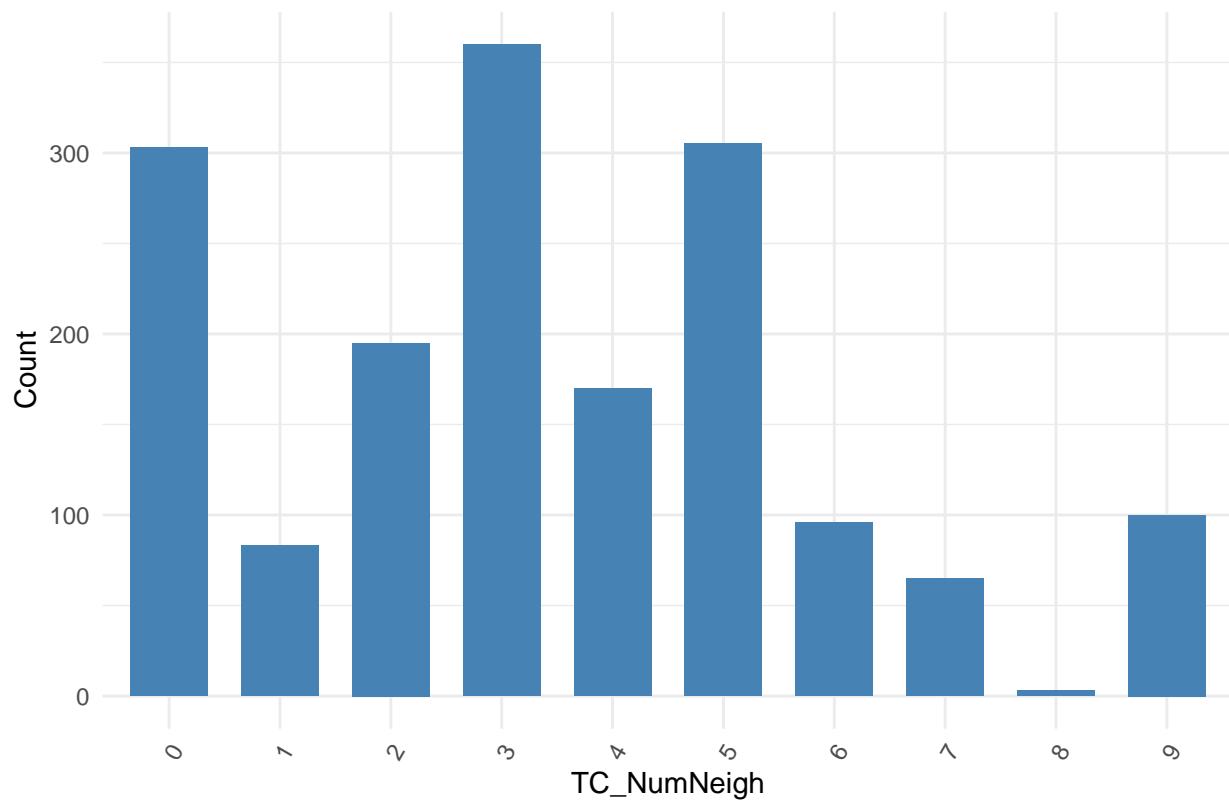
Bar Chart of ComLANGFAM



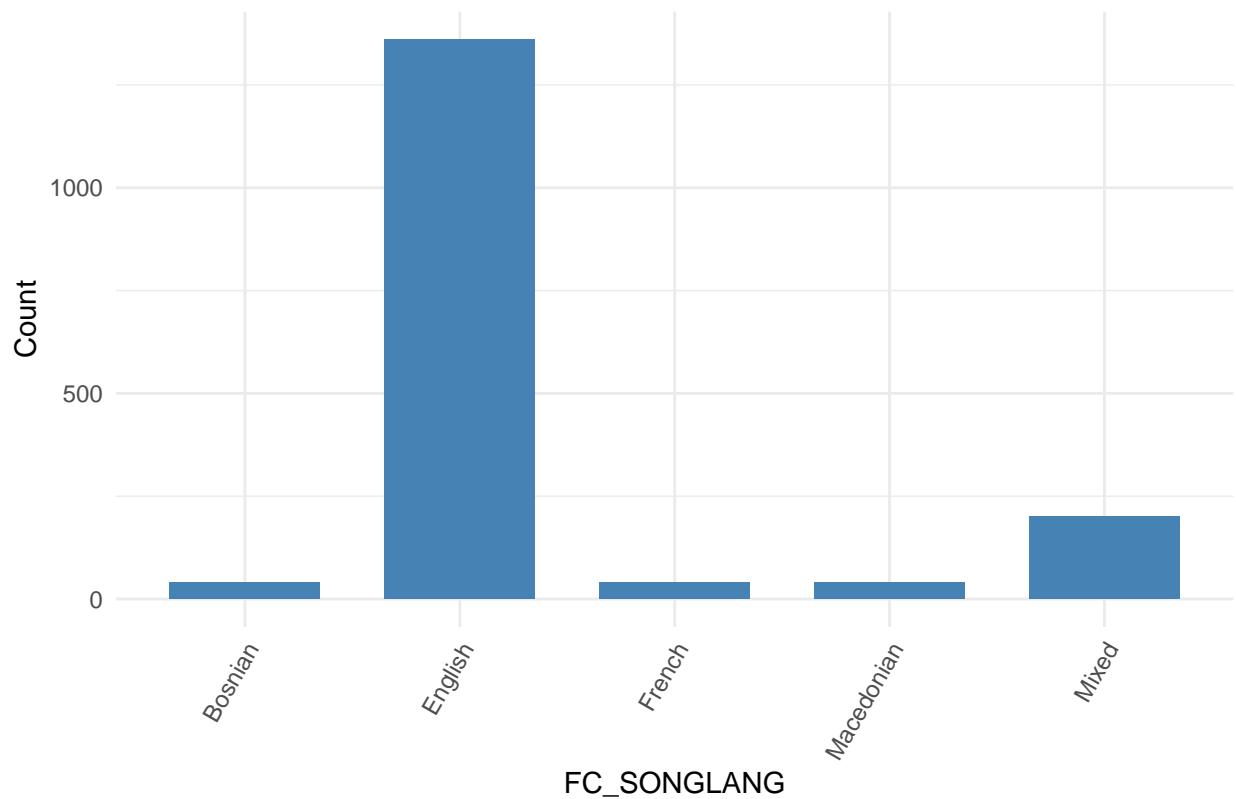
Bar Chart of Neighbours



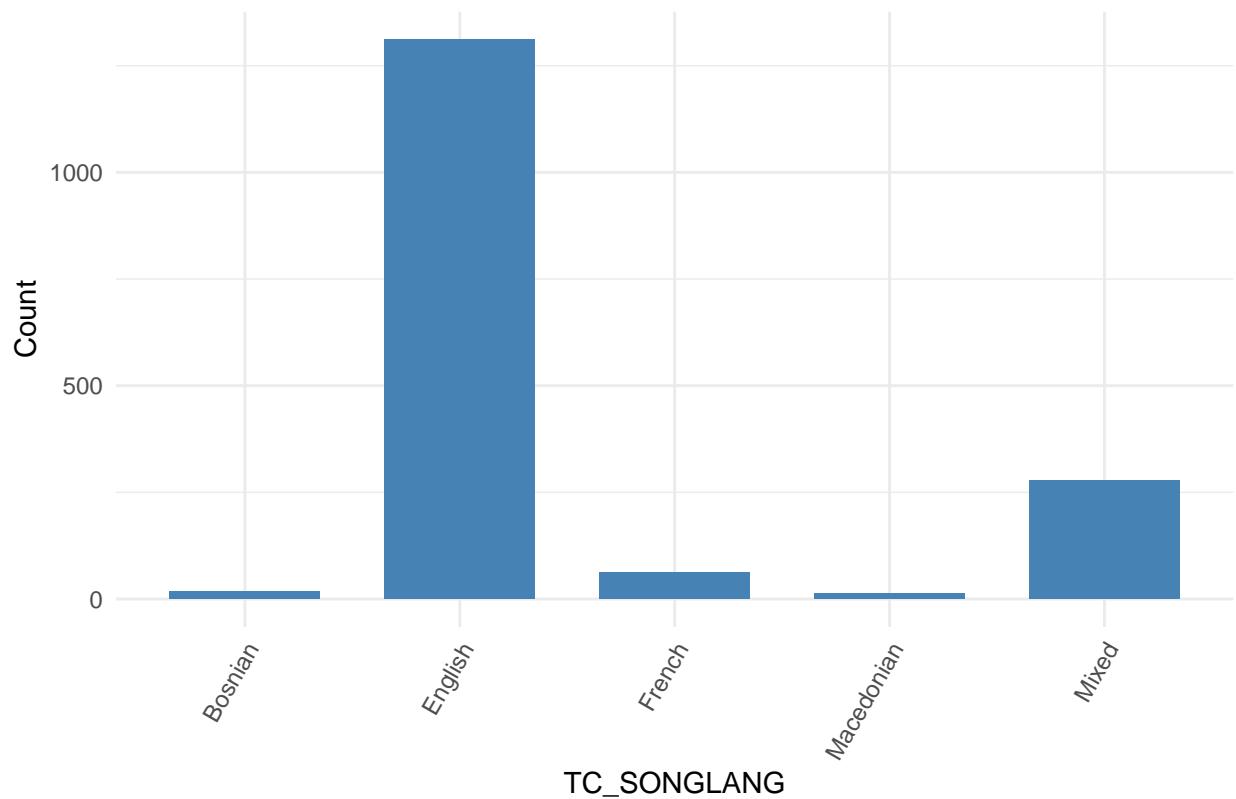
Bar Chart of TC_NumNeigh



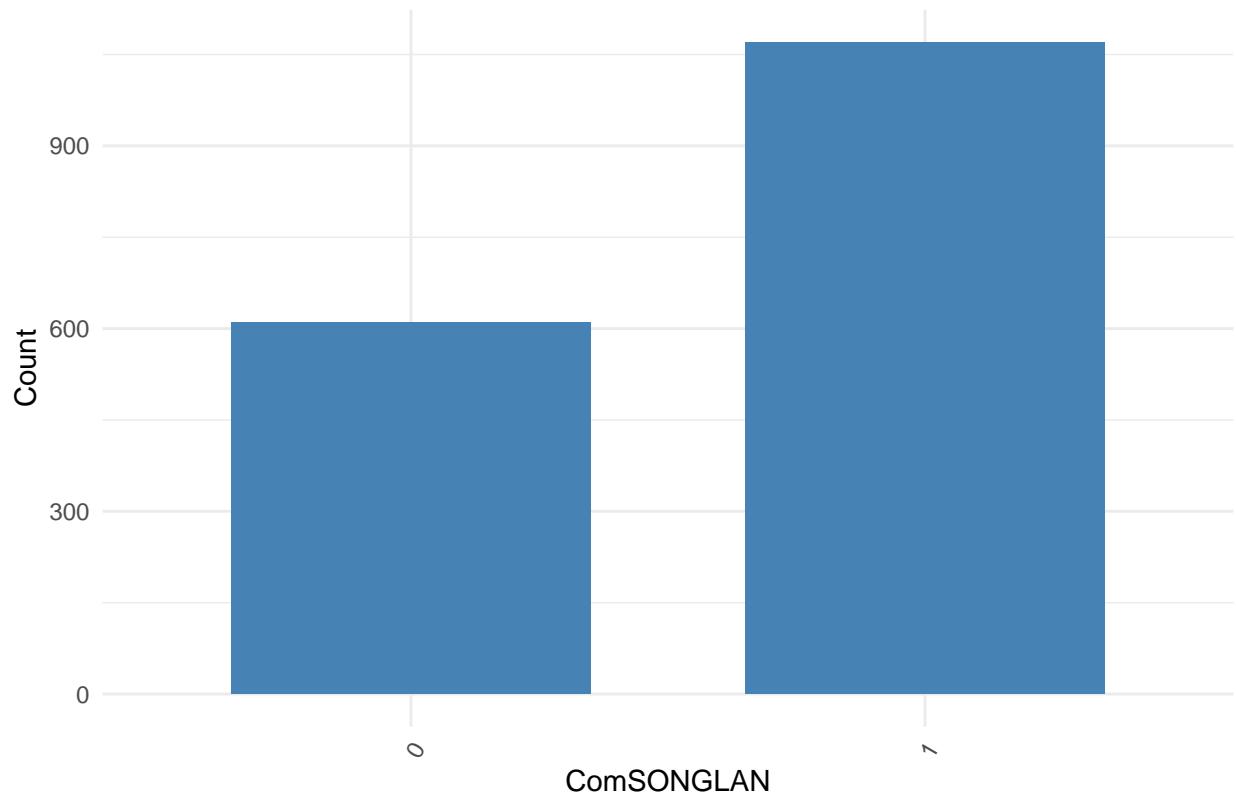
Bar Chart of FC_SONGLANG



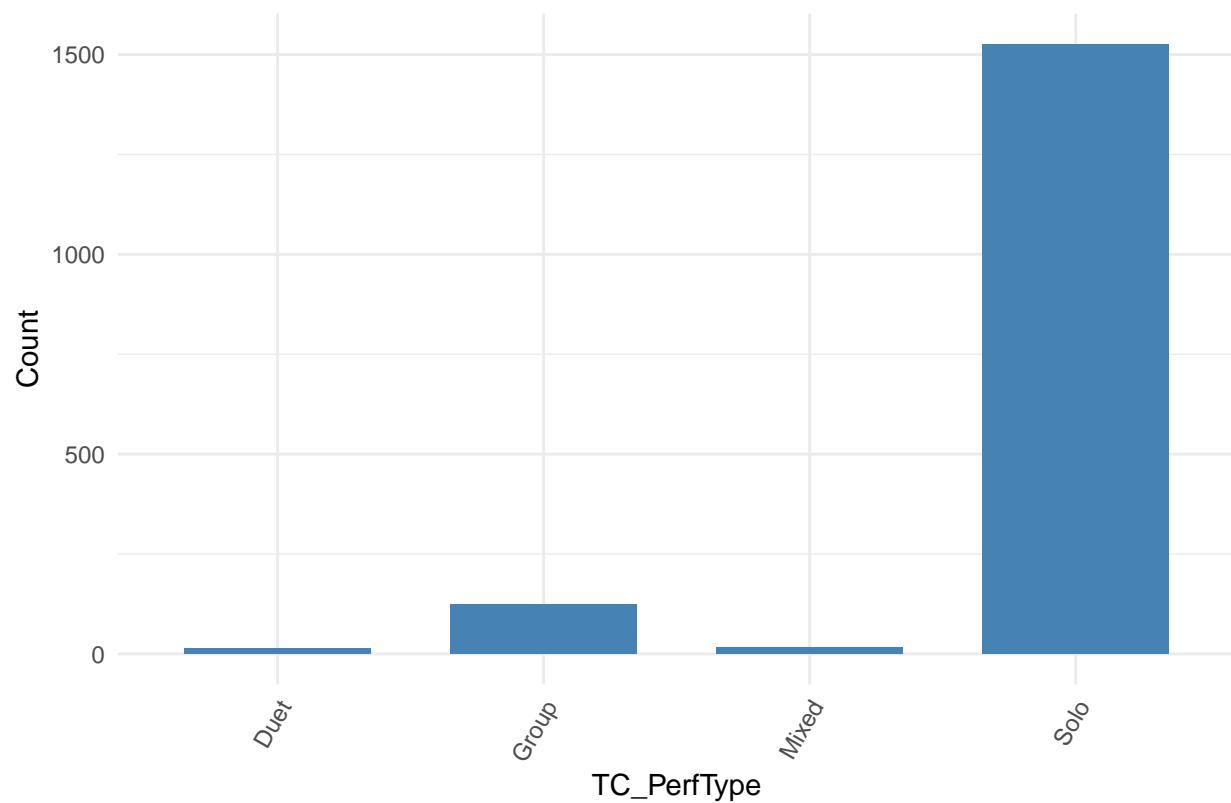
Bar Chart of TC_SONGLANG



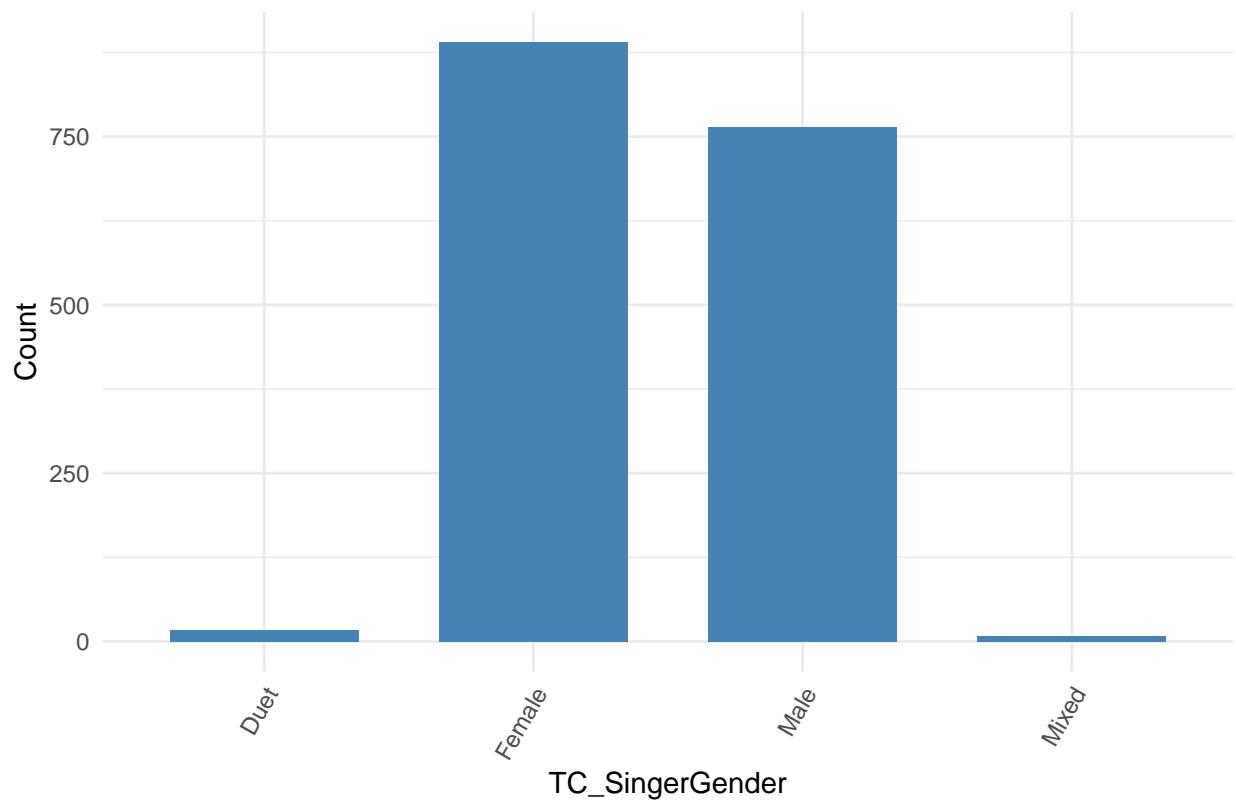
Bar Chart of ComSONGLAN



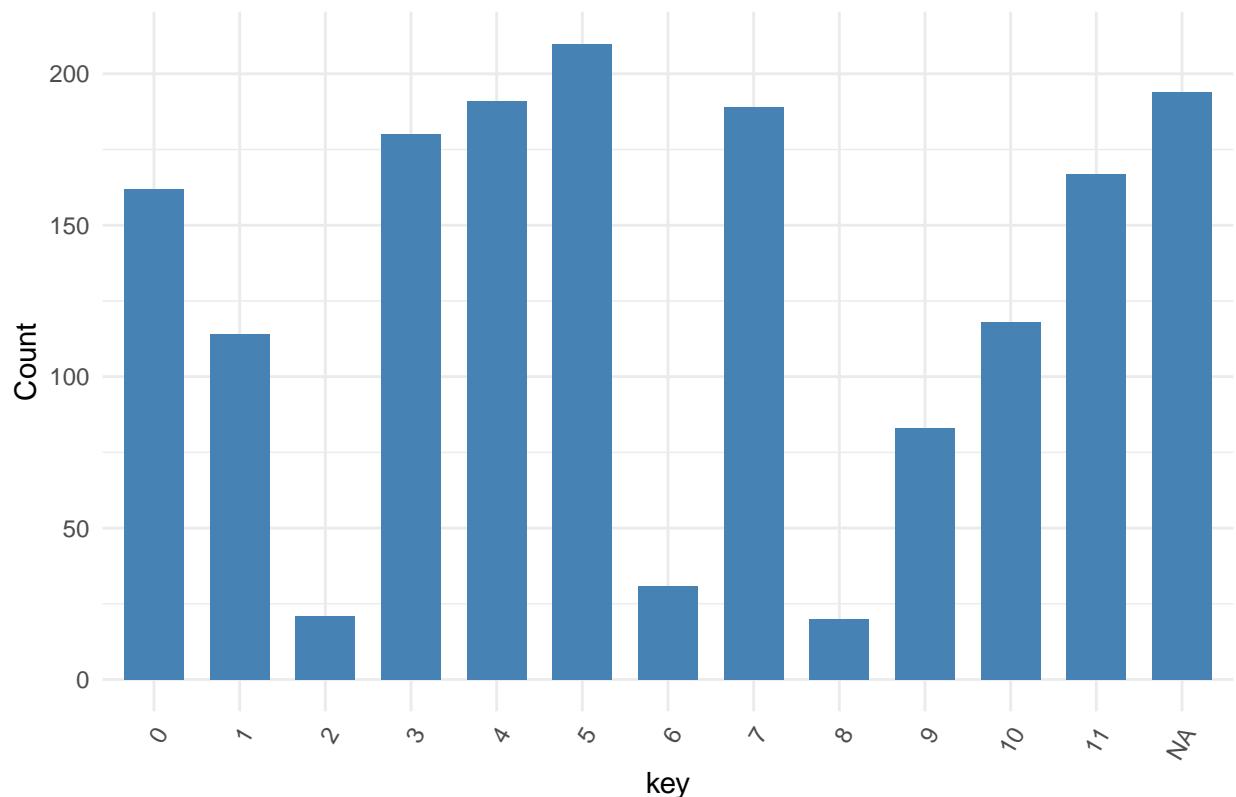
Bar Chart of TC_PerfType



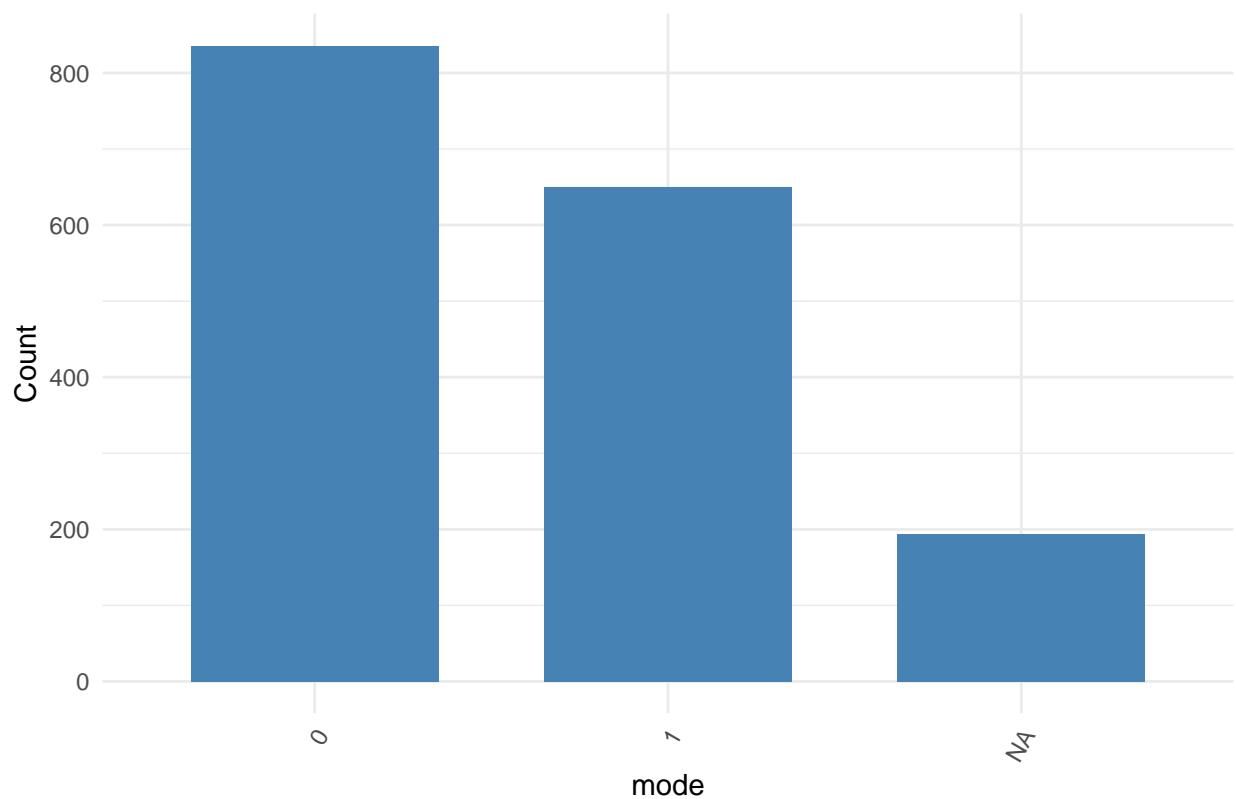
Bar Chart of TC_SingerGender



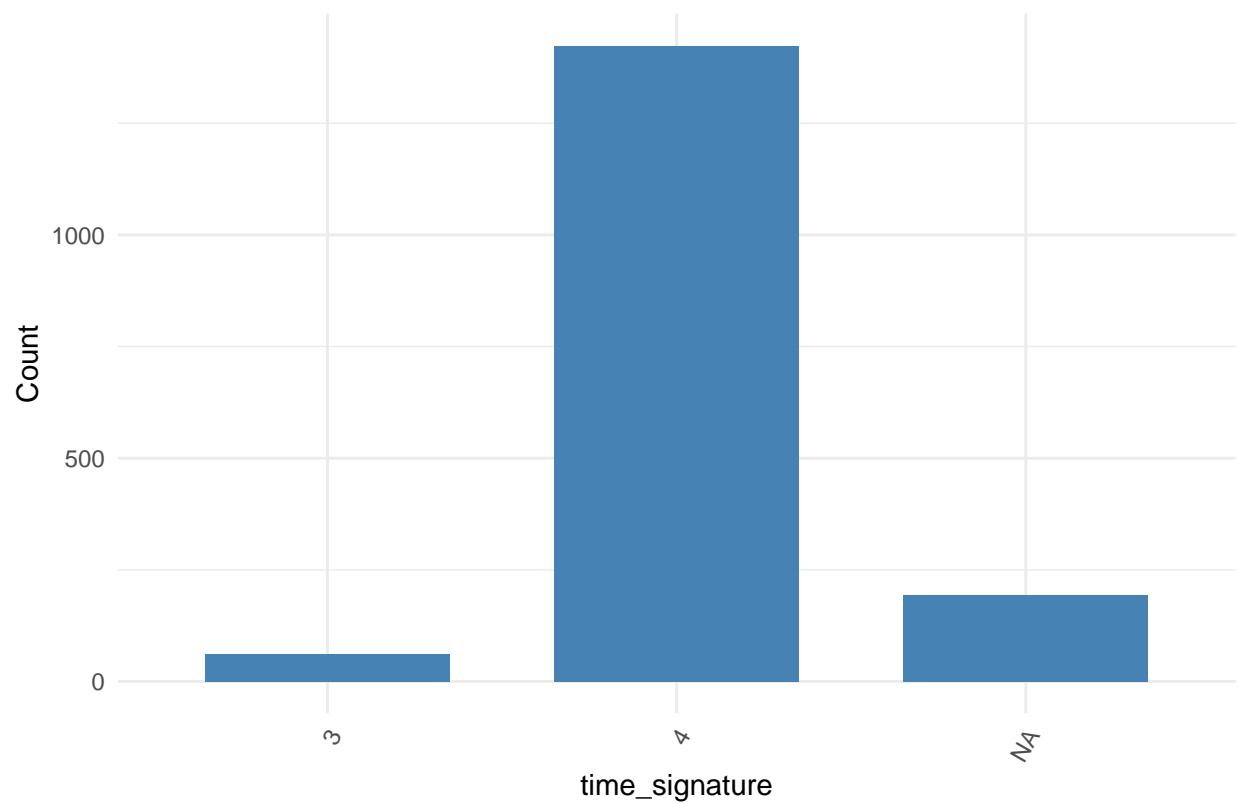
Bar Chart of key



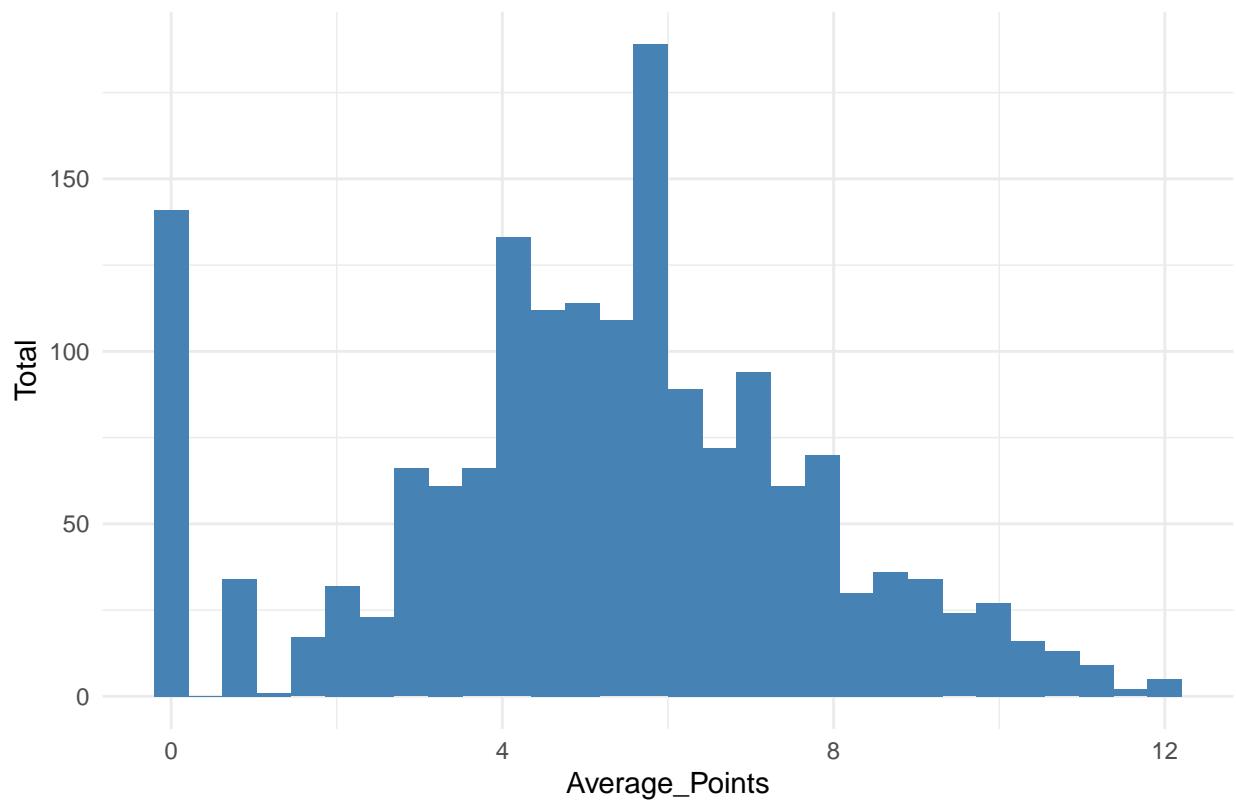
Bar Chart of mode



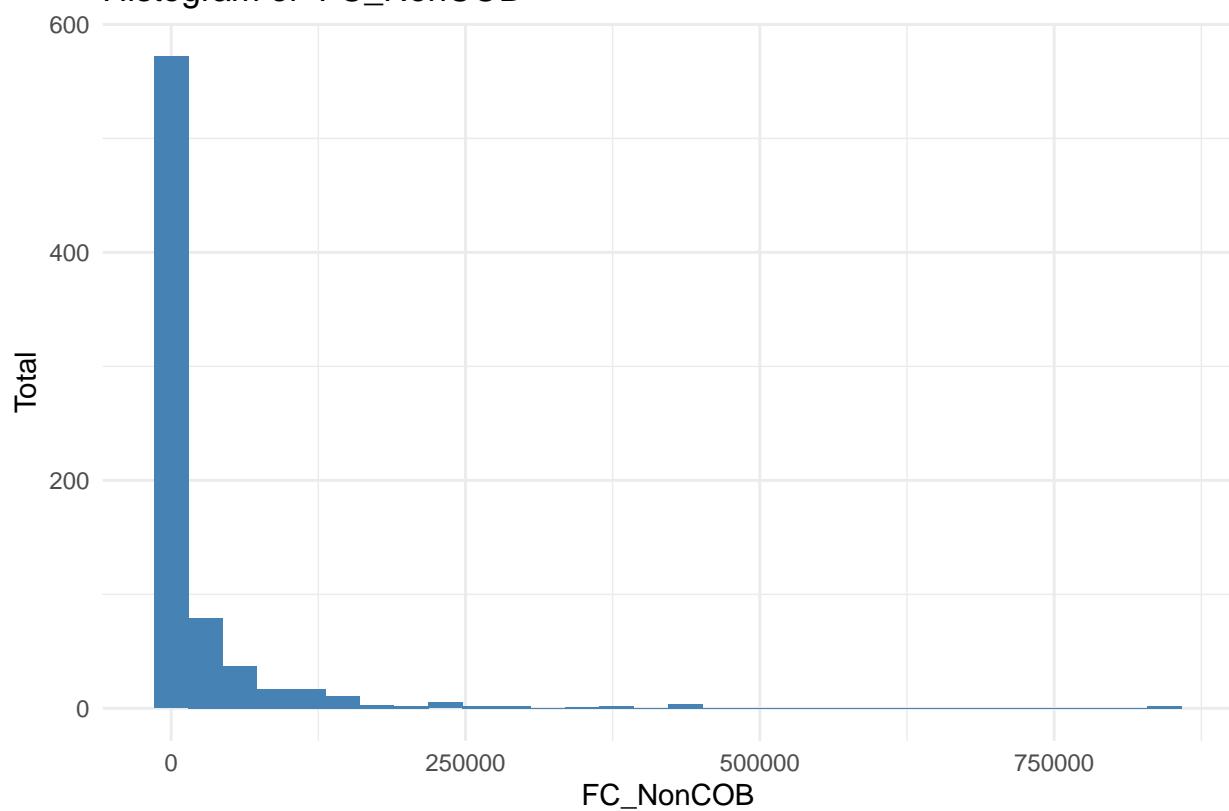
Bar Chart of time_signature



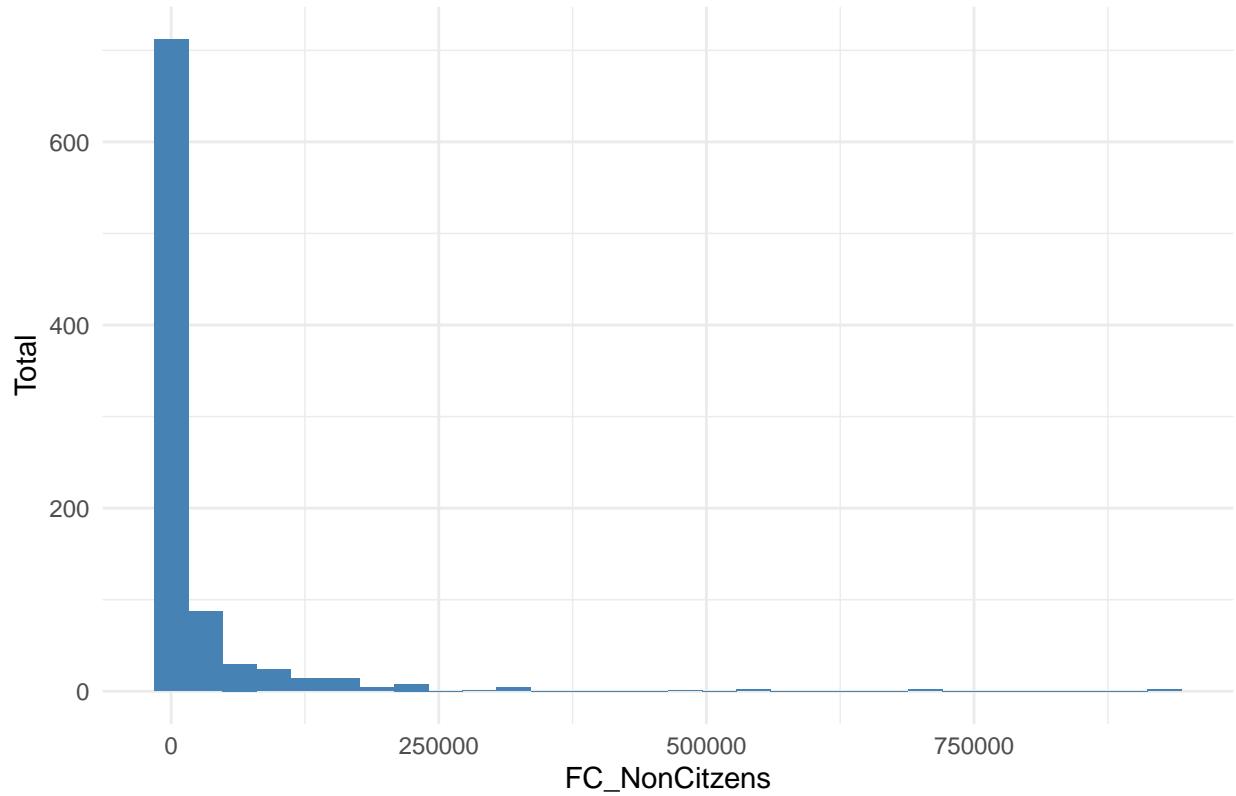
Histogram of Average_Points



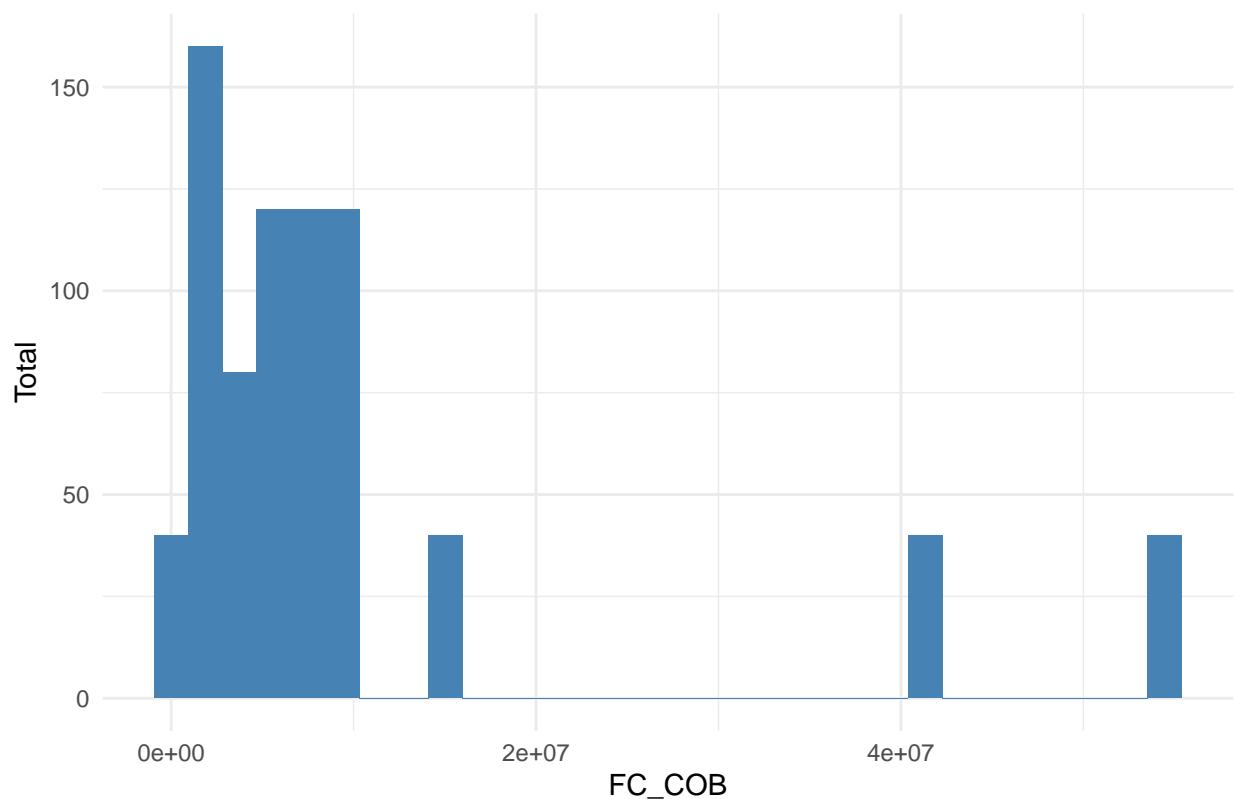
Histogram of FC_NonCOB



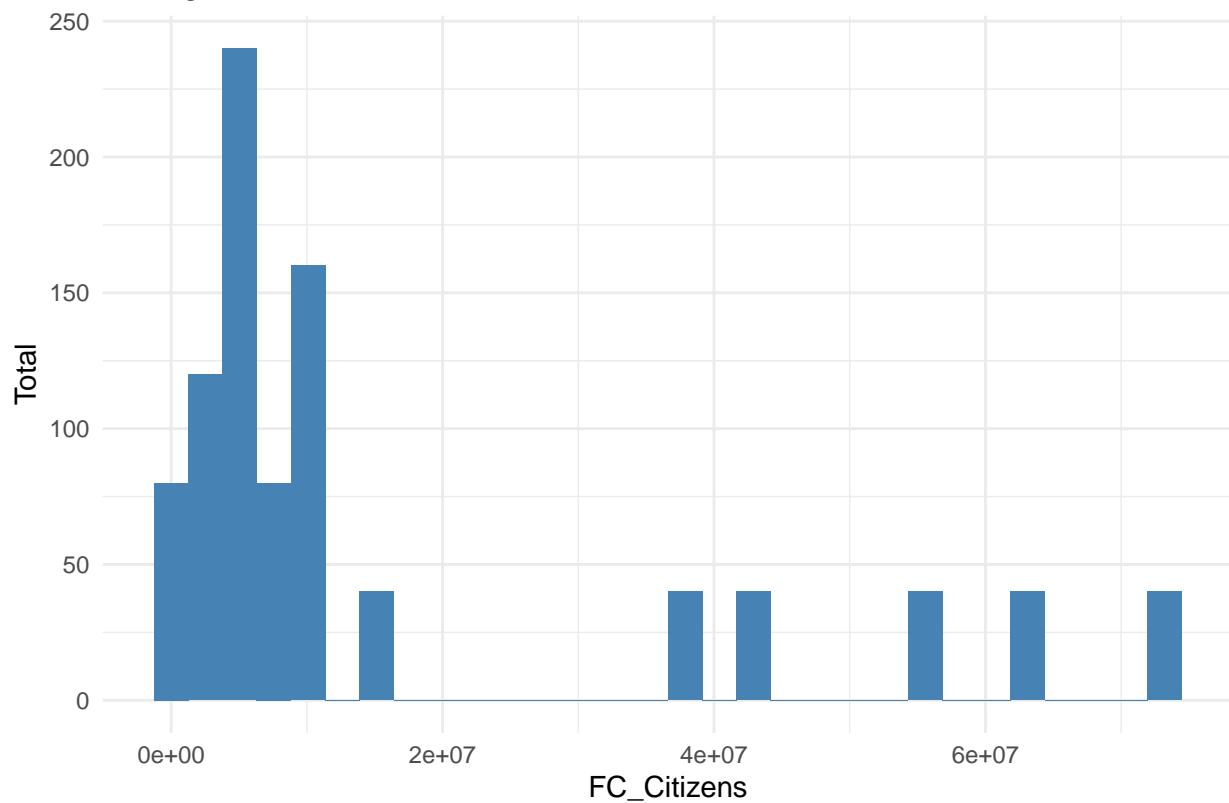
Histogram of FC_NonCitizens



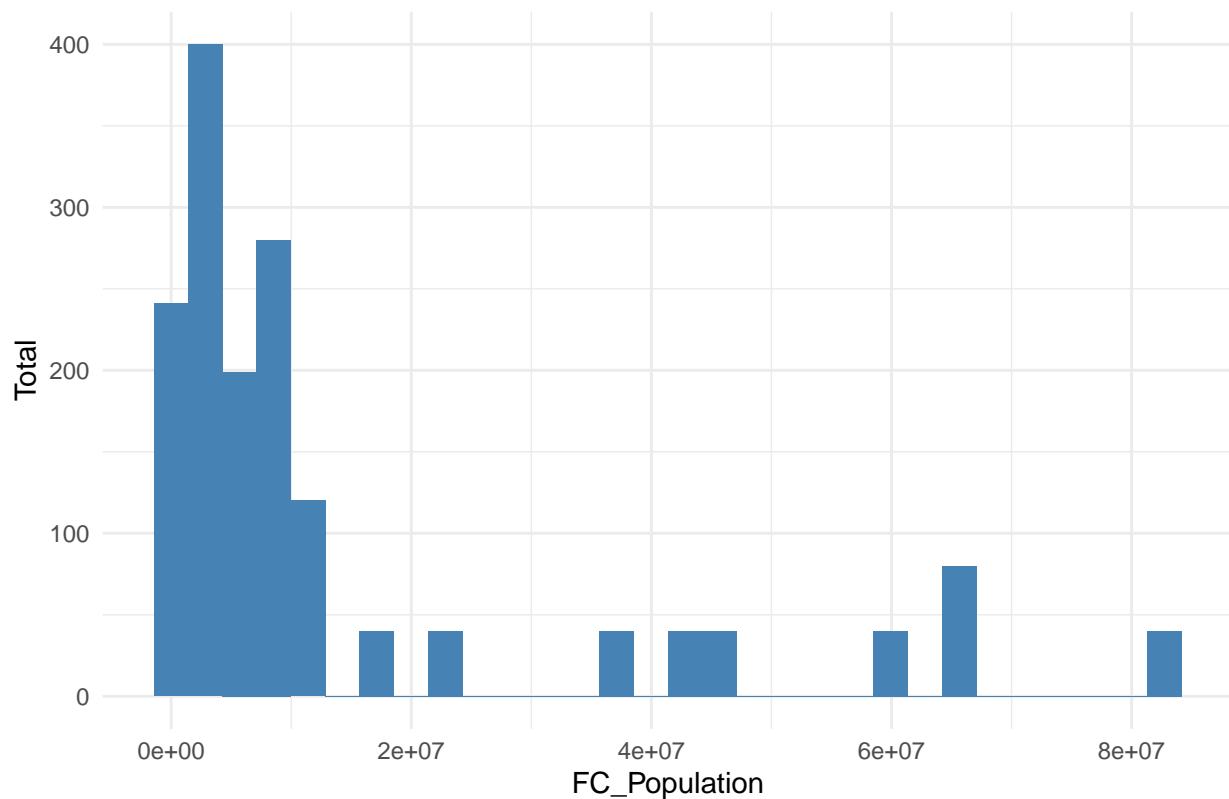
Histogram of FC_COB



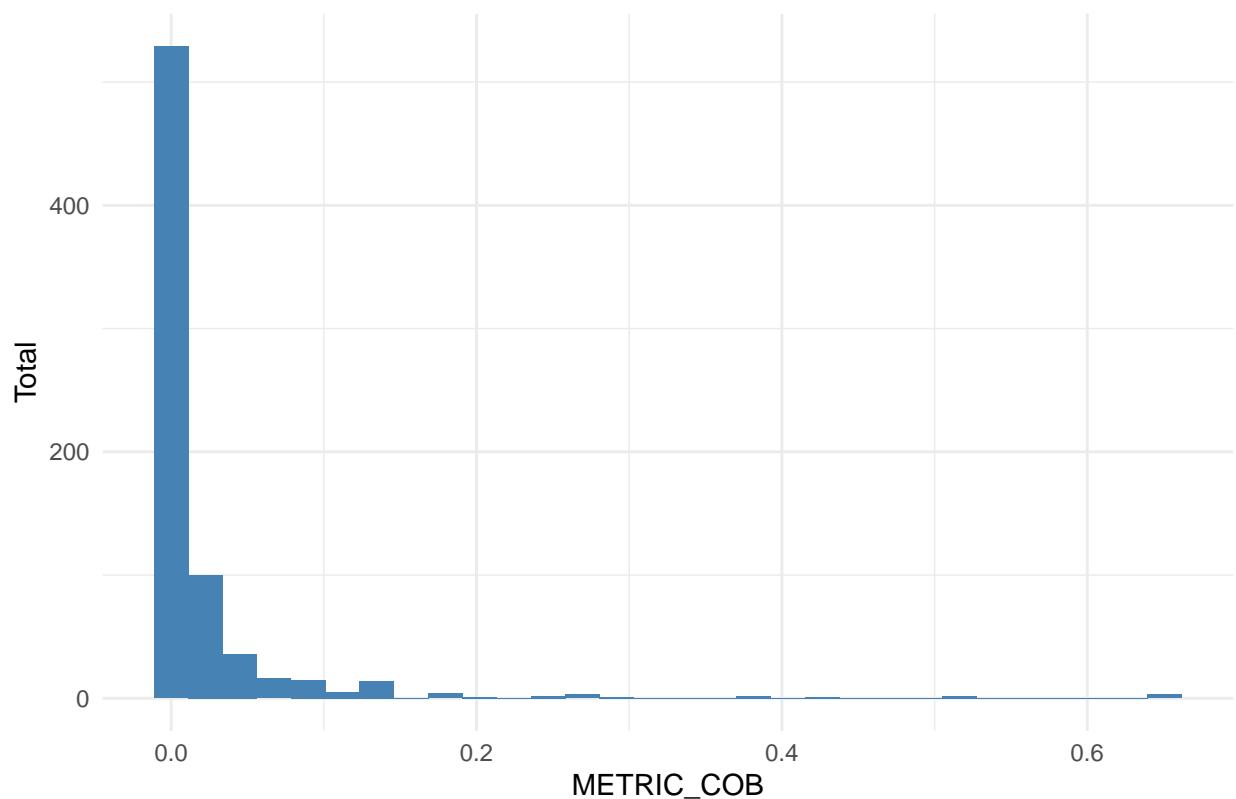
Histogram of FC_Citizens



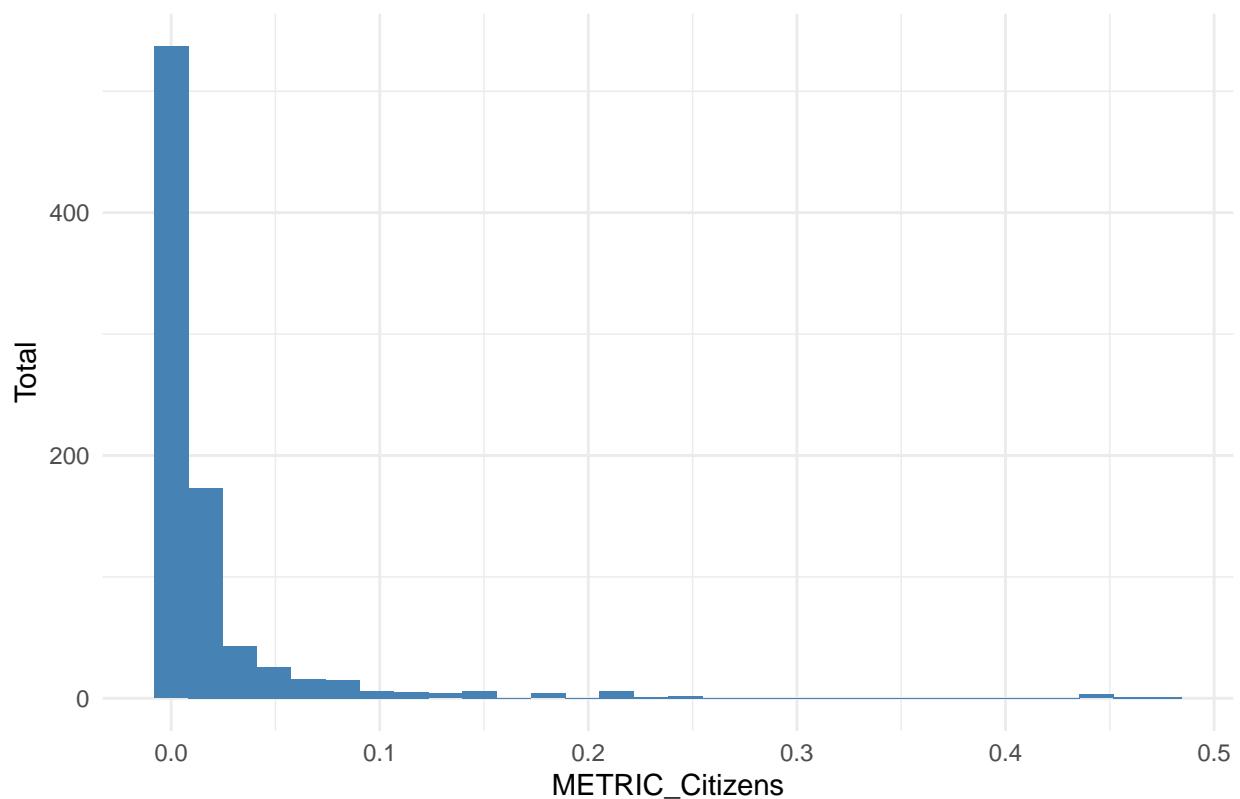
Histogram of FC_Population



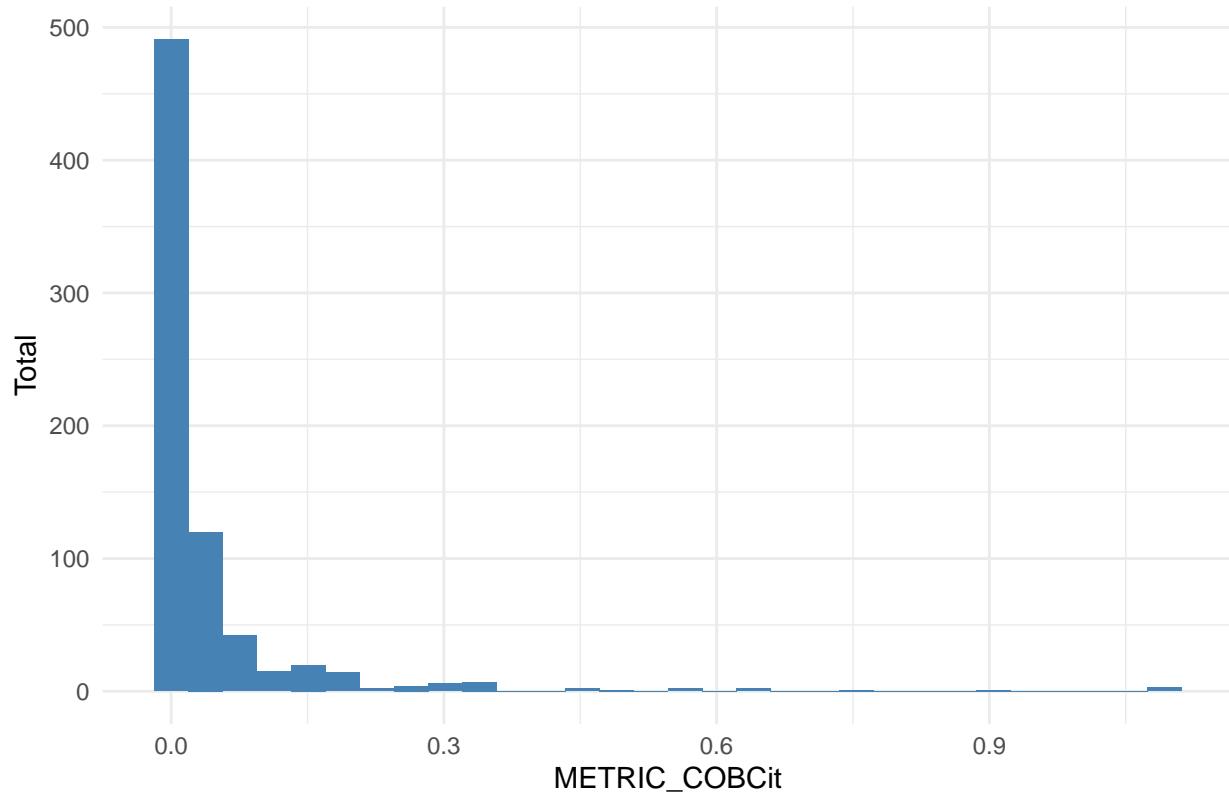
Histogram of METRIC_COB



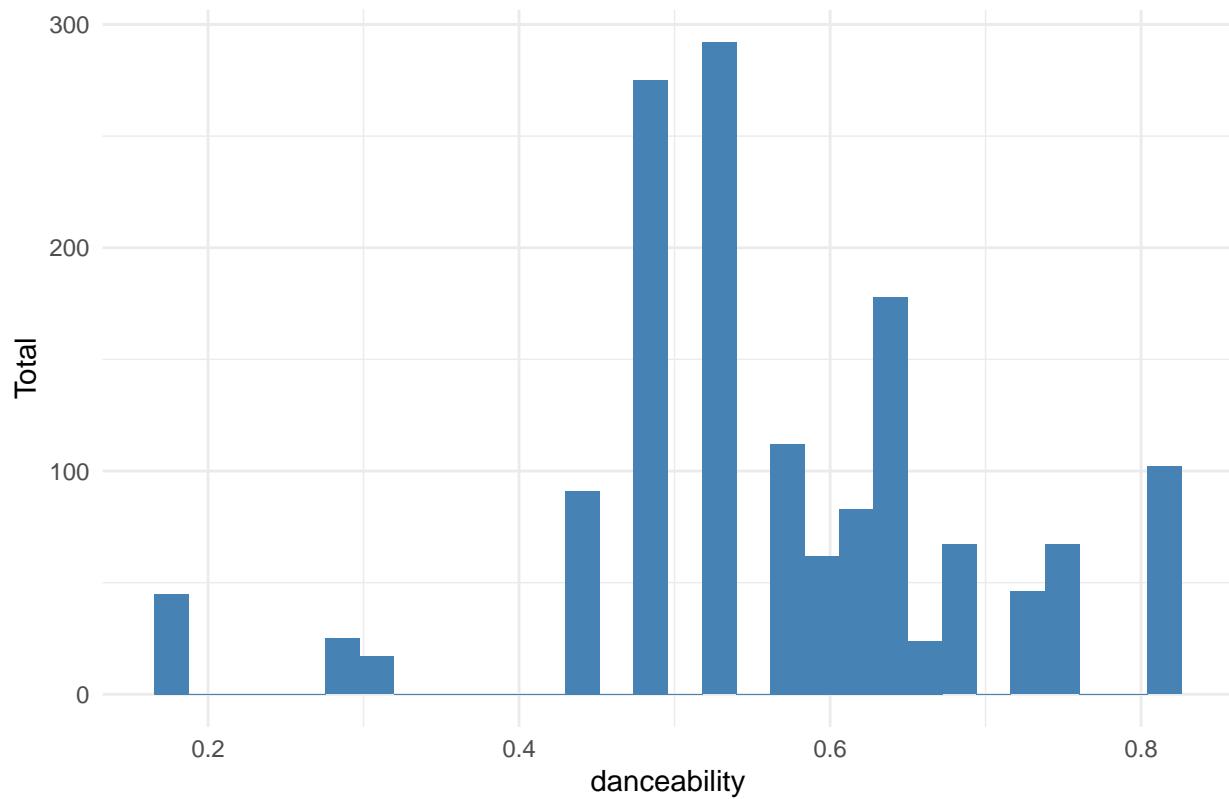
Histogram of METRIC_Citizens



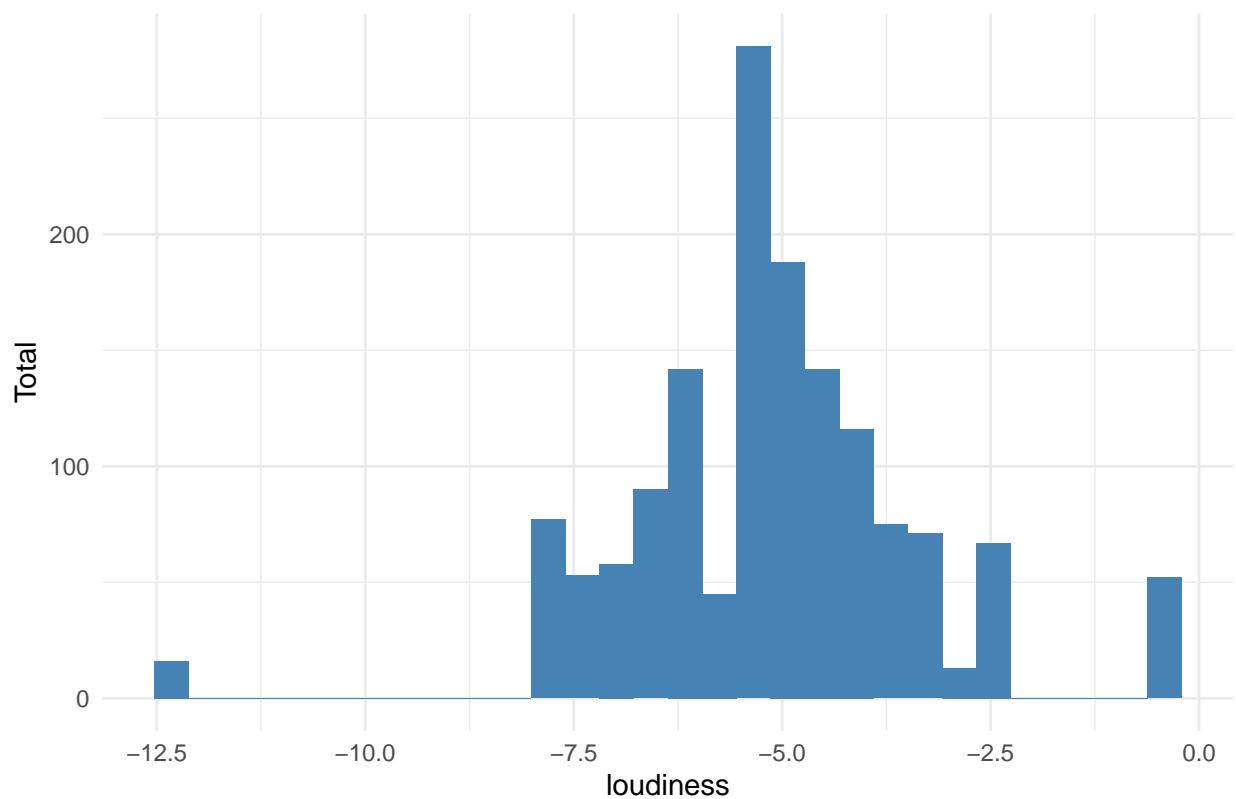
Histogram of METRIC_COBCit



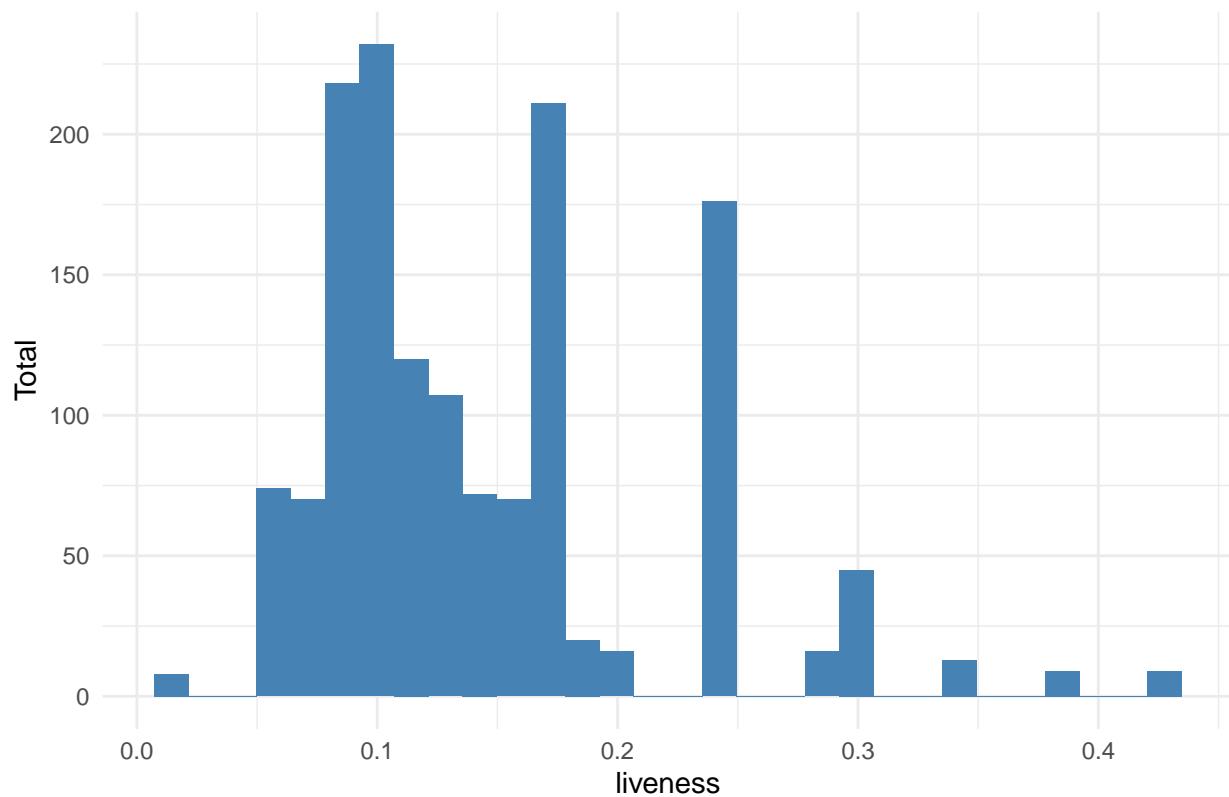
Histogram of danceability



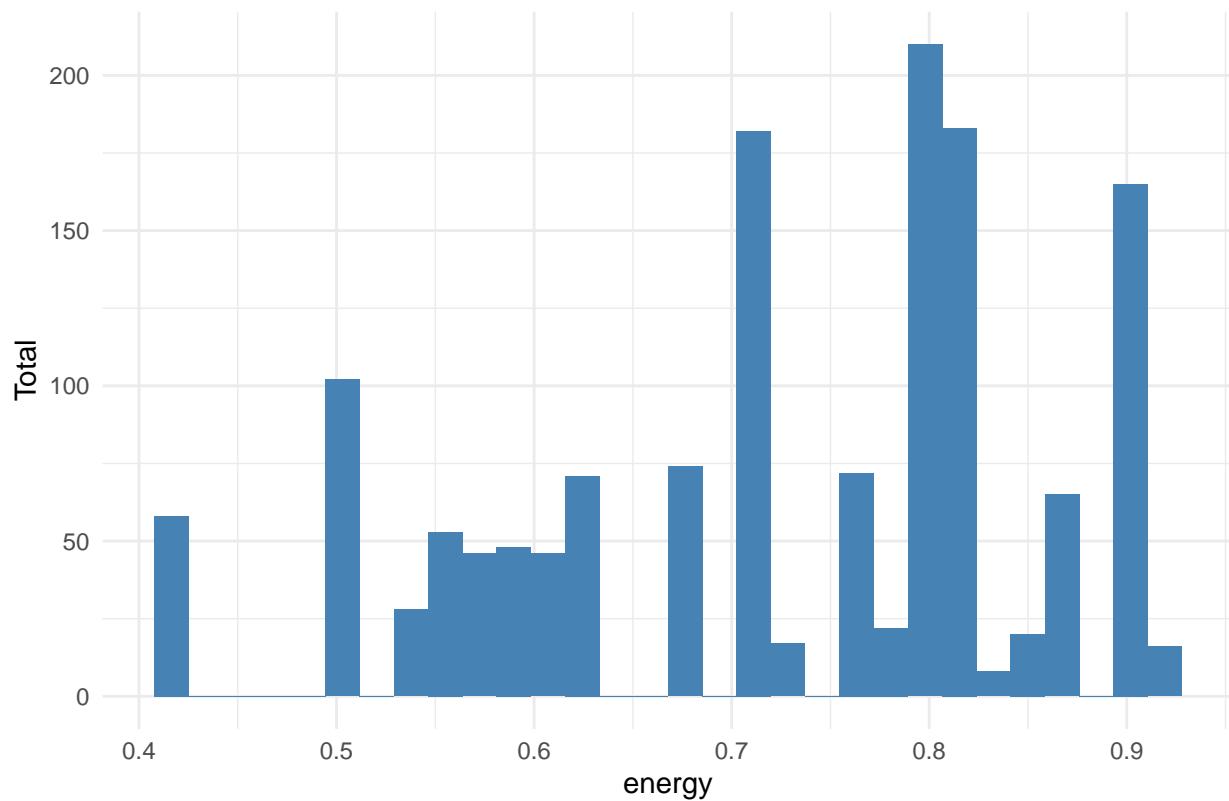
Histogram of loudness



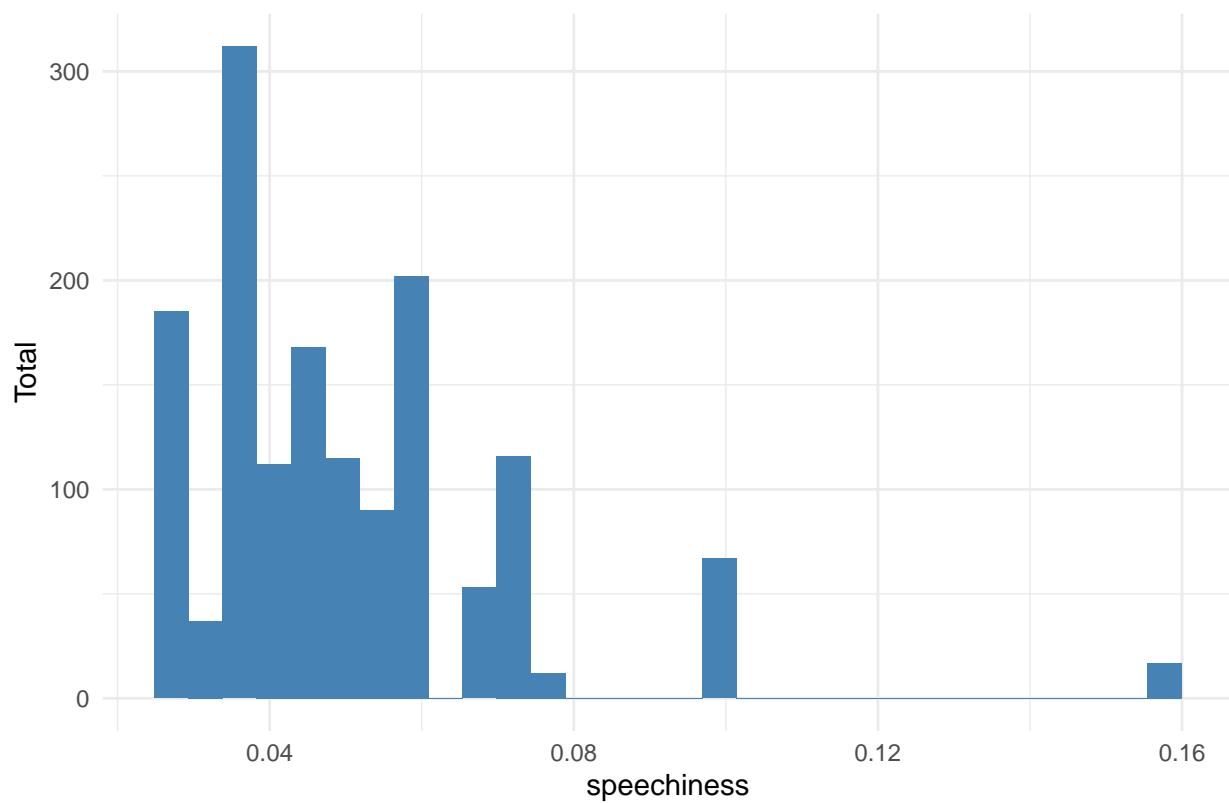
Histogram of liveness



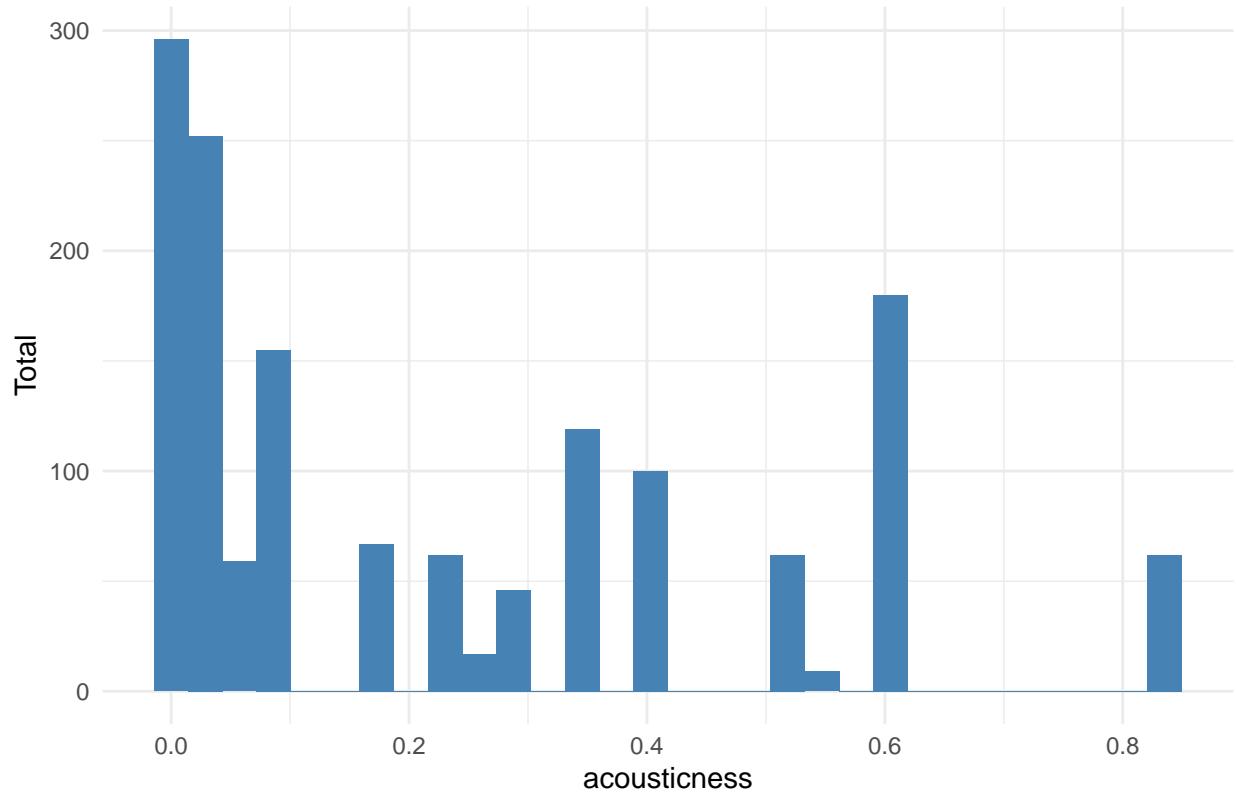
Histogram of energy



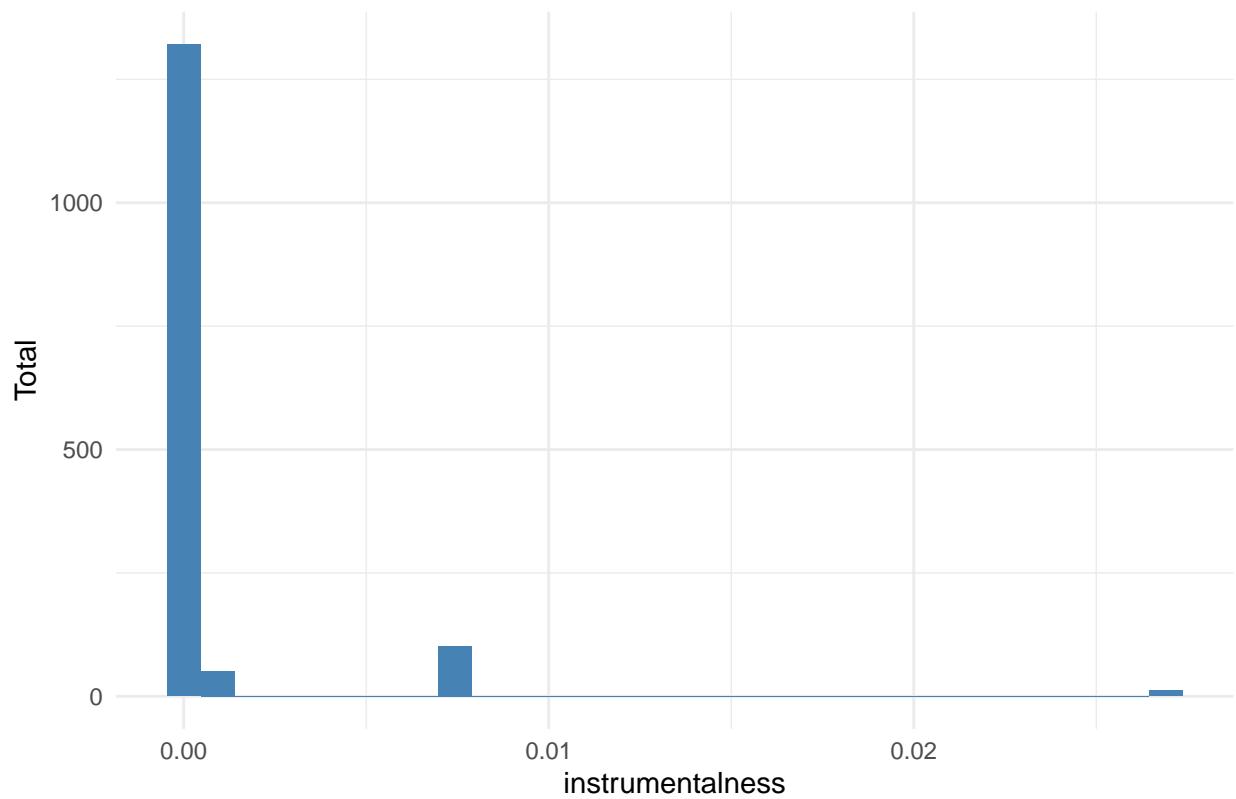
Histogram of speechiness



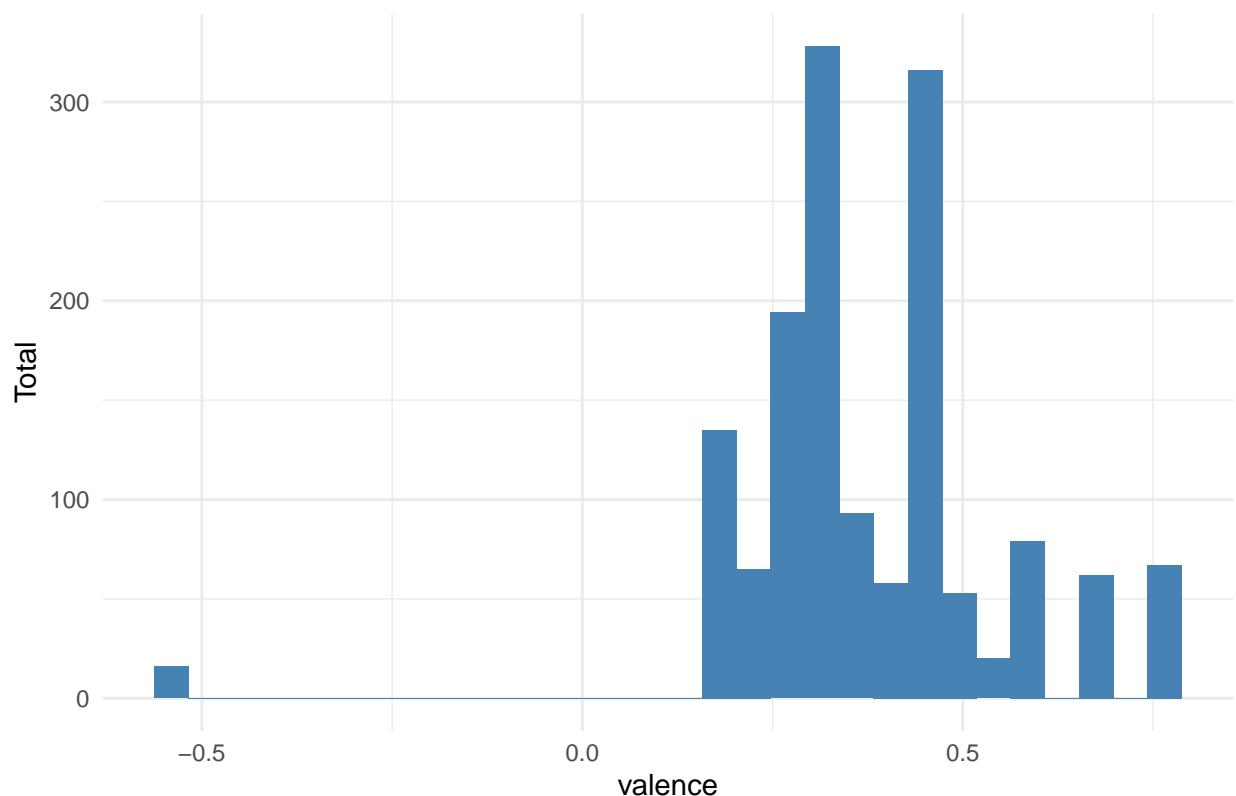
Histogram of acousticness



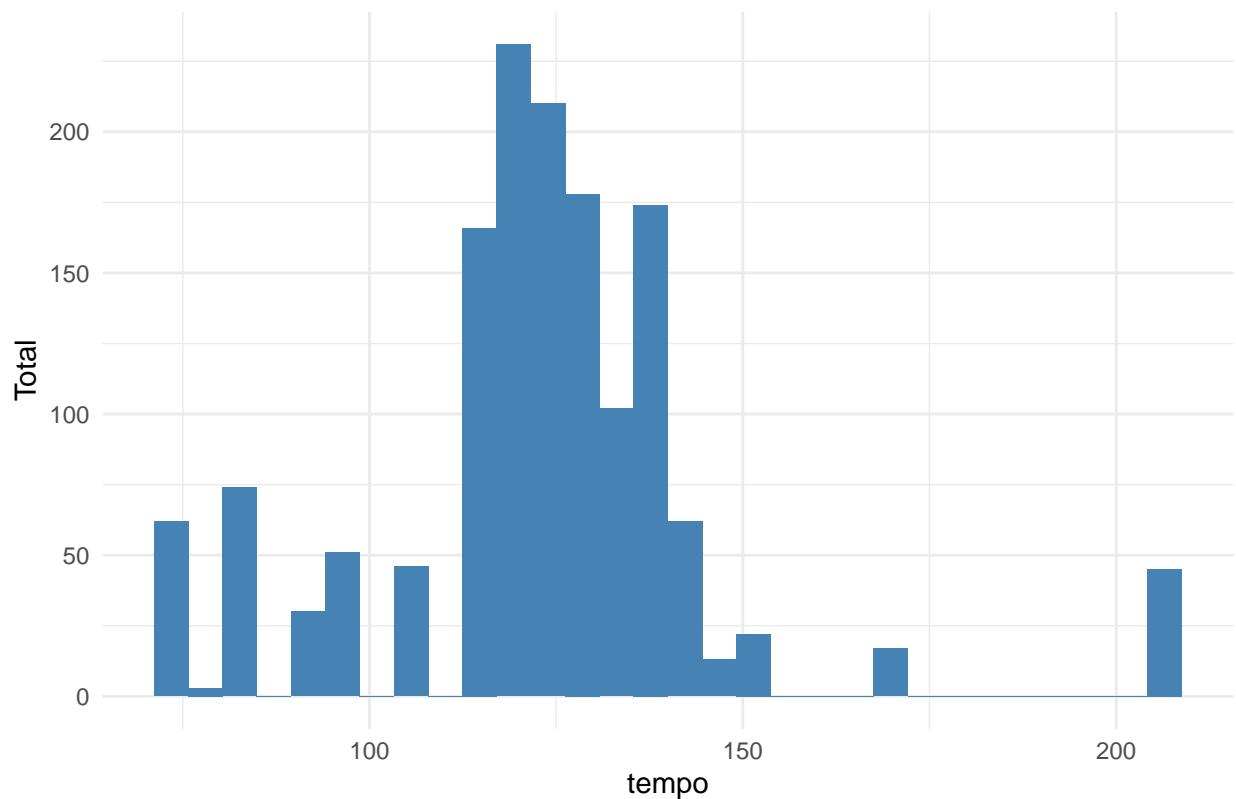
Histogram of instrumentalness



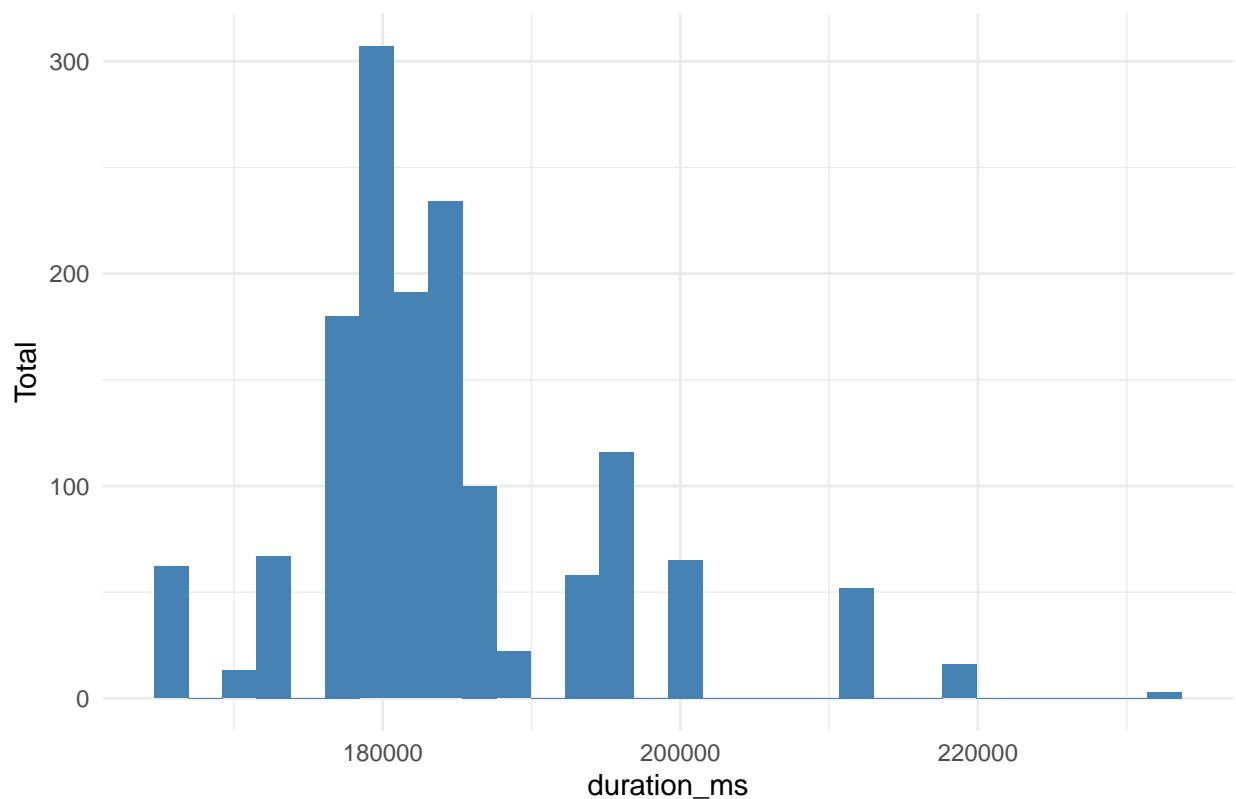
Histogram of valence



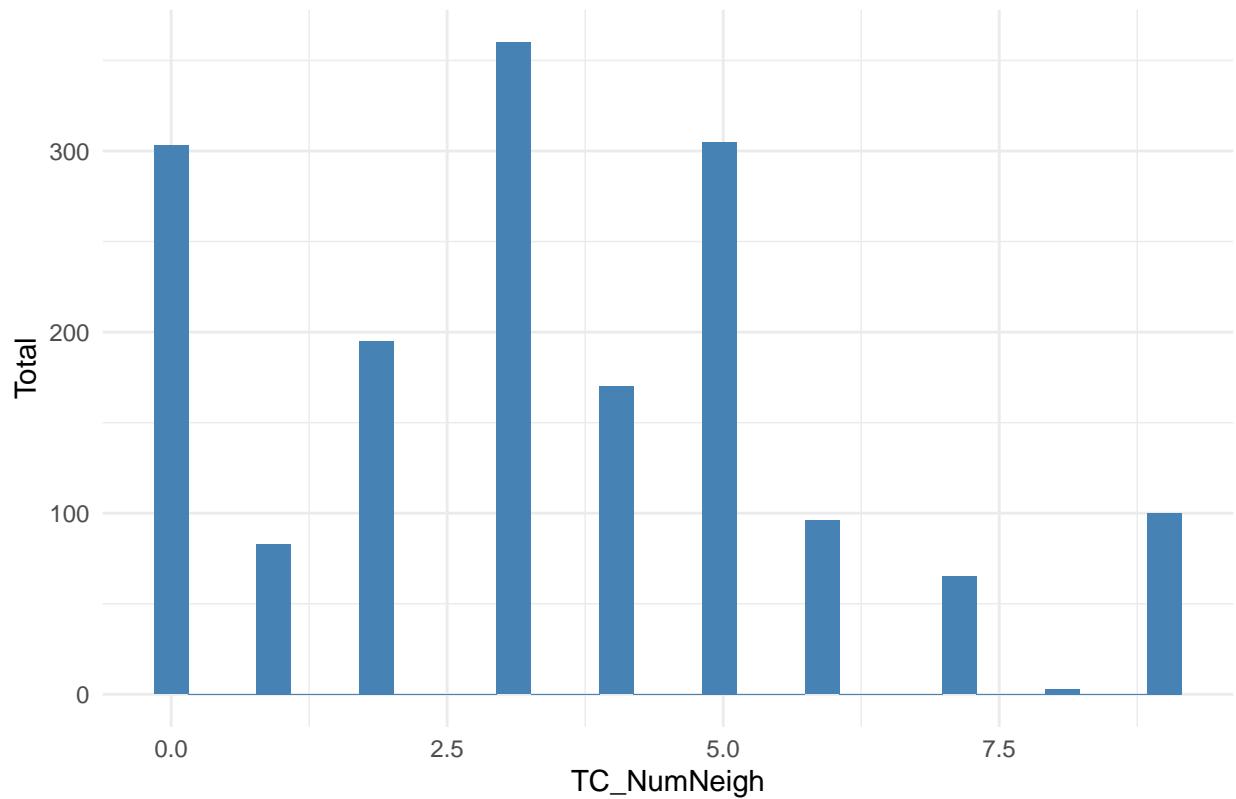
Histogram of tempo



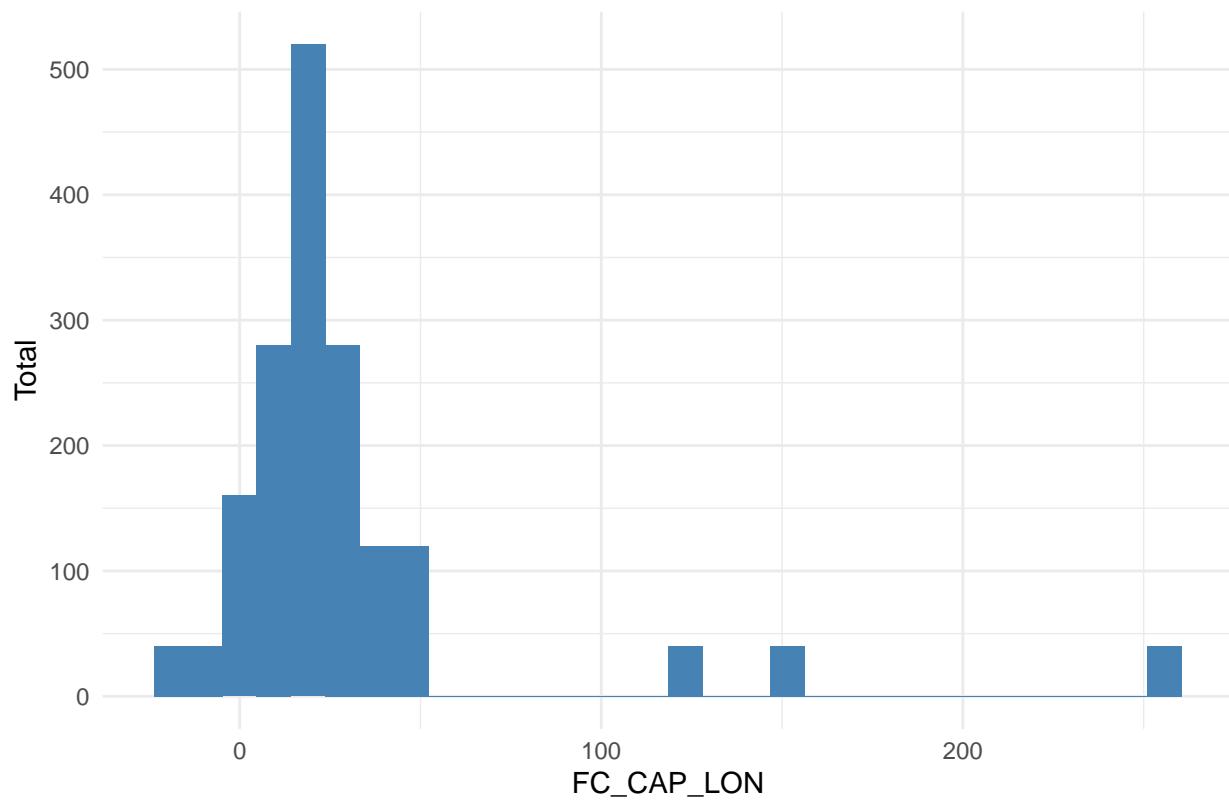
Histogram of duration_ms



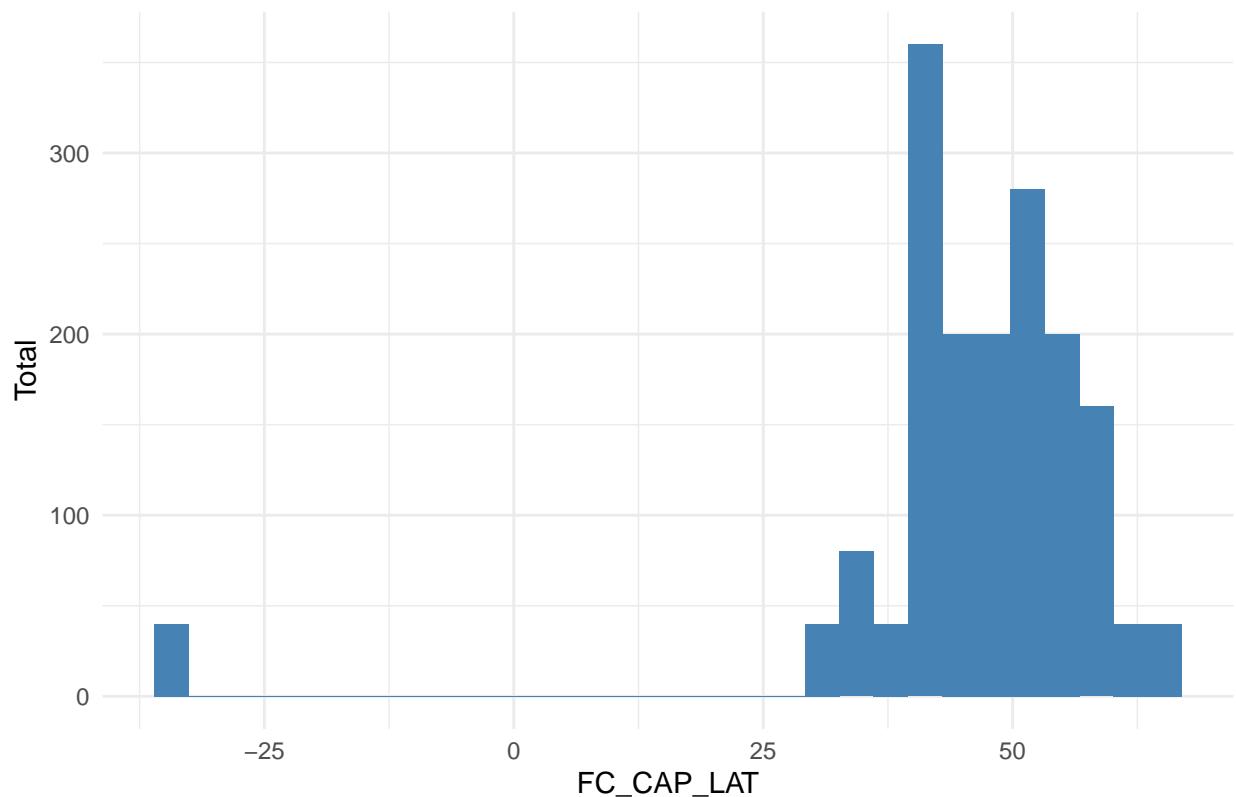
Histogram of TC_NumNeigh



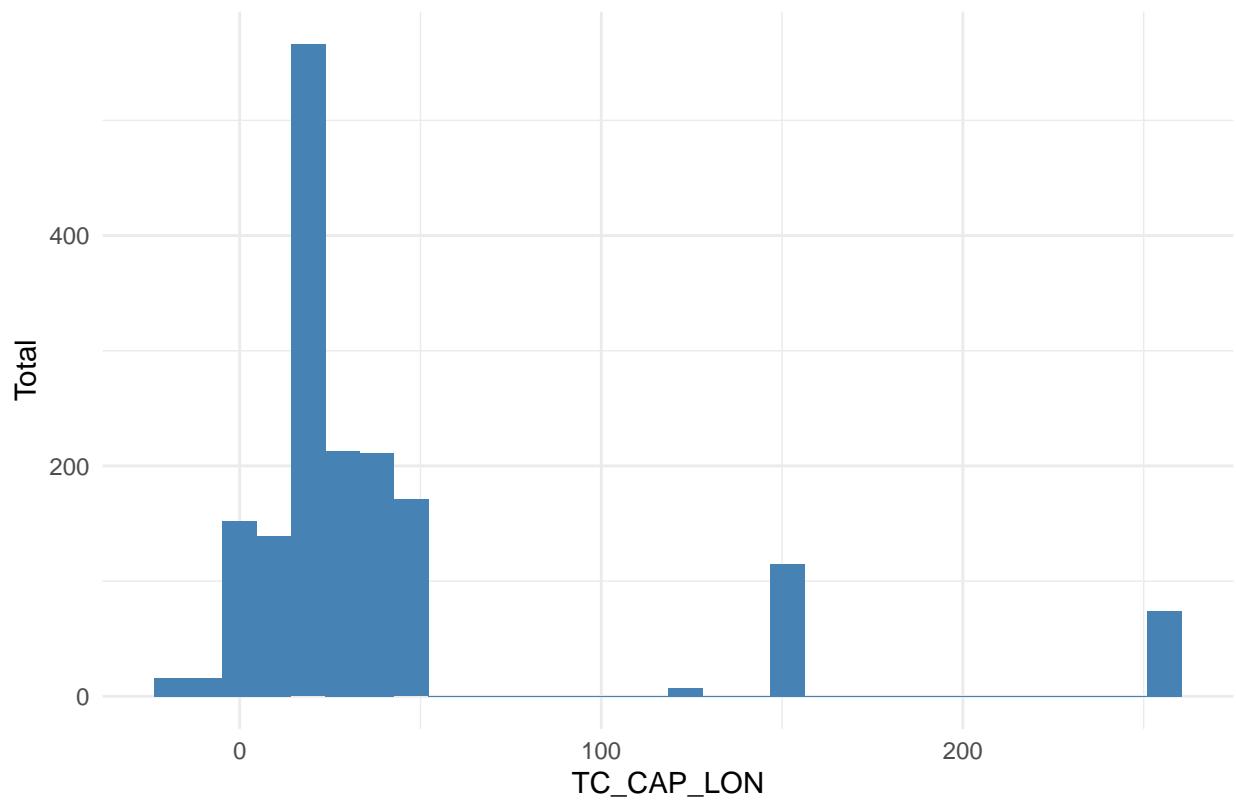
Histogram of FC_CAP_LON



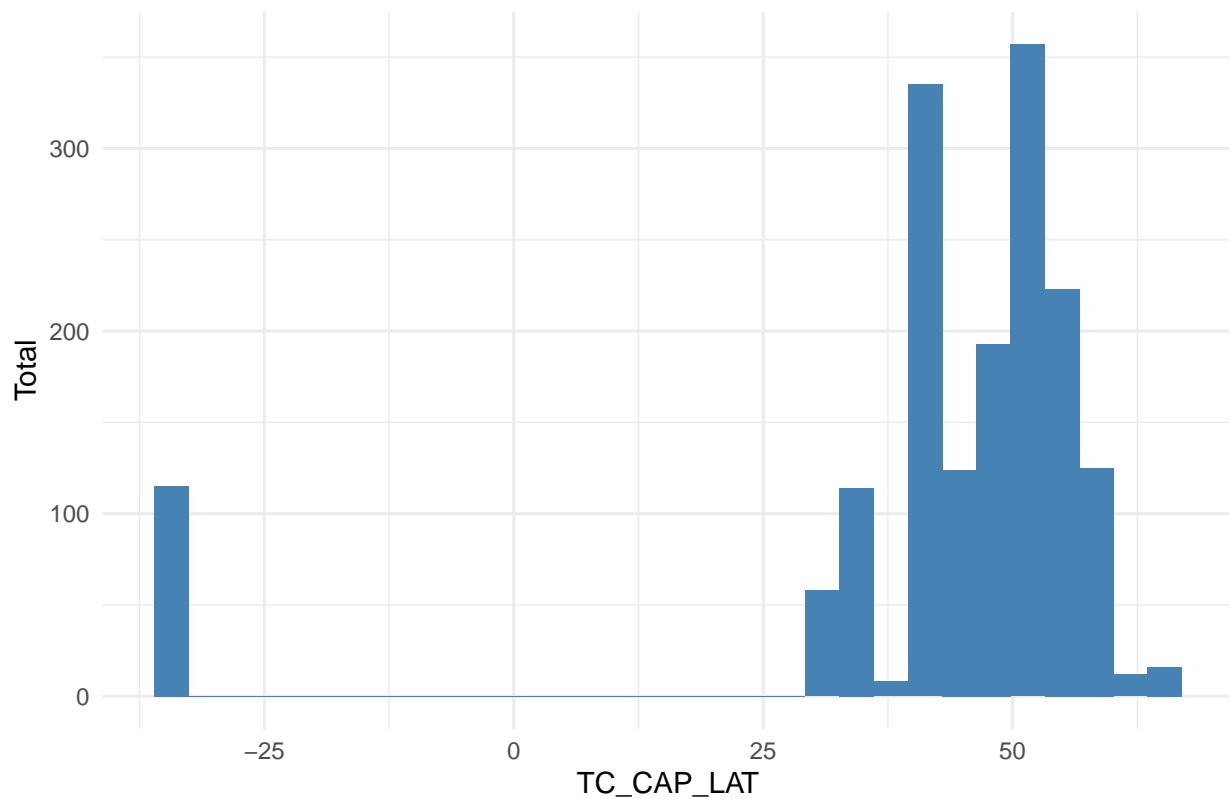
Histogram of FC_CAP_LAT



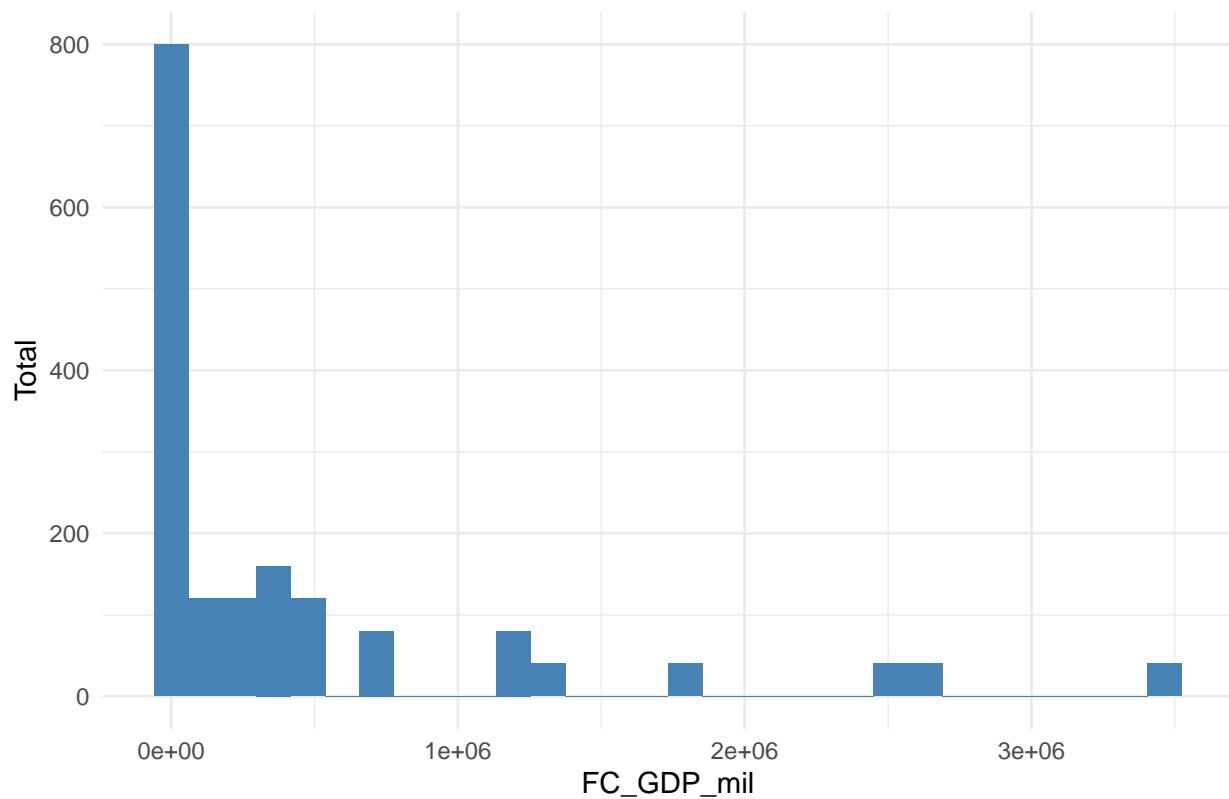
Histogram of TC_CAP_LON



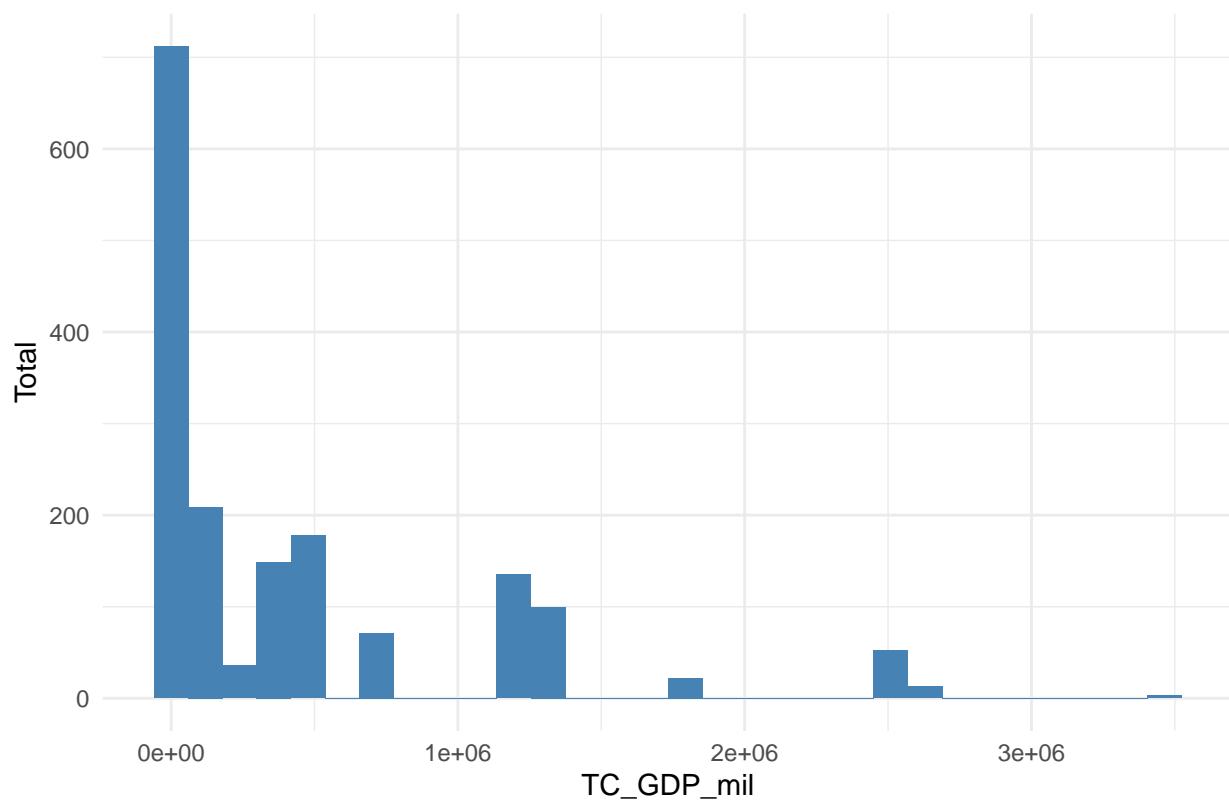
Histogram of TC_CAP_LAT



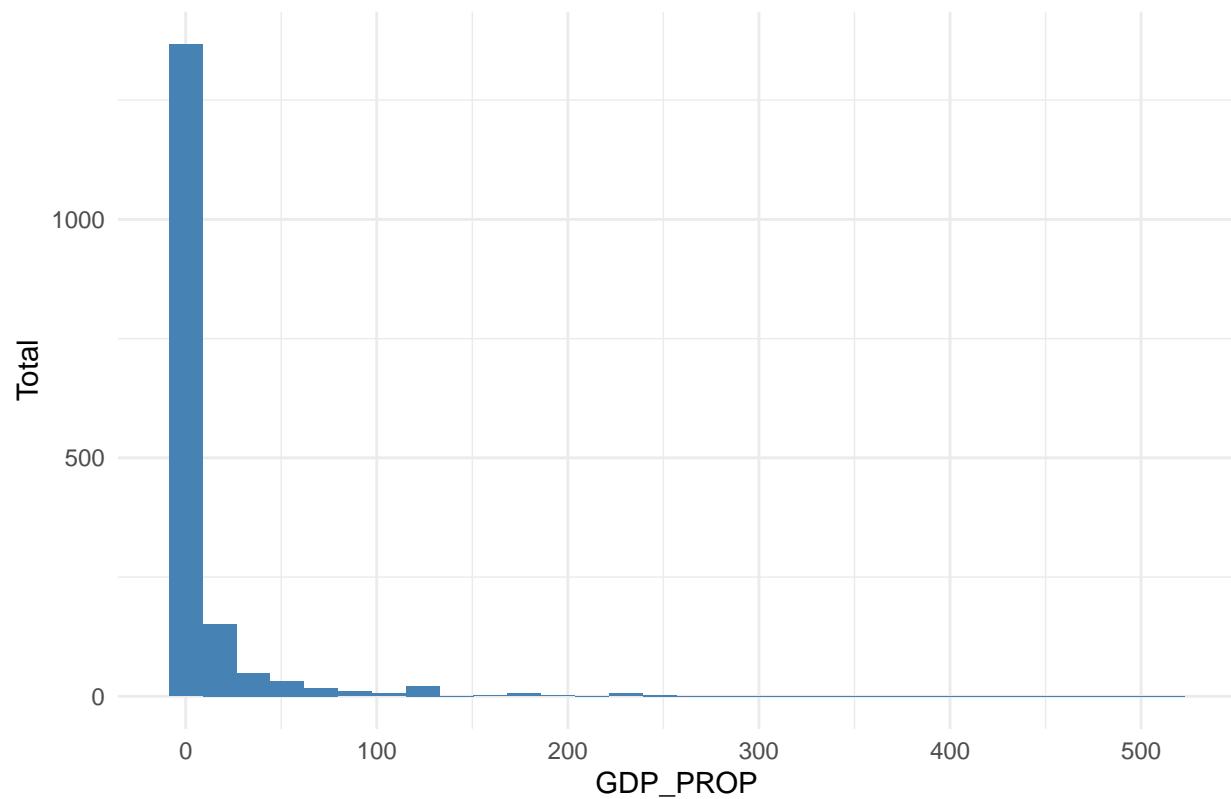
Histogram of FC_GDP_mil



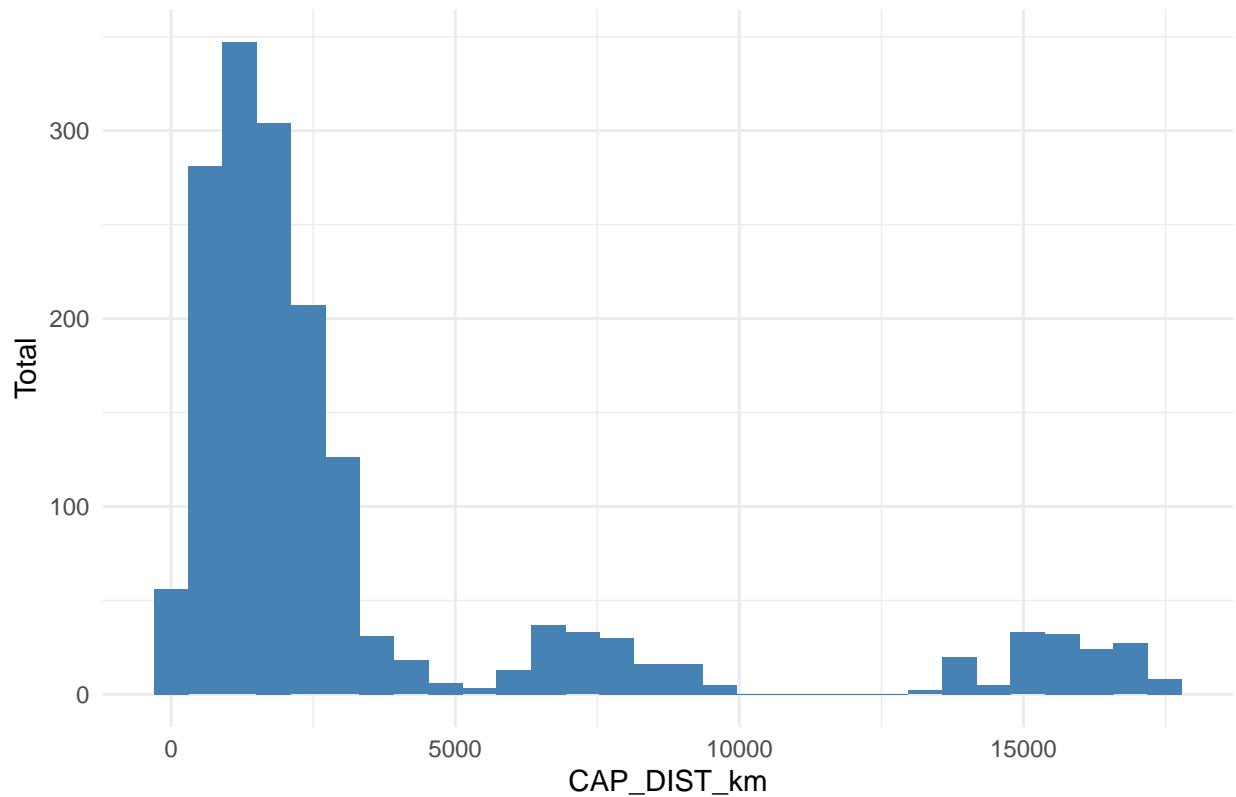
Histogram of TC_GDP_mil



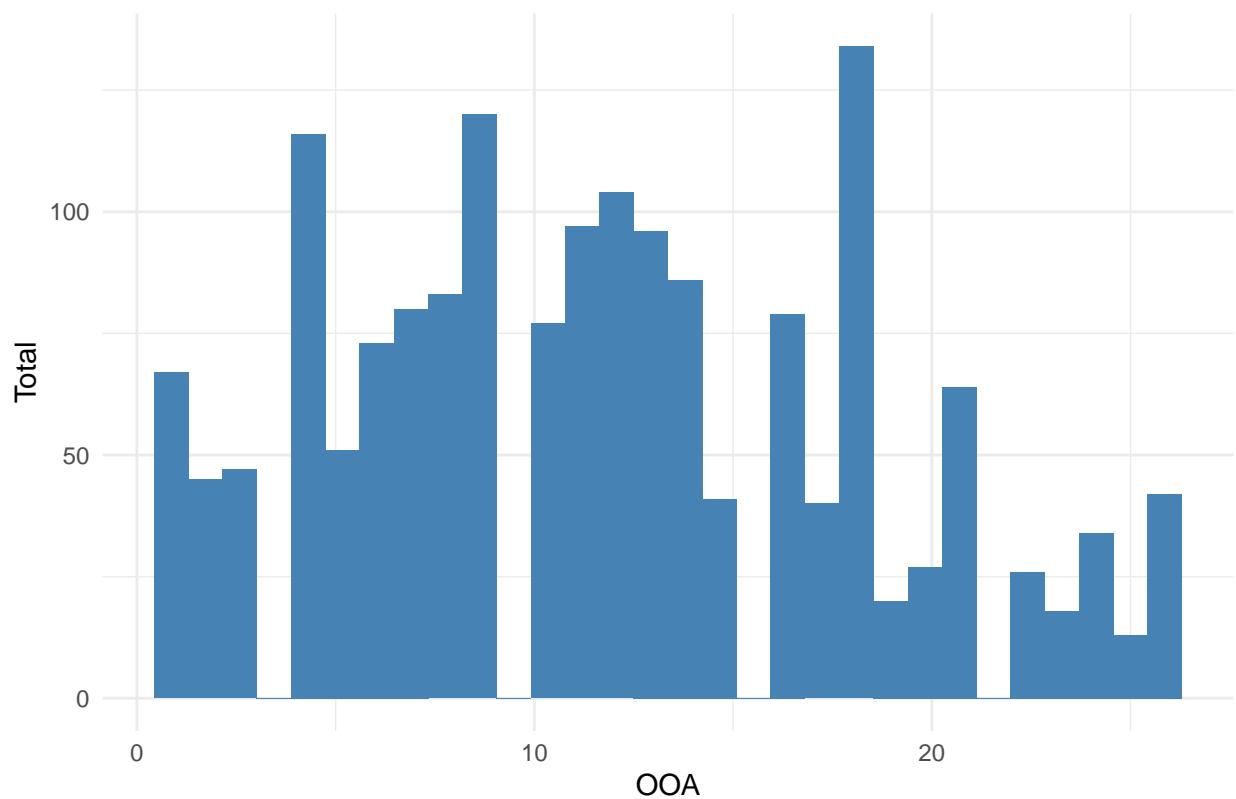
Histogram of GDP_PROP



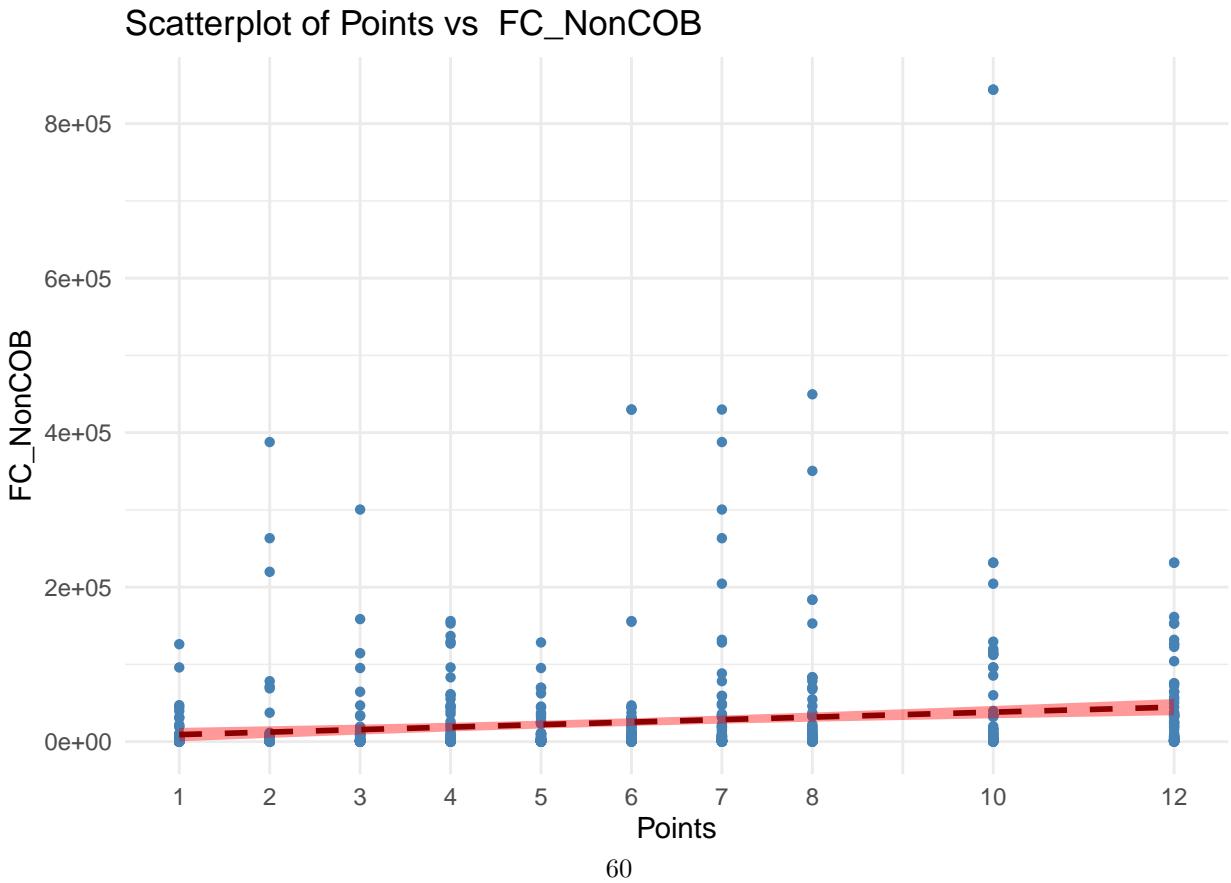
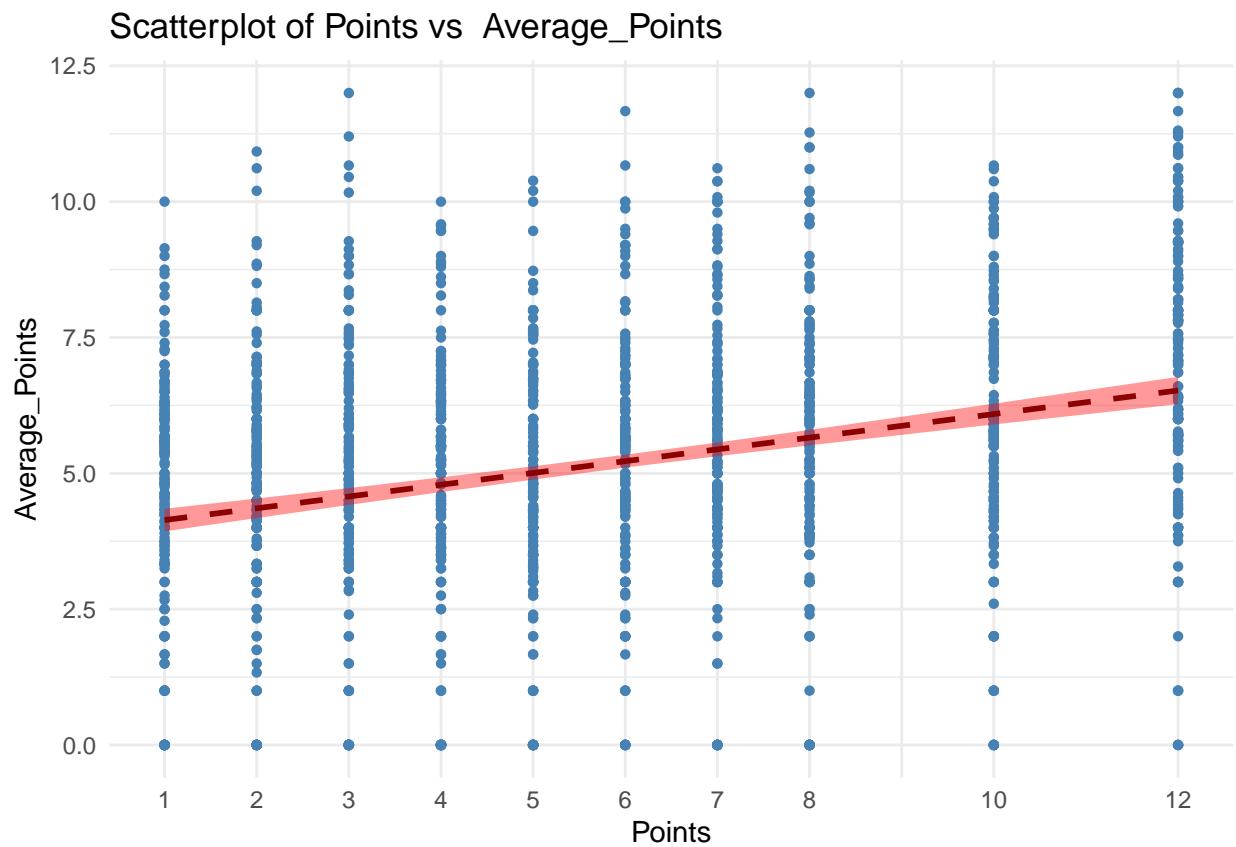
Histogram of CAP_DIST_km



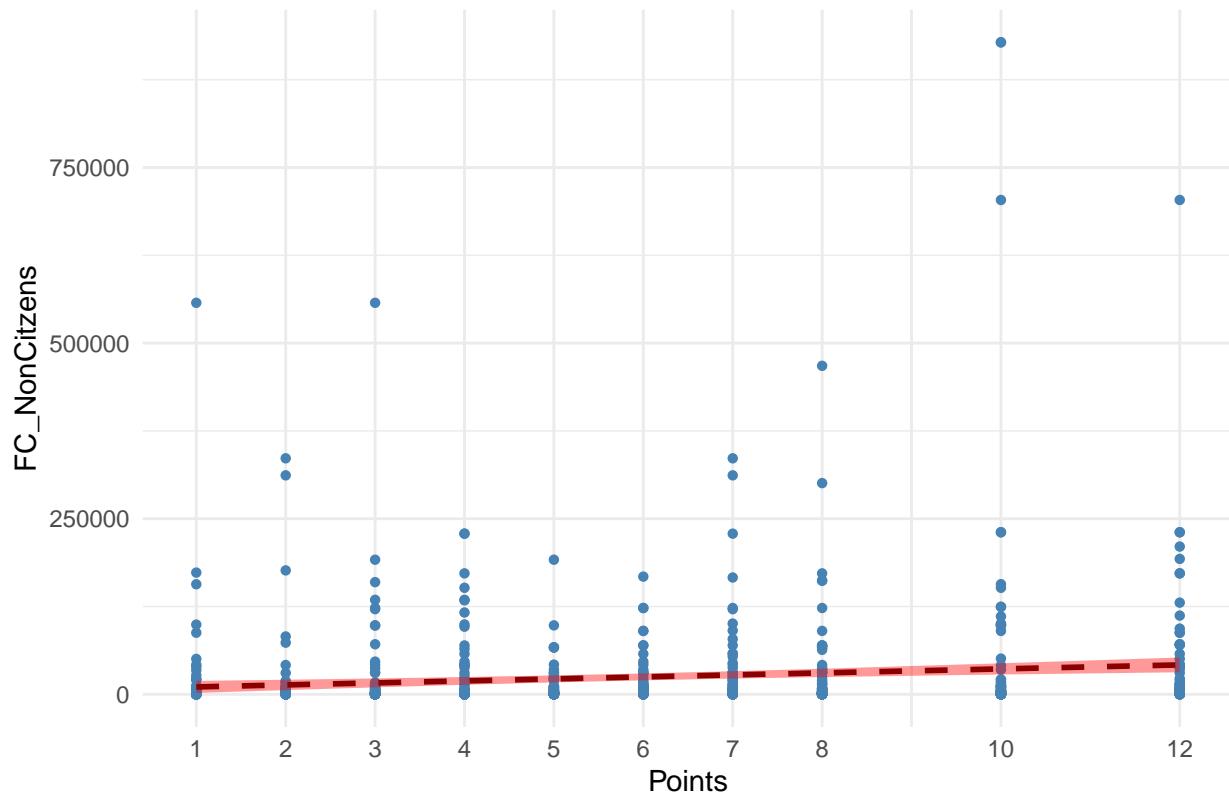
Histogram of OOA



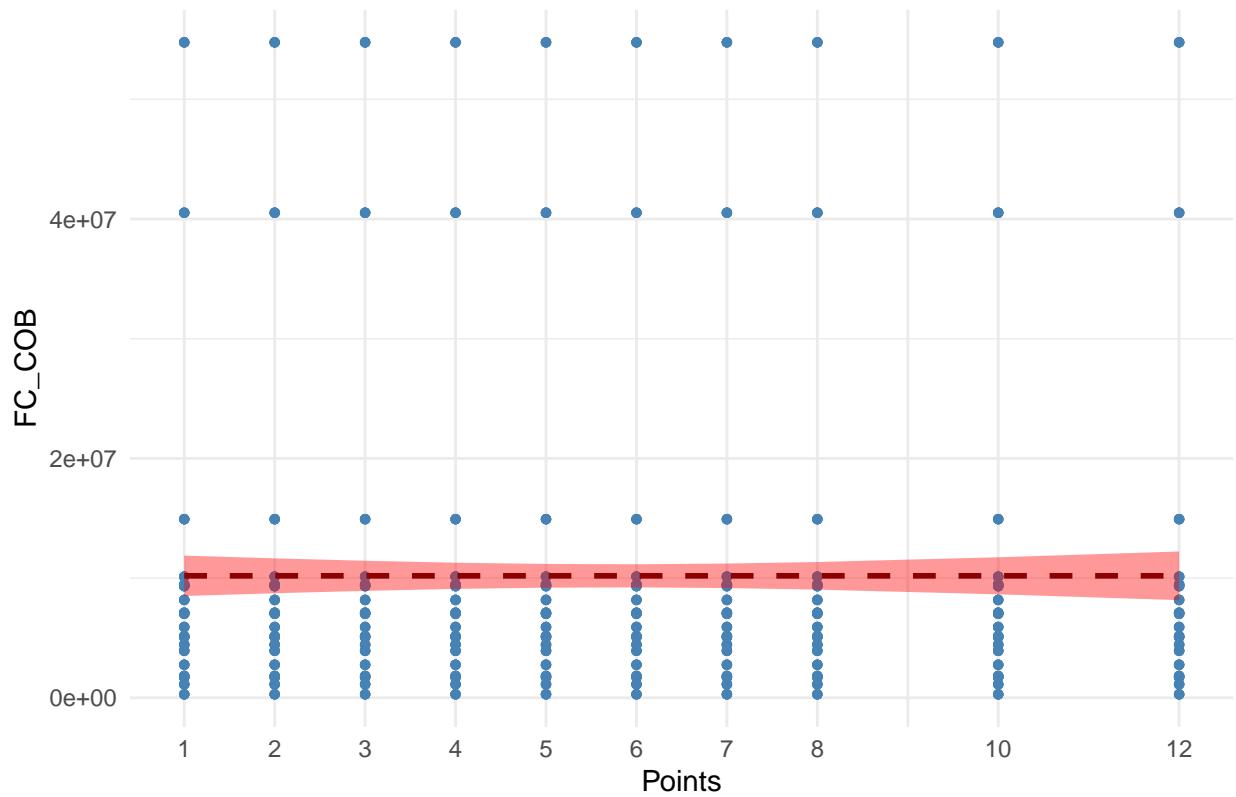
Bivariate



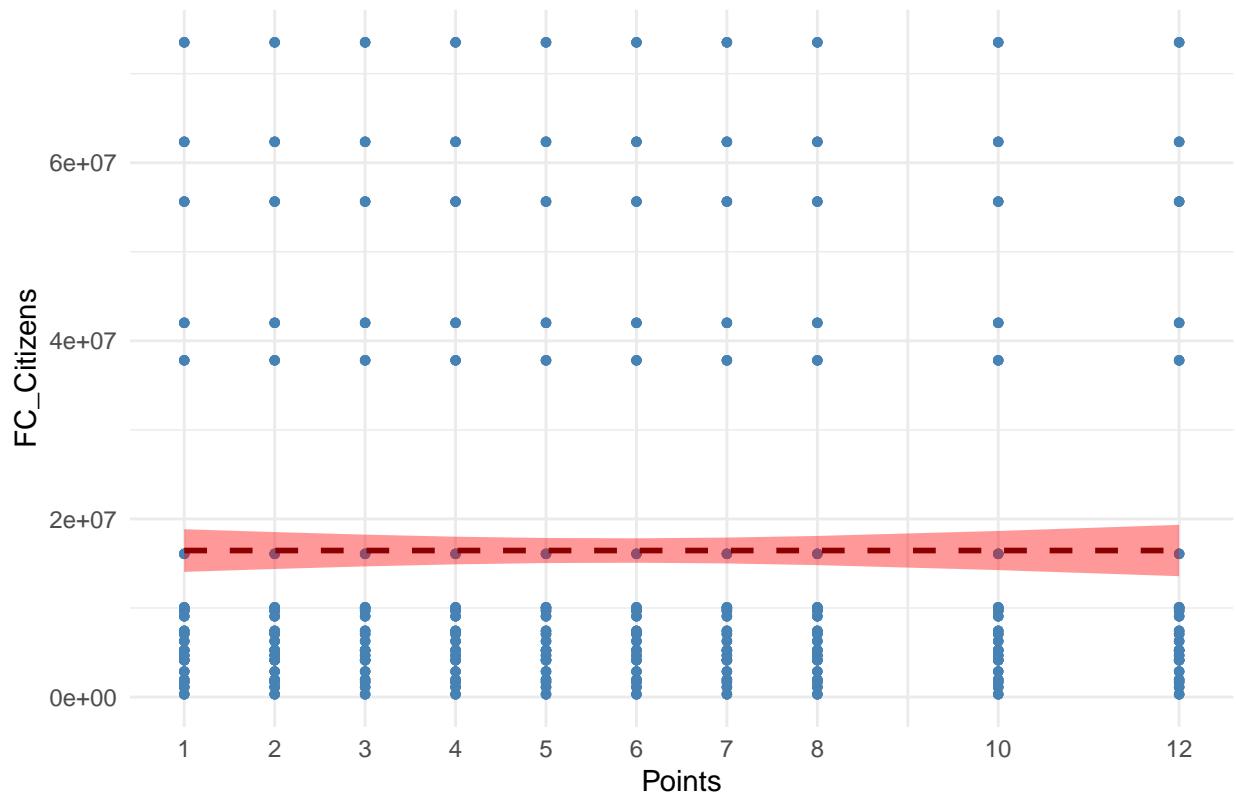
Scatterplot of Points vs FC_NonCitizens



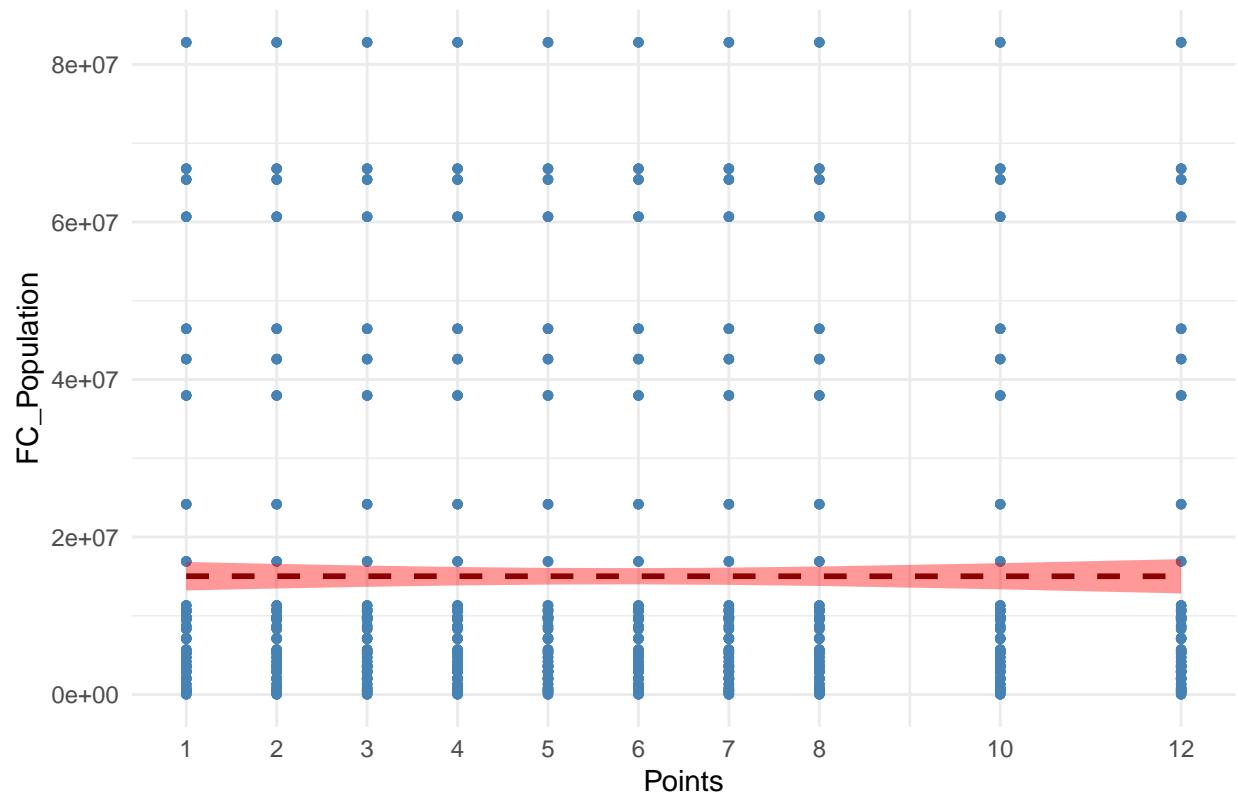
Scatterplot of Points vs FC_COB



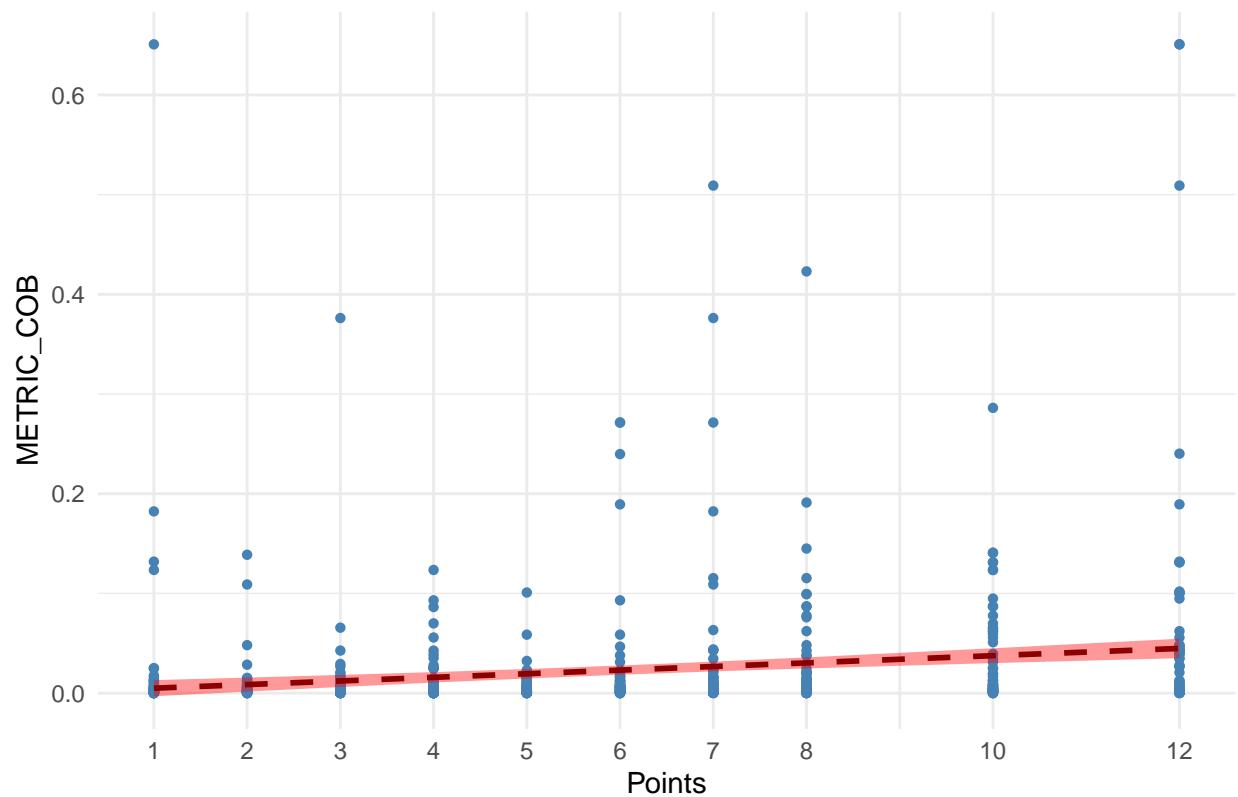
Scatterplot of Points vs FC_Citizens



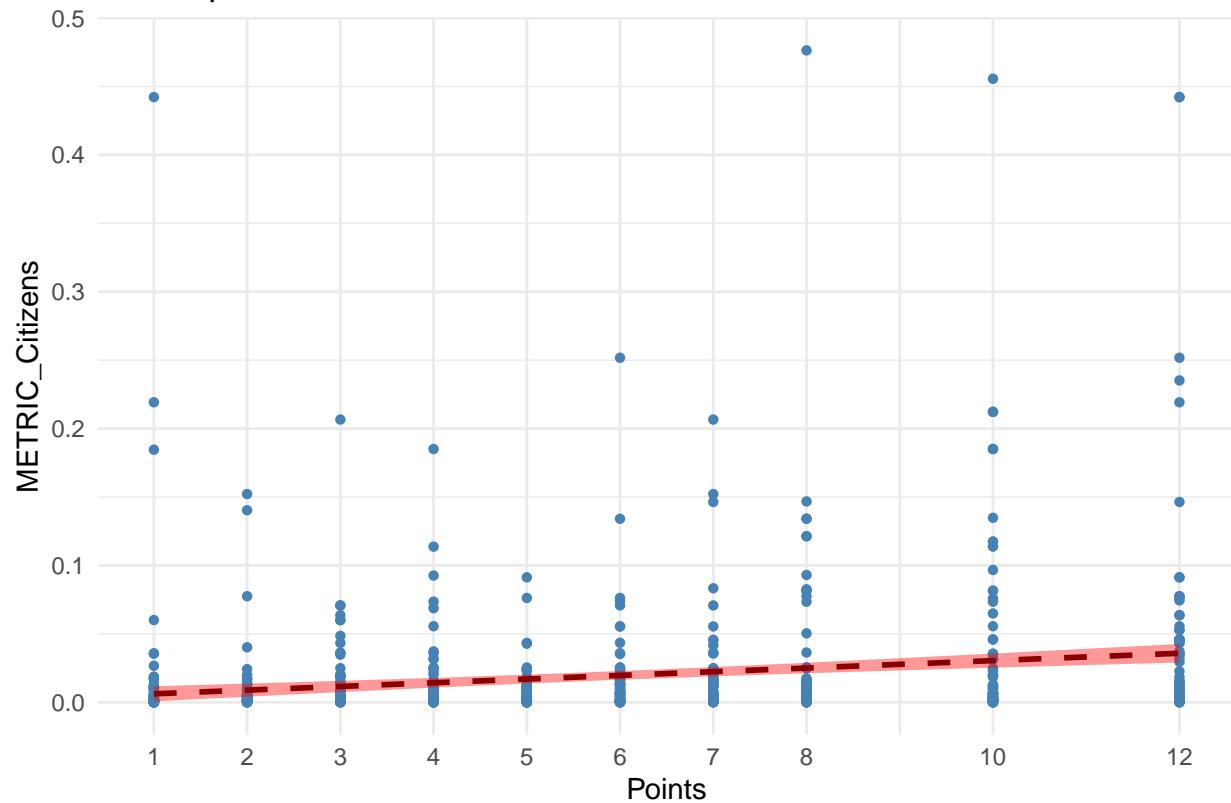
Scatterplot of Points vs FC_Population



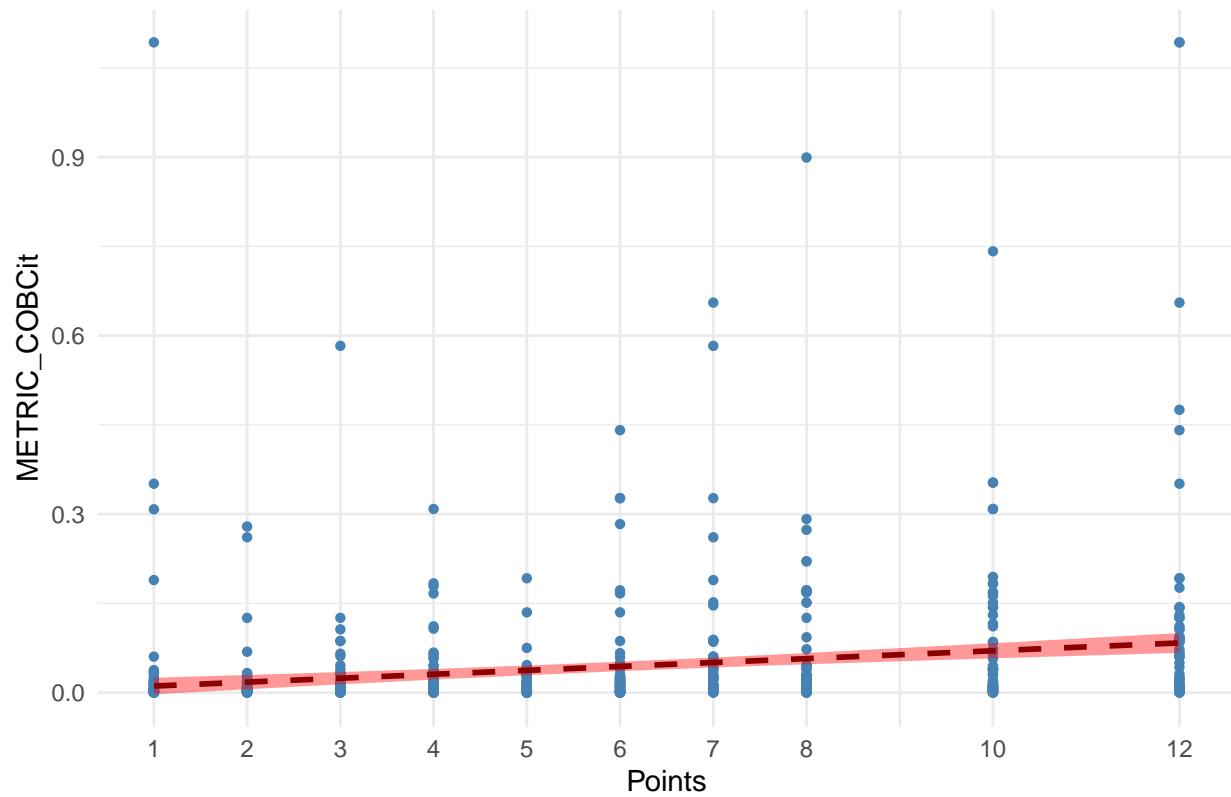
Scatterplot of Points vs METRIC_COB



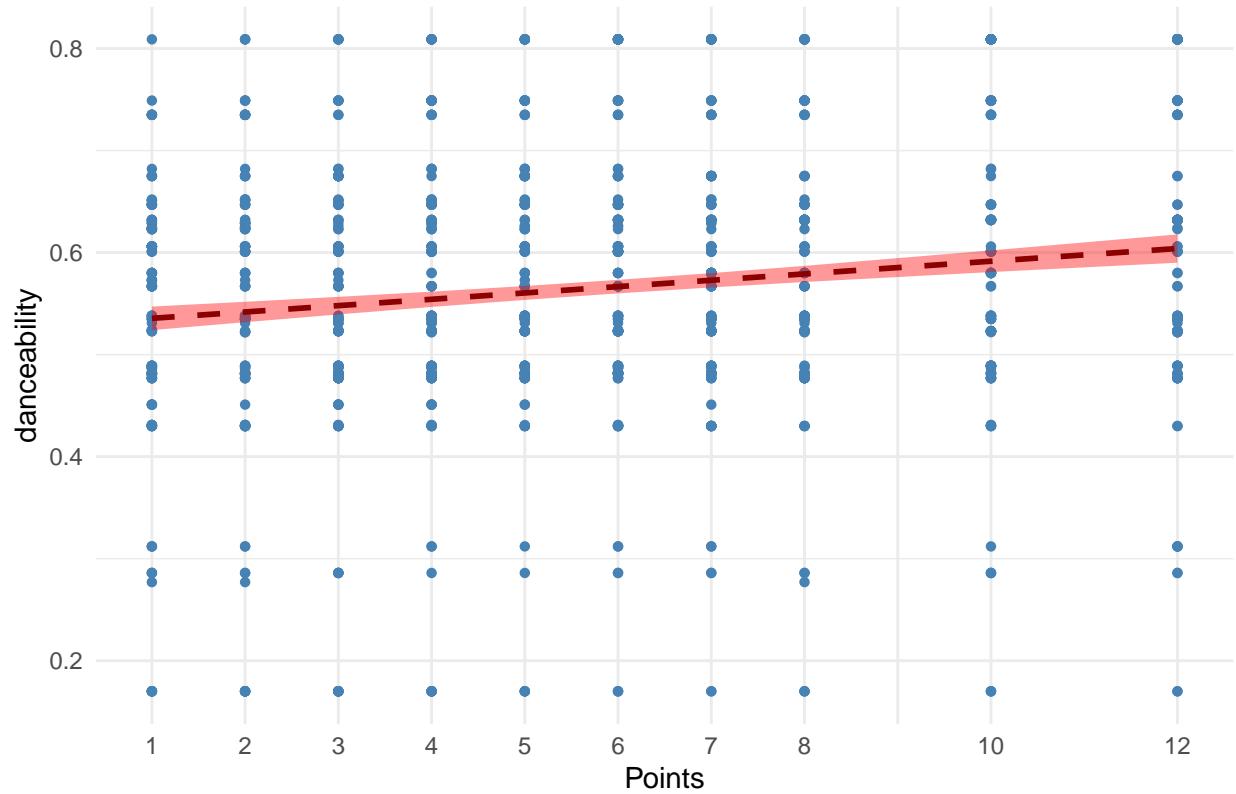
Scatterplot of Points vs METRIC_Citizens



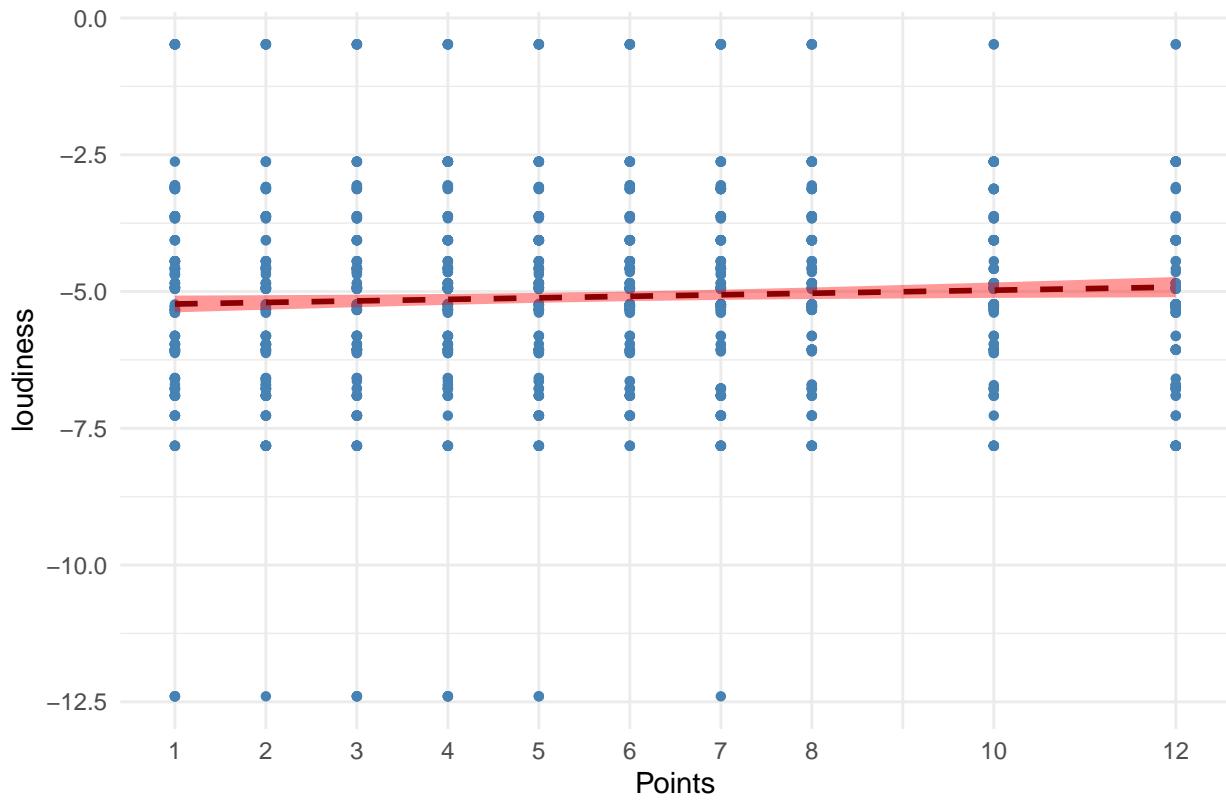
Scatterplot of Points vs METRIC_COBCit



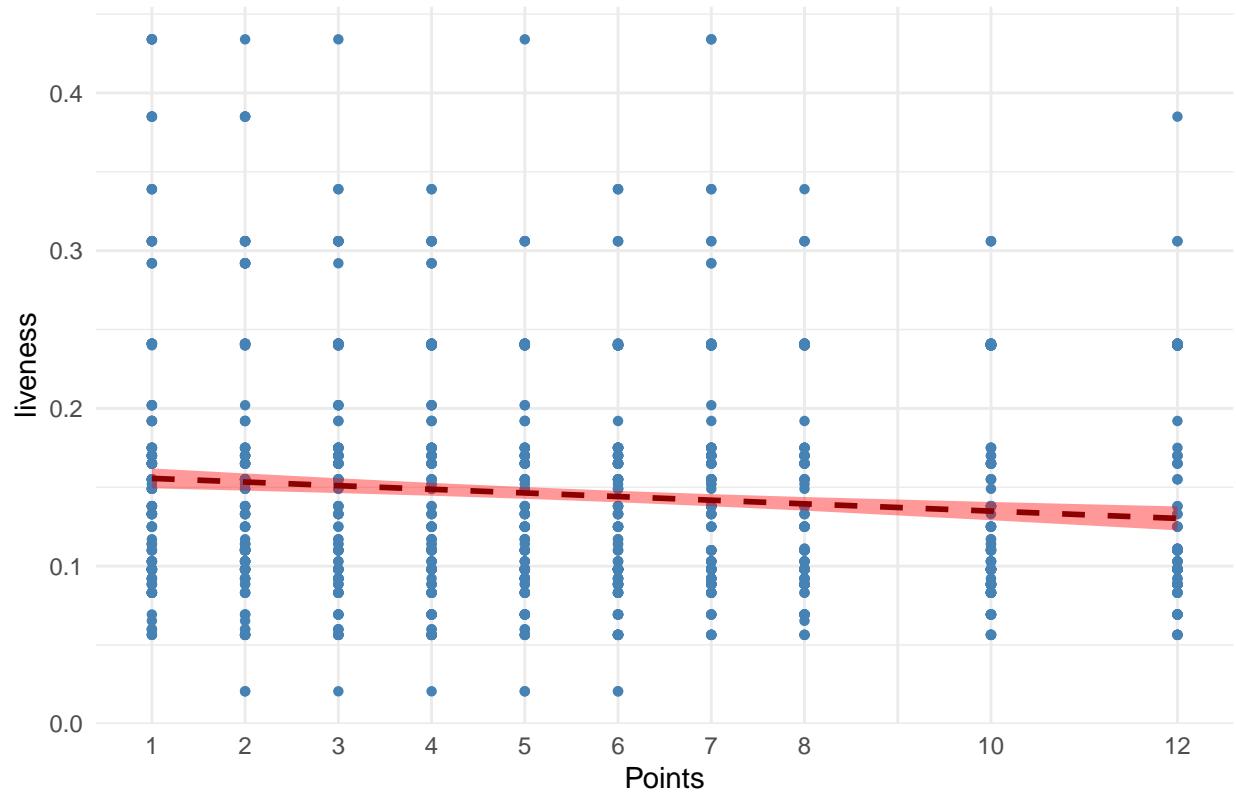
Scatterplot of Points vs danceability



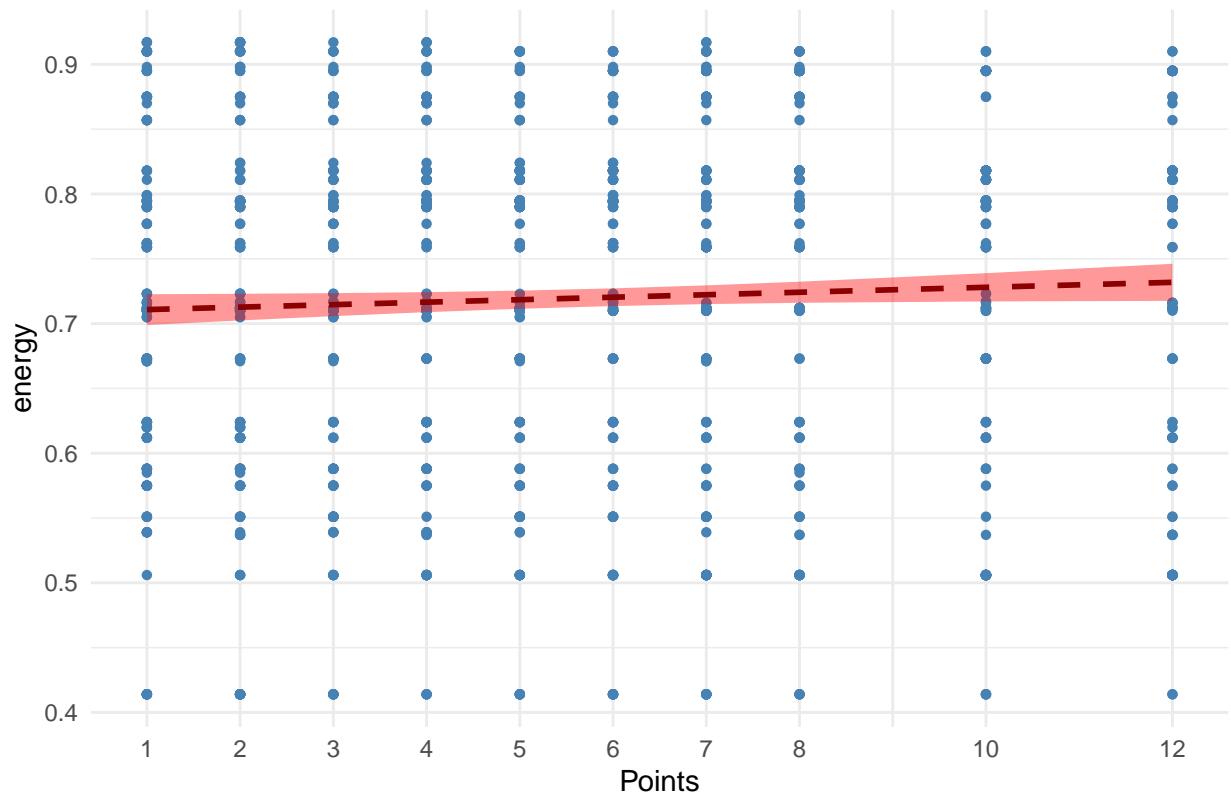
Scatterplot of Points vs loudness



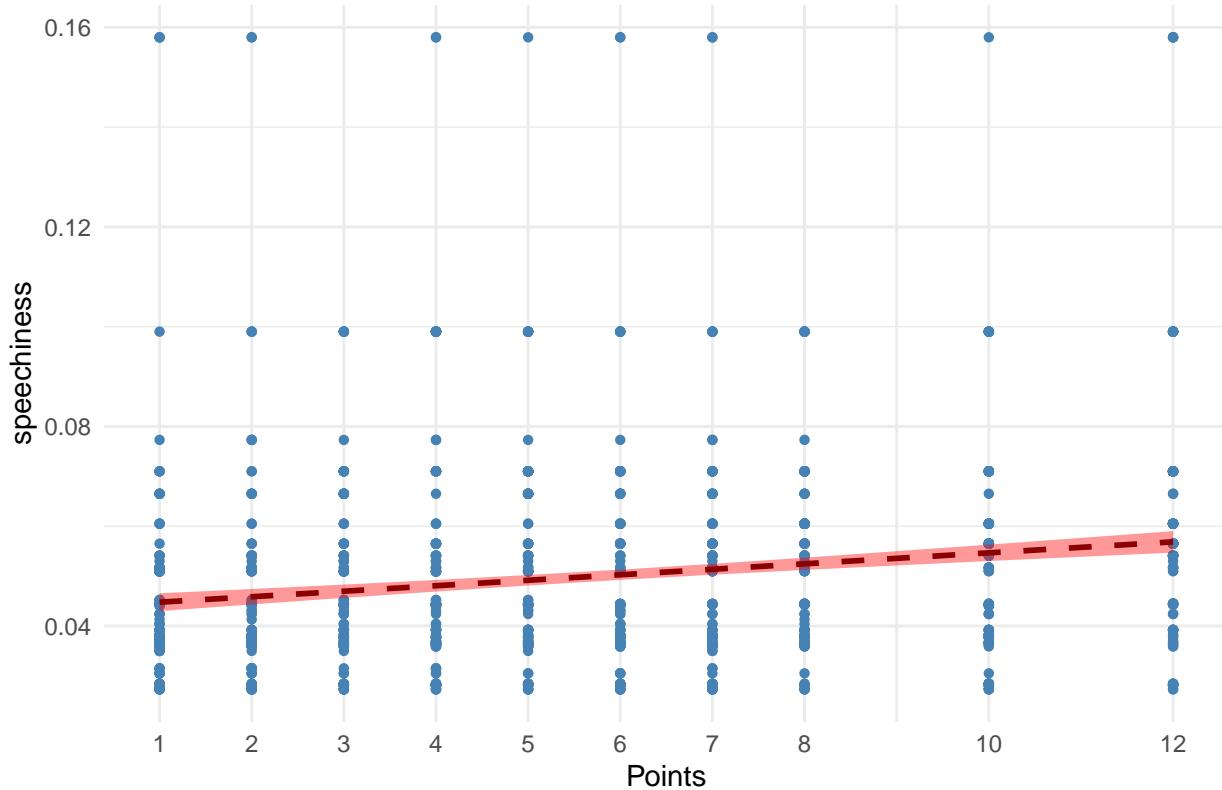
Scatterplot of Points vs liveness



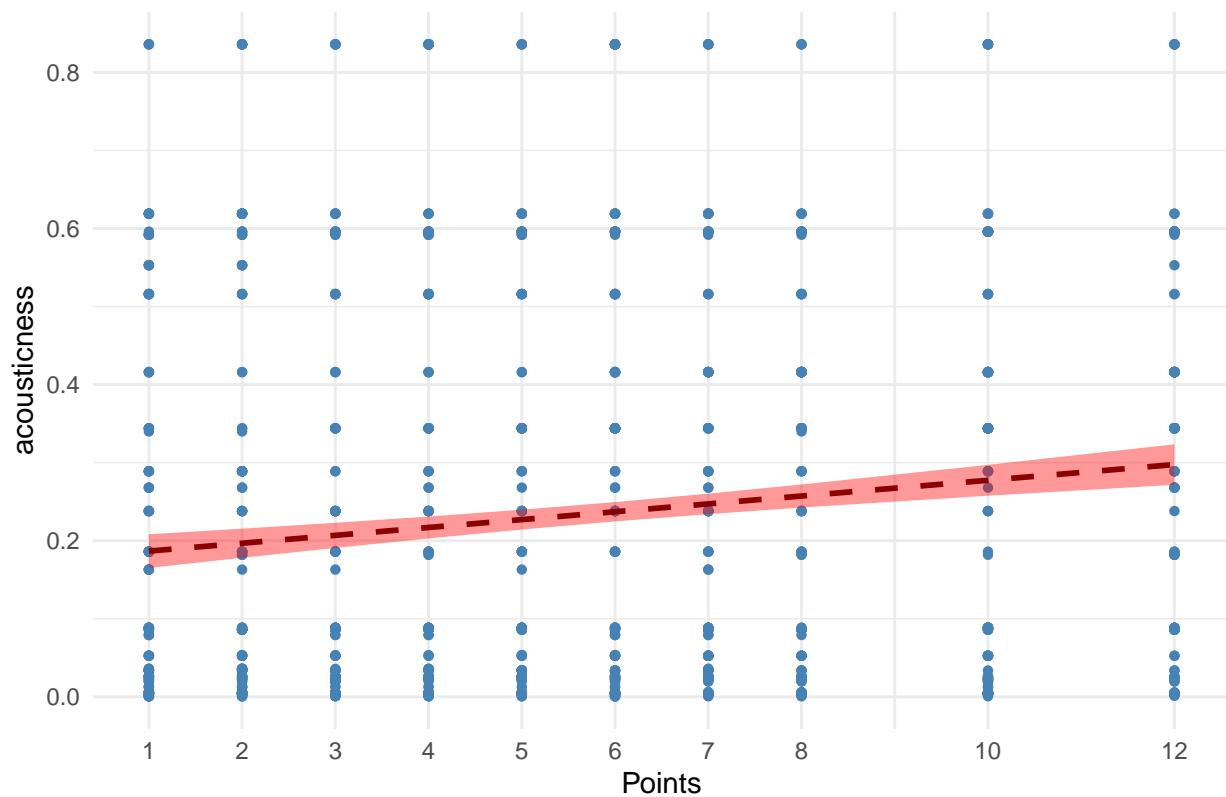
Scatterplot of Points vs energy



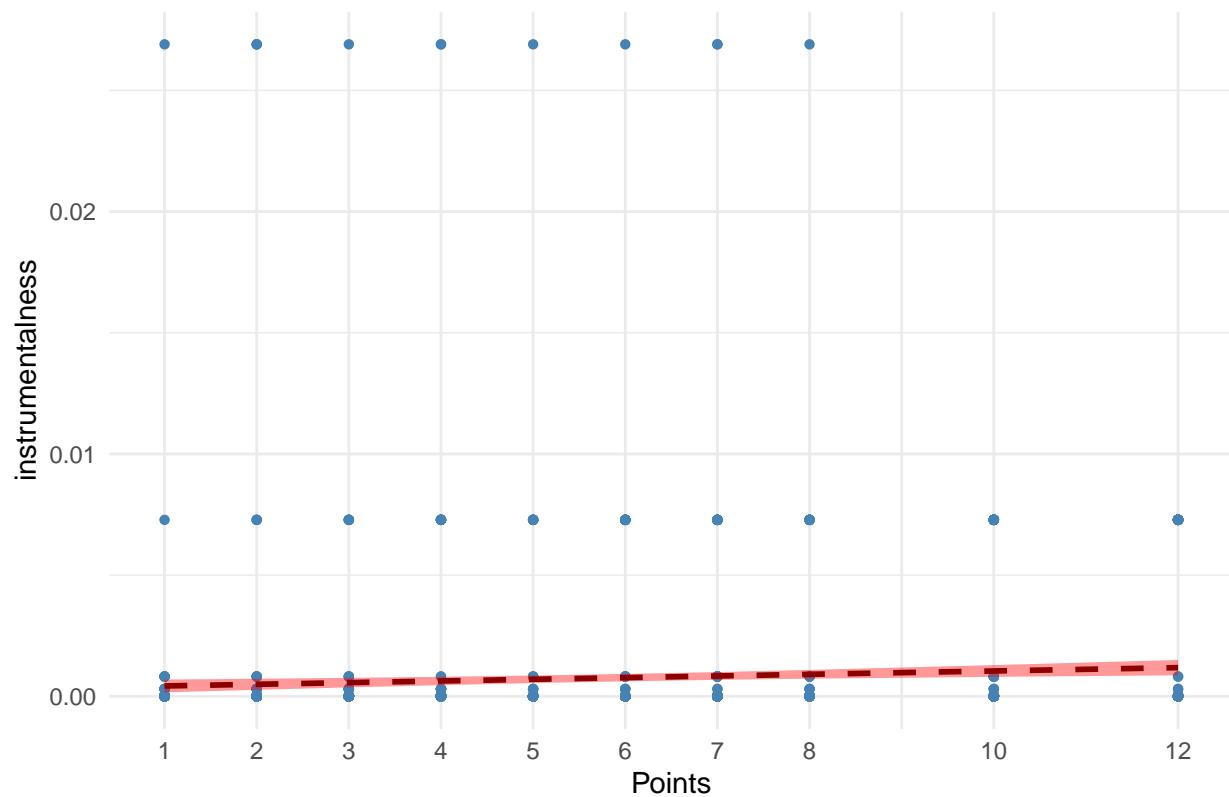
Scatterplot of Points vs speechiness



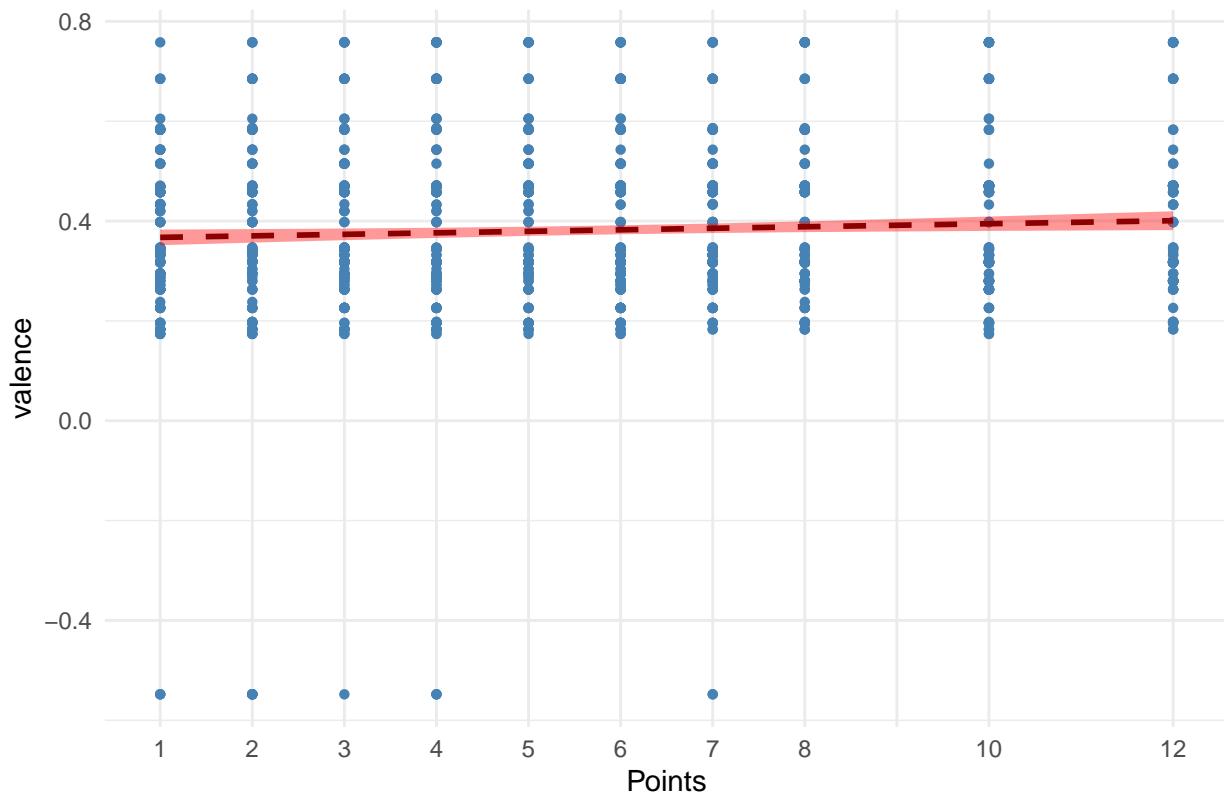
Scatterplot of Points vs acousticness



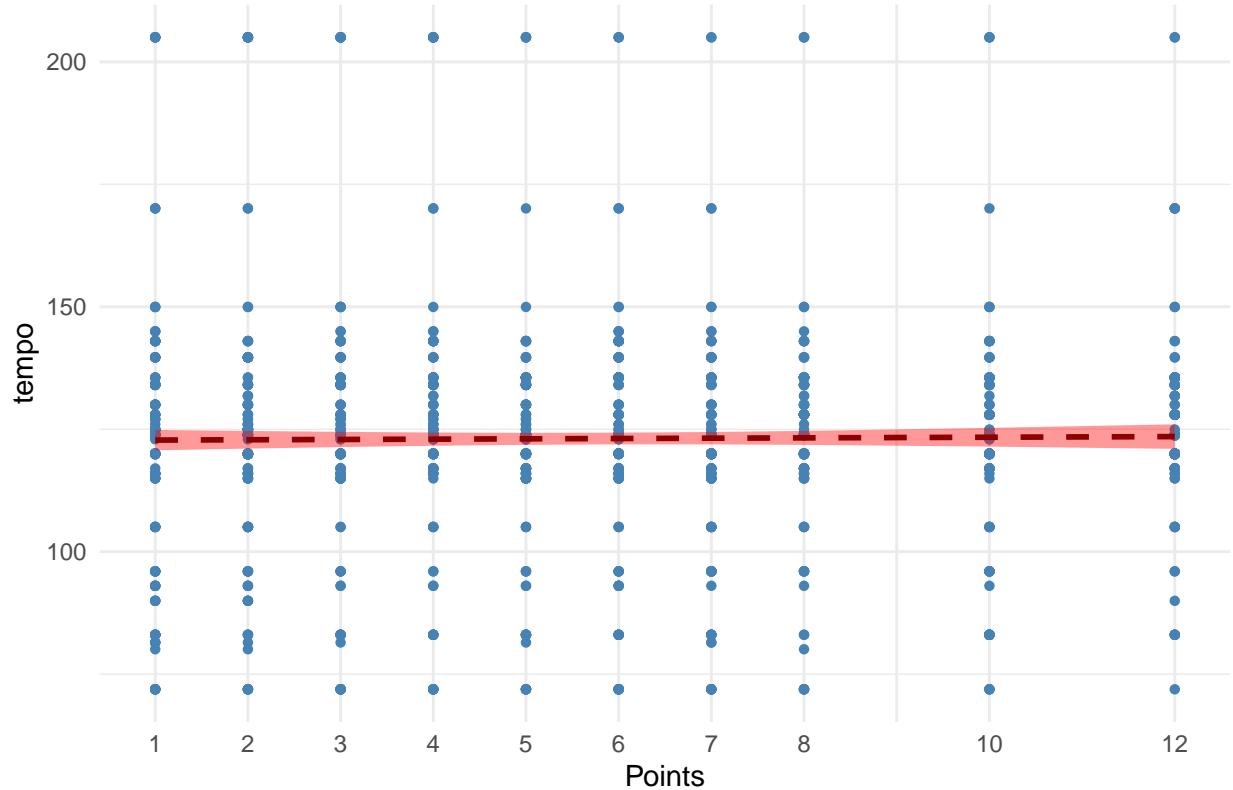
Scatterplot of Points vs instrumentalness



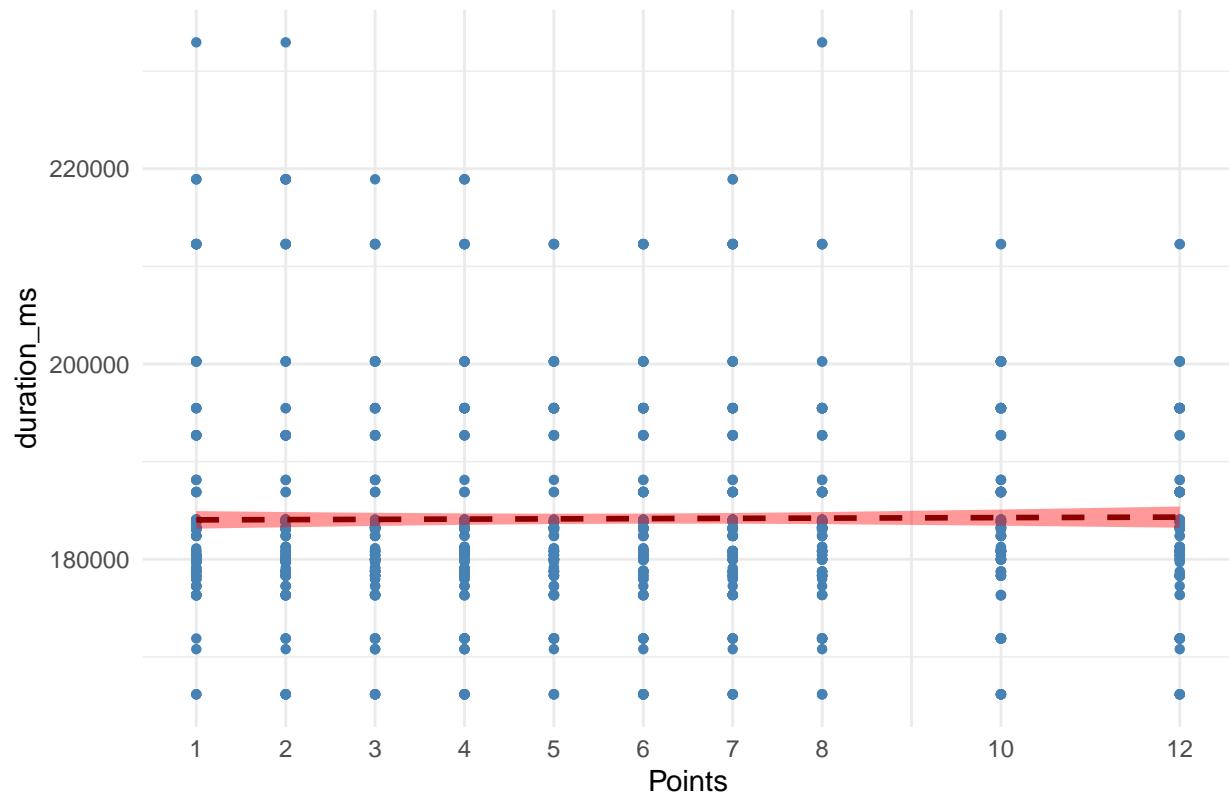
Scatterplot of Points vs valence



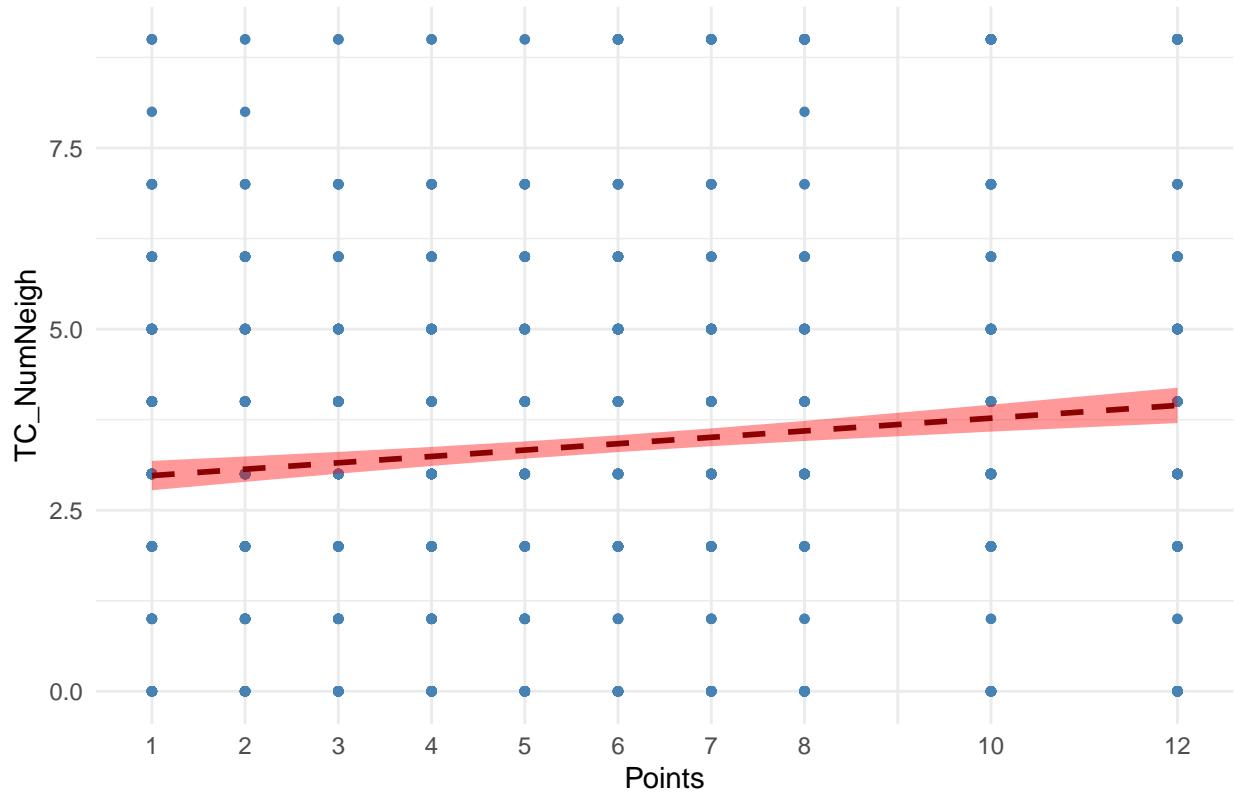
Scatterplot of Points vs tempo



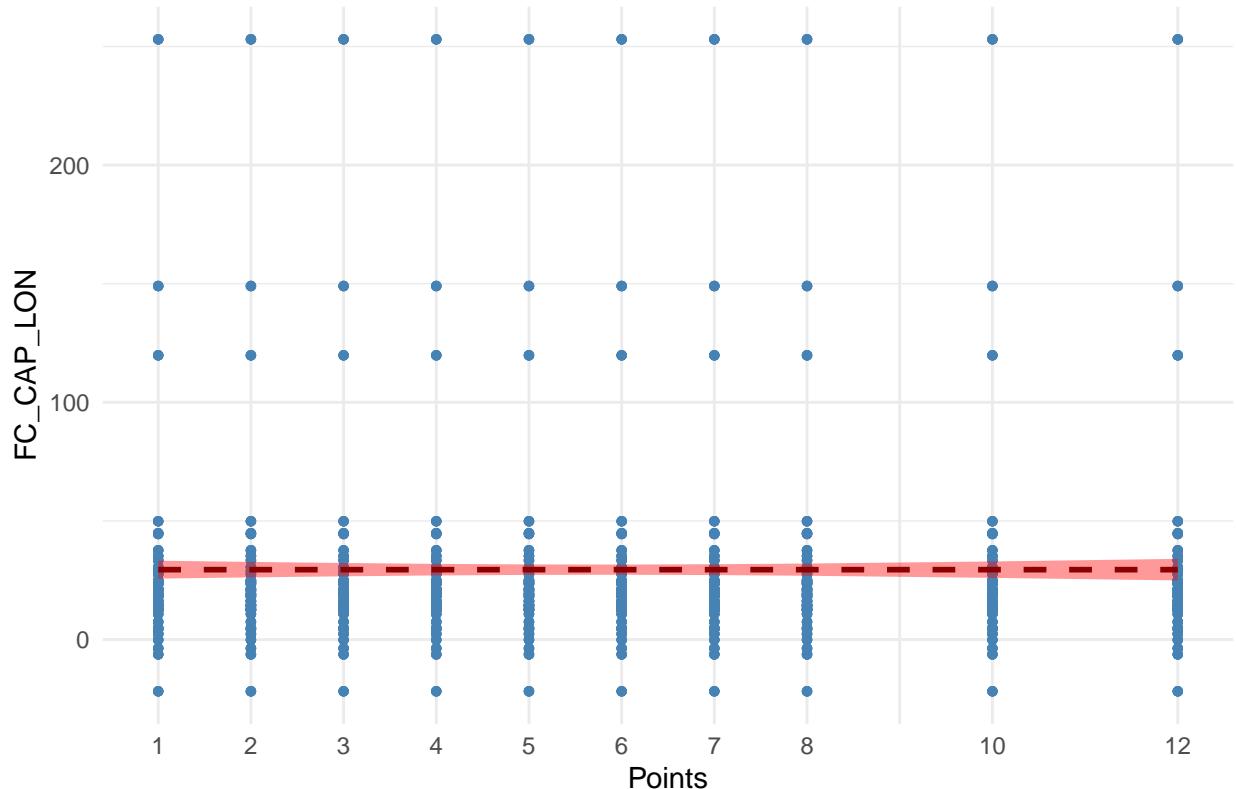
Scatterplot of Points vs duration_ms



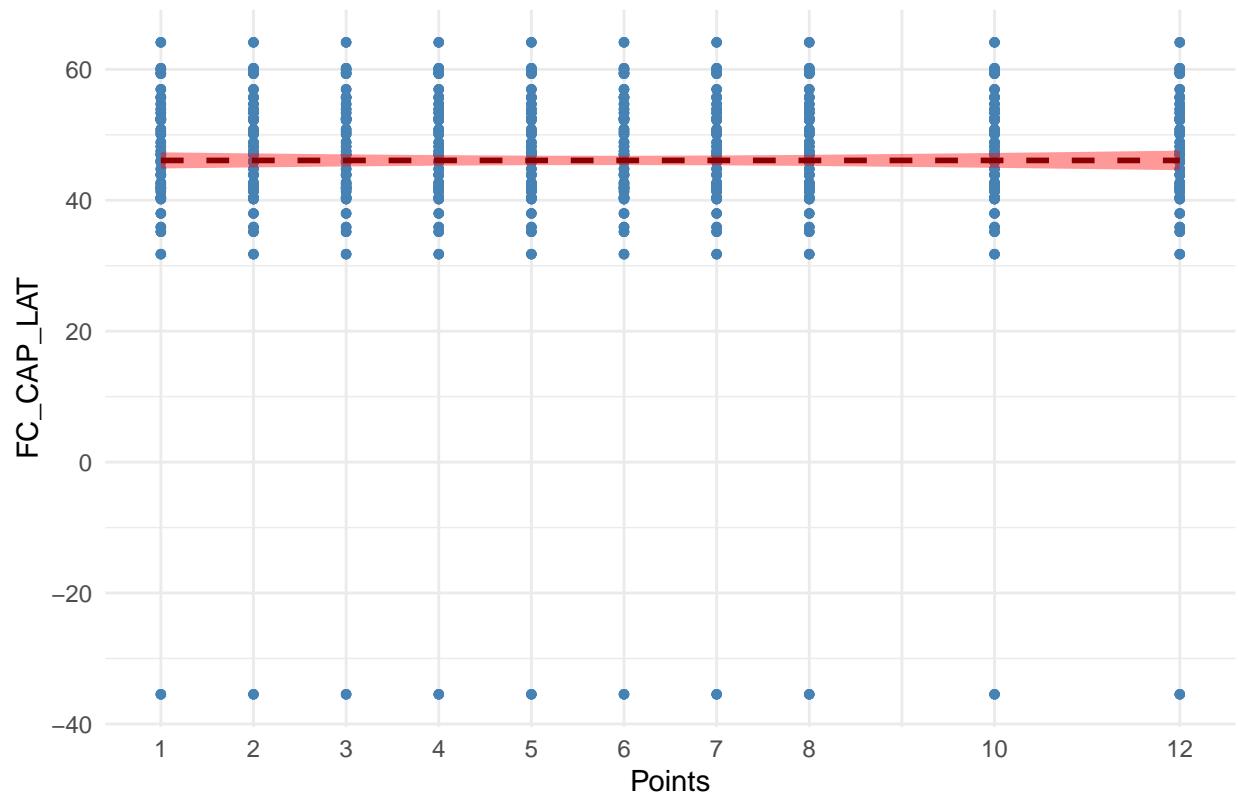
Scatterplot of Points vs TC_NumNeigh



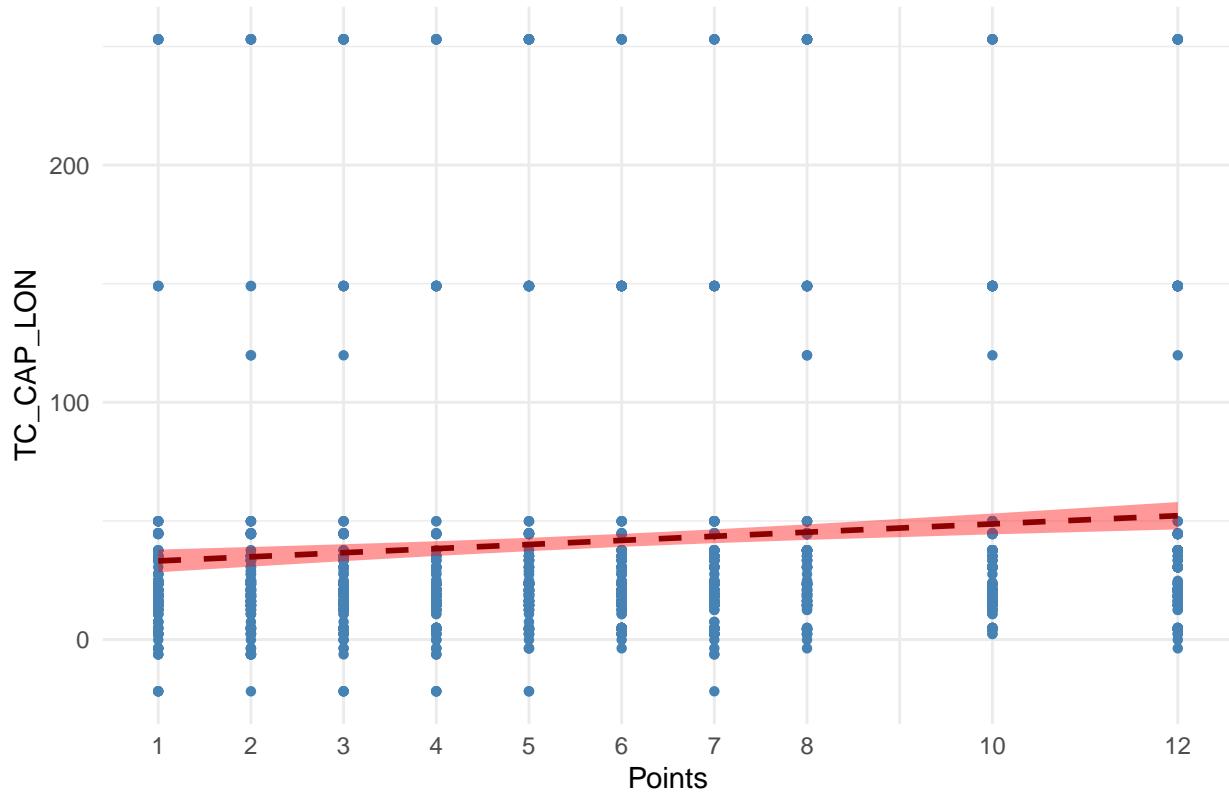
Scatterplot of Points vs FC_CAP_LON



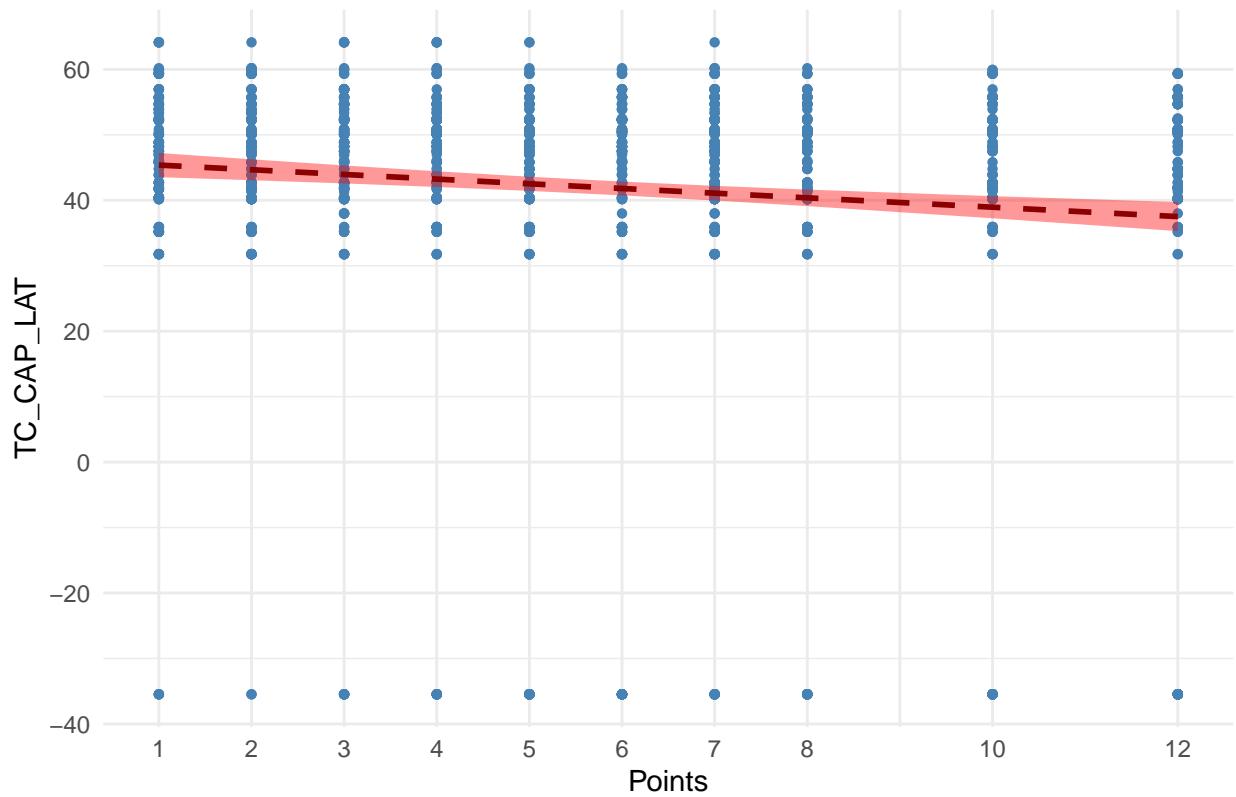
Scatterplot of Points vs FC_CAP_LAT



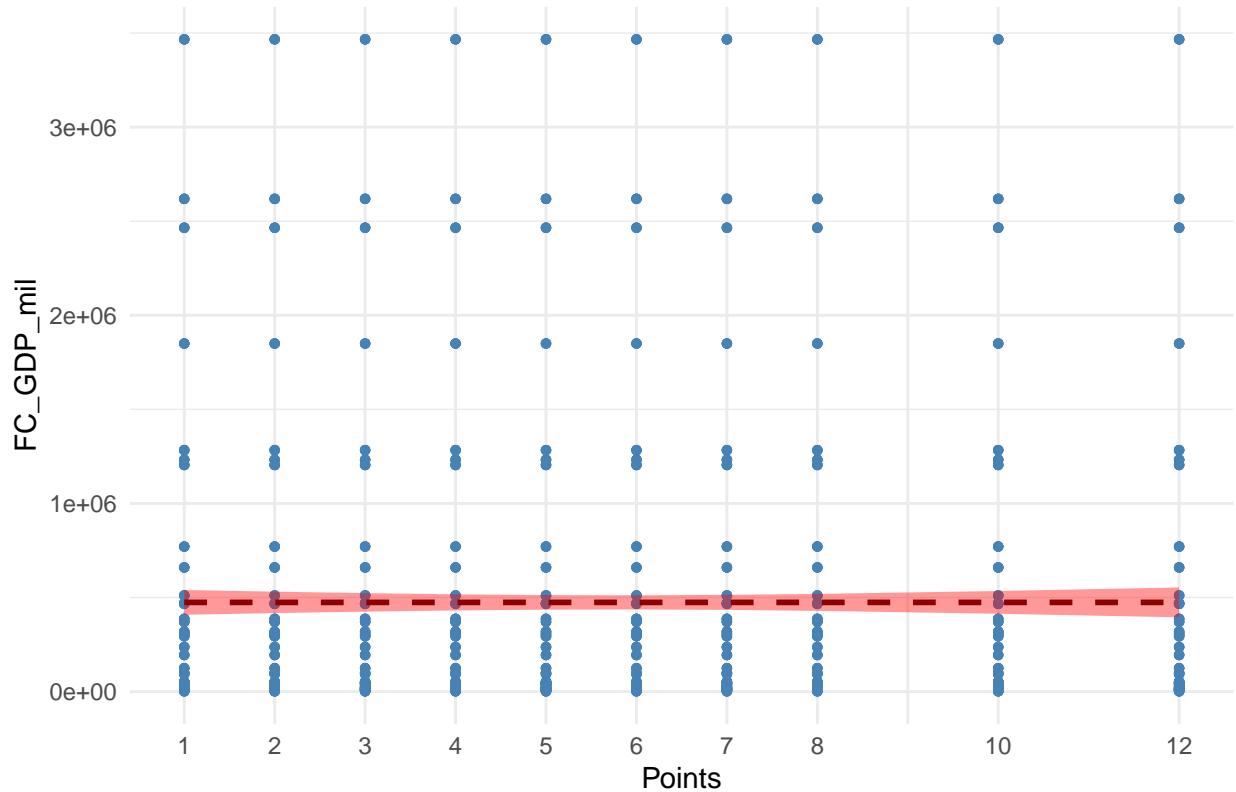
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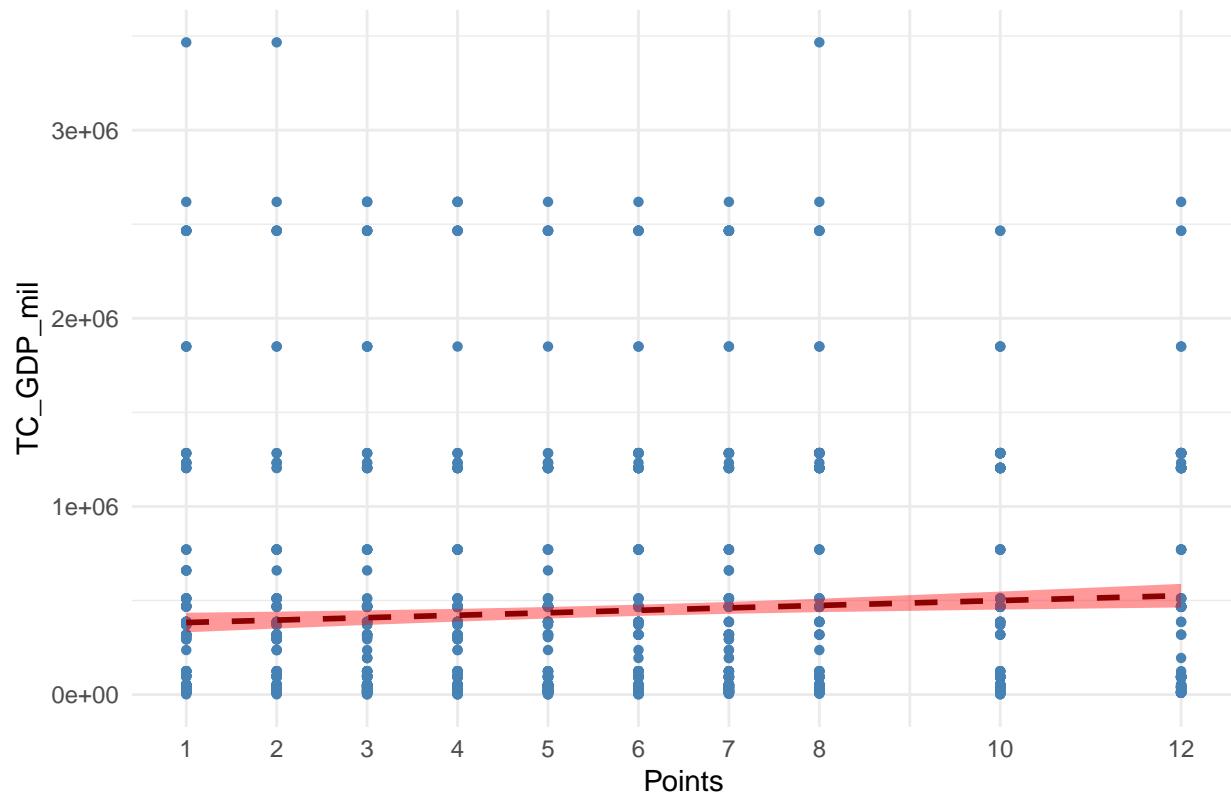
Scatterplot of Points vs TC_CAP_LAT



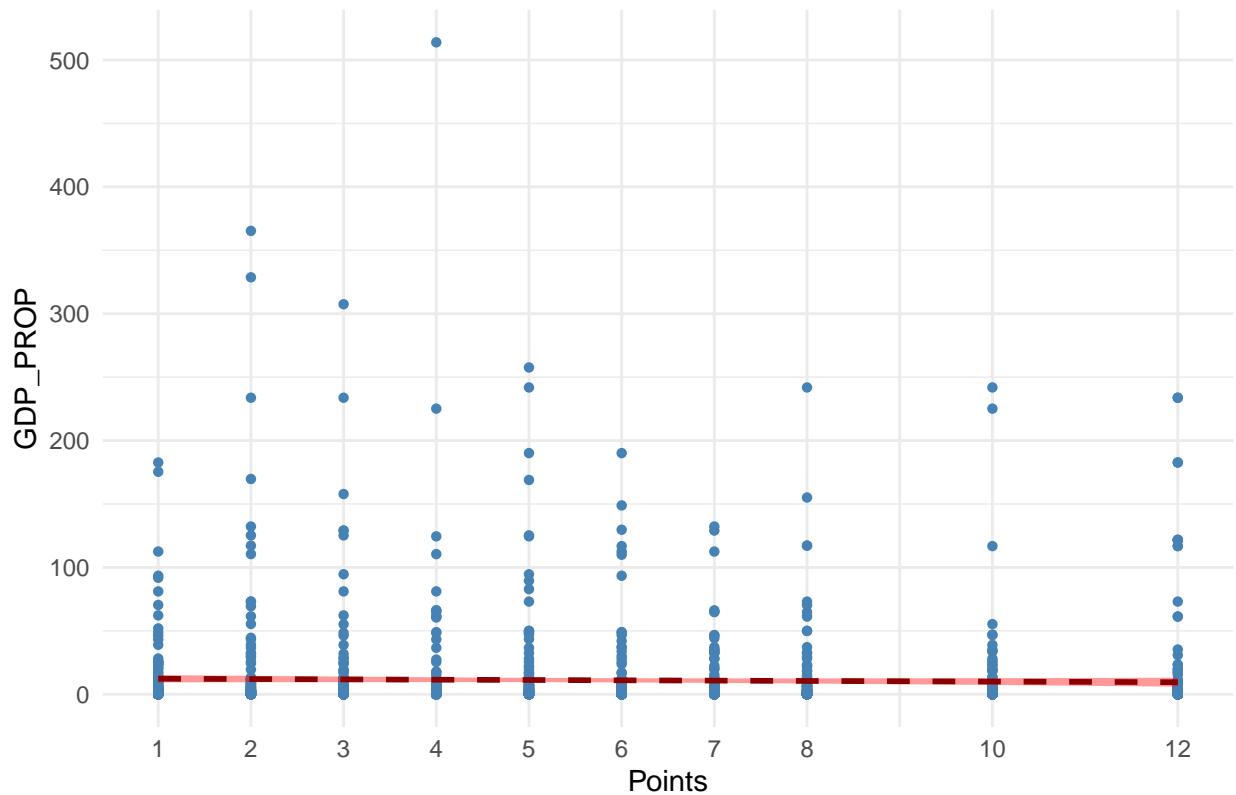
Scatterplot of Points vs FC_GDP_mil



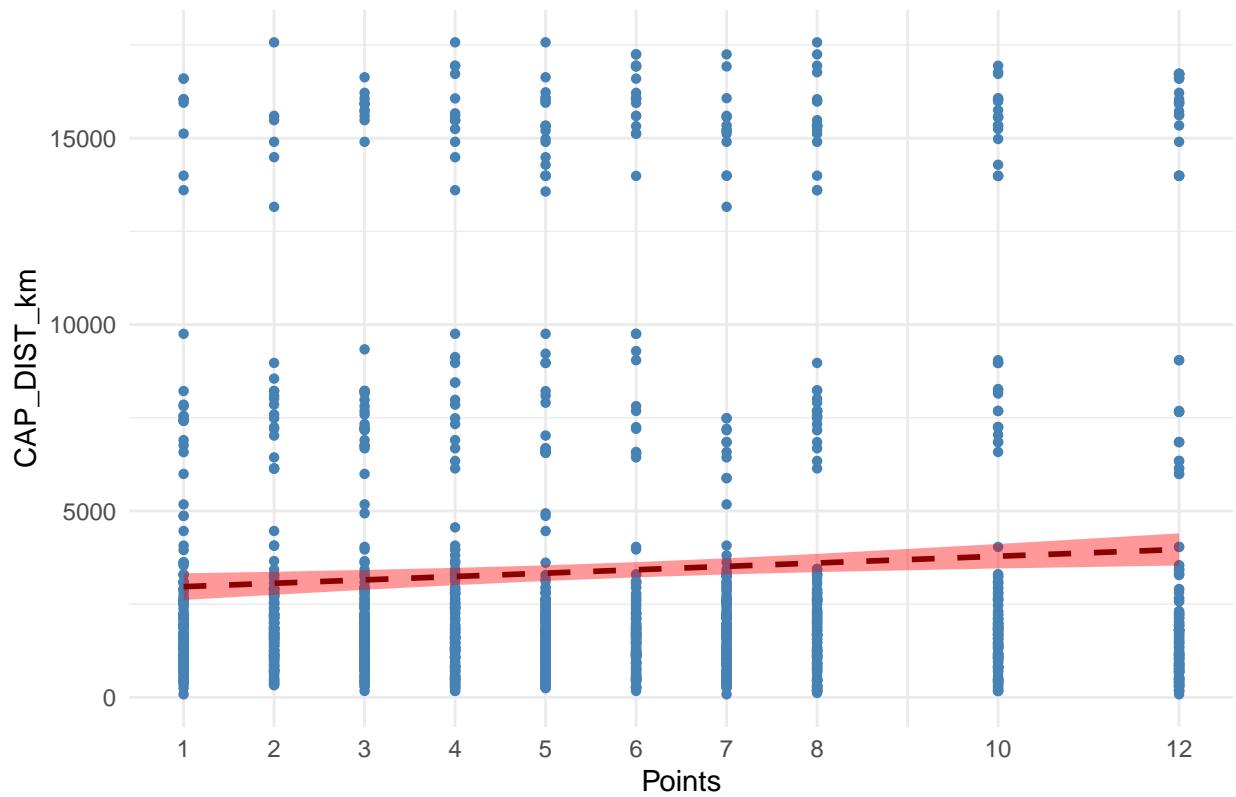
Scatterplot of Points vs TC_GDP_mil



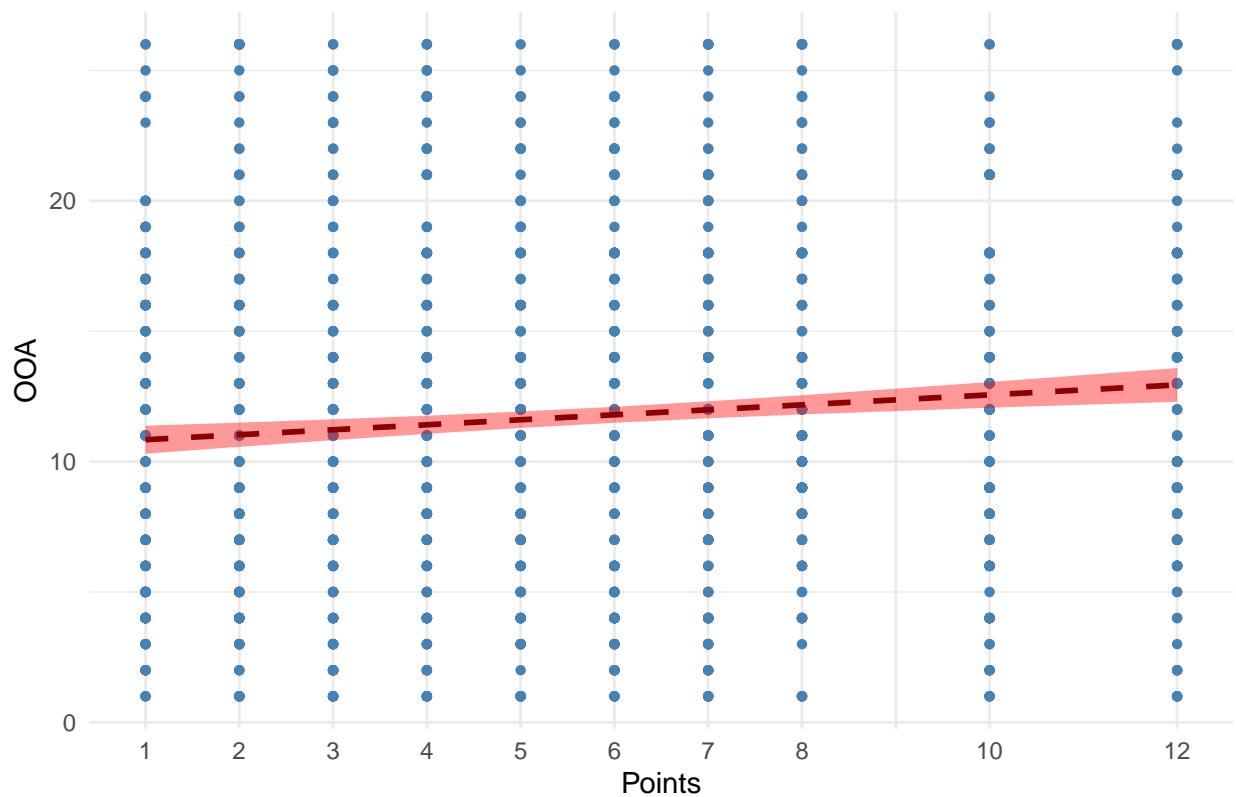
Scatterplot of Points vs GDP_PROP



Scatterplot of Points vs CAP_DIST_km

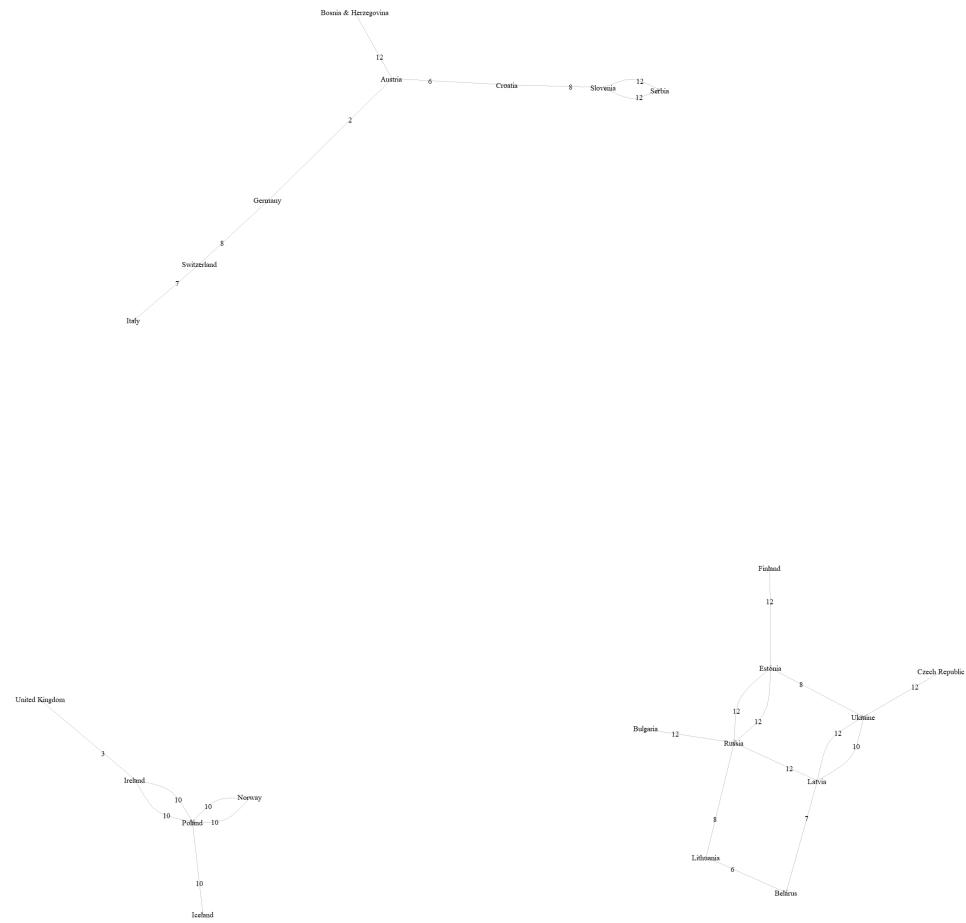


Scatterplot of Points vs OOA

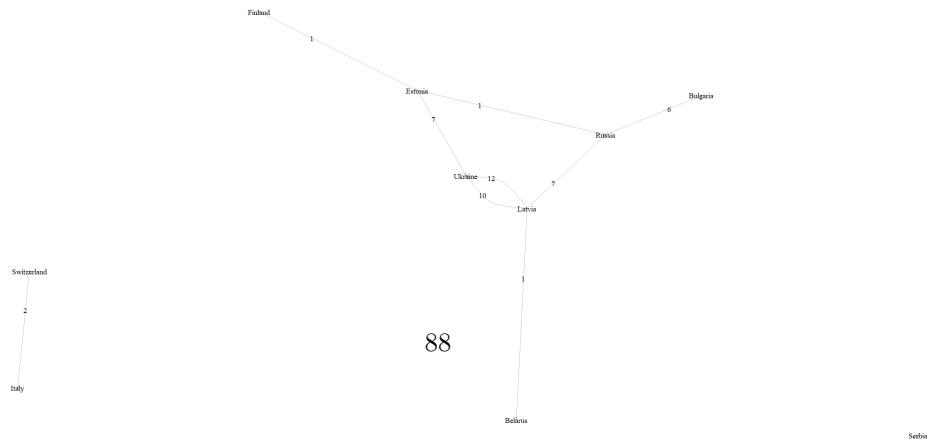


Networks

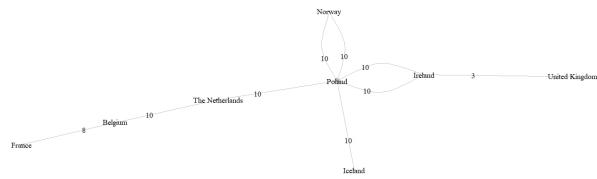
Televote Metric COB



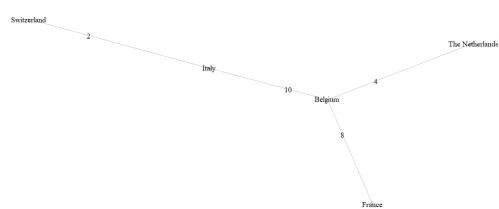
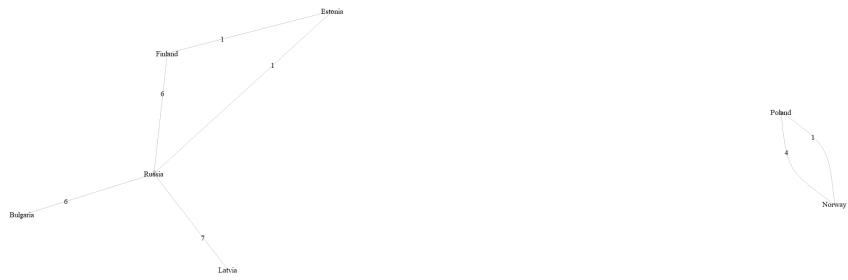
Jury Metric COB



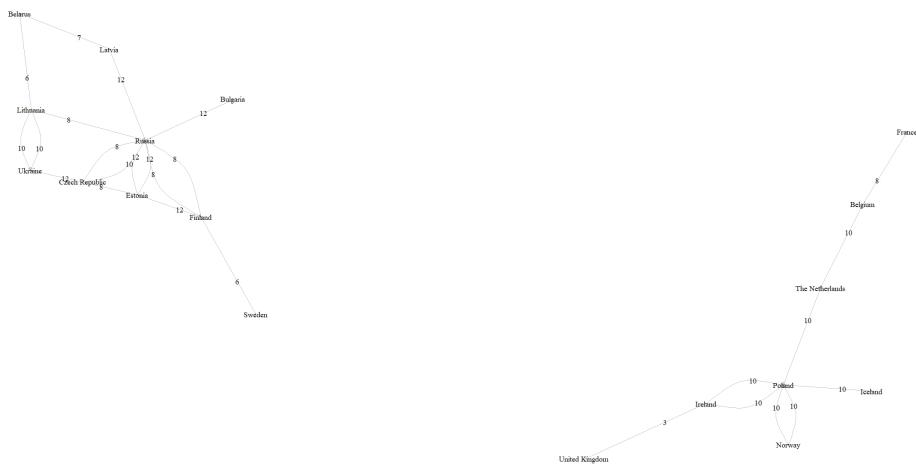
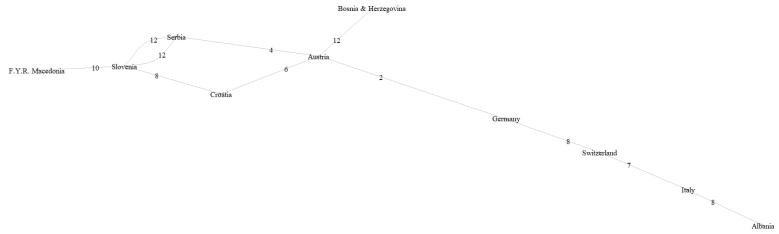
Televote Metric Citizens



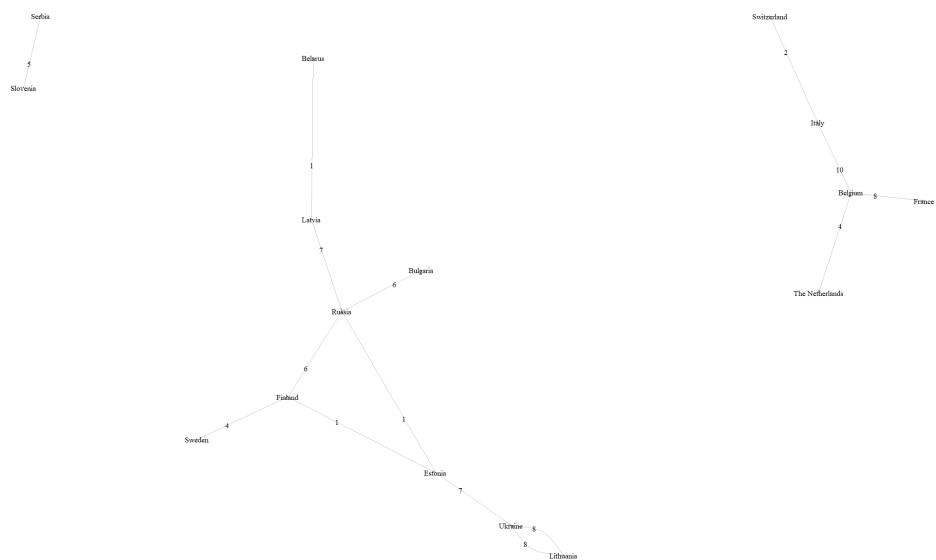
Jury Metric Citizens



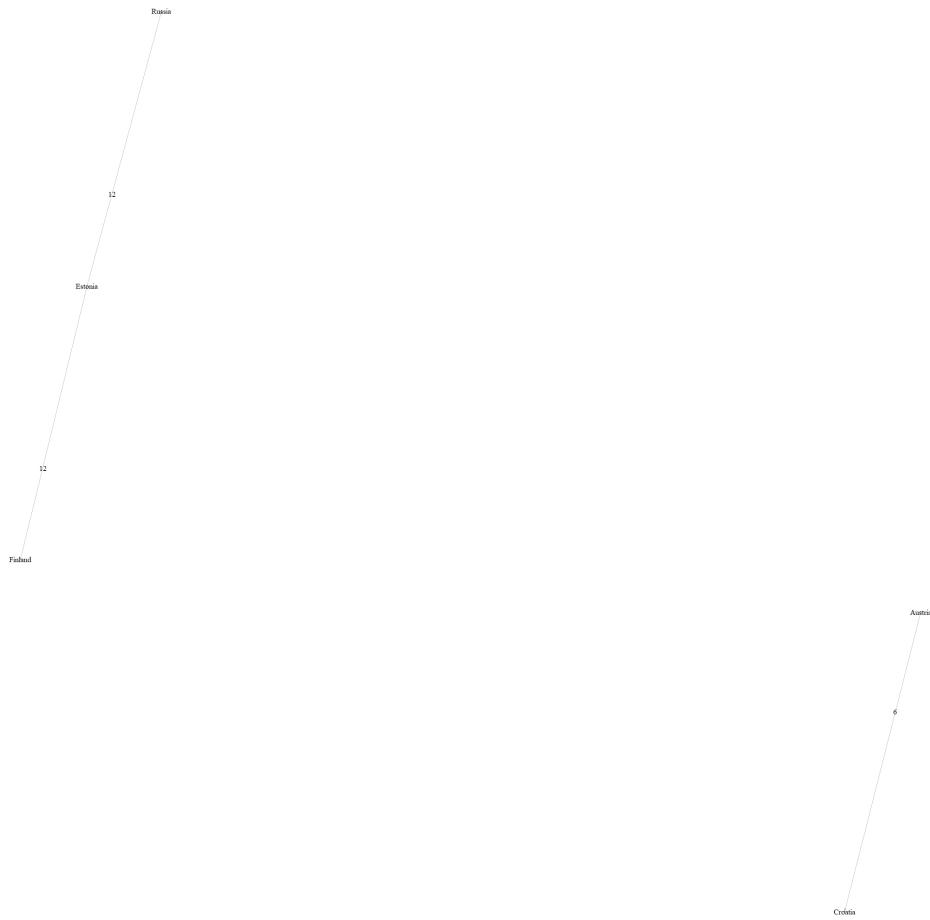
Televote Metric COBCit



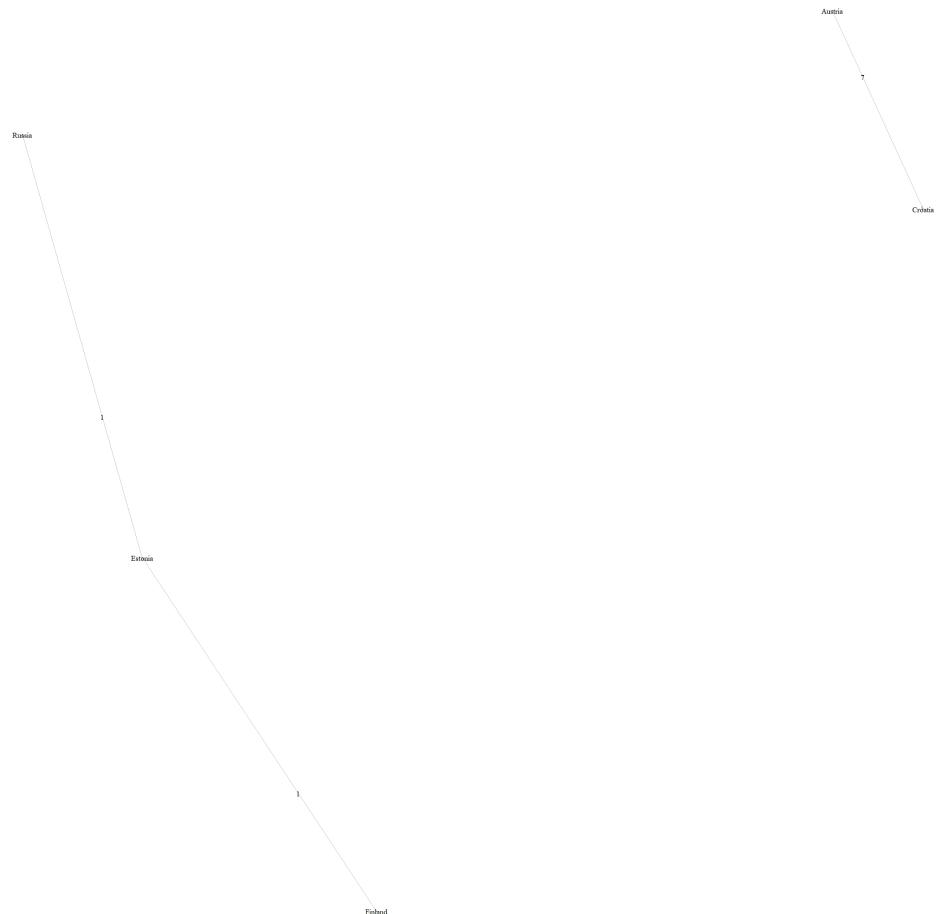
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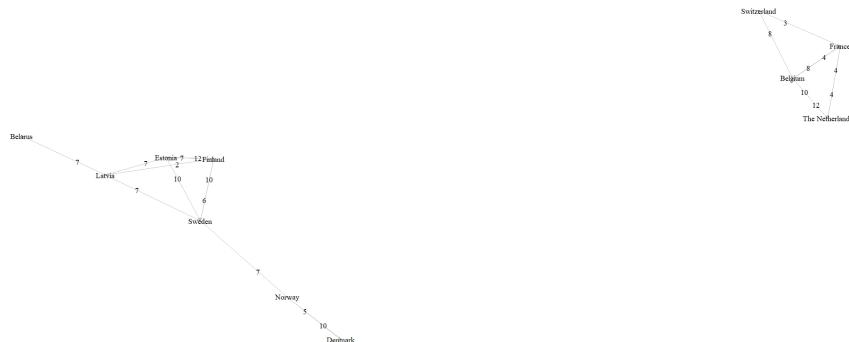
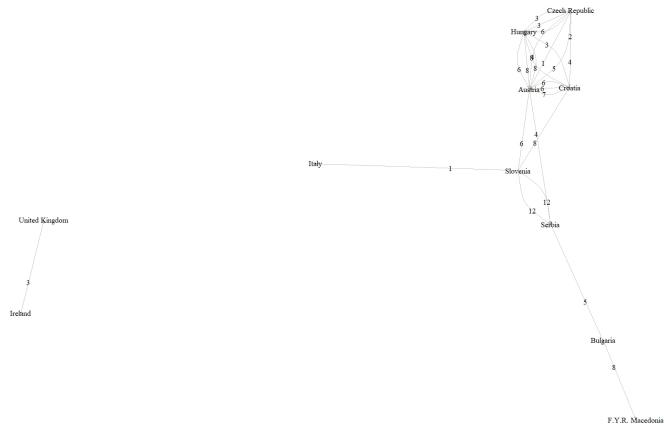
Televote Metric COBCit SF1



Jury Metric COBCit SF1

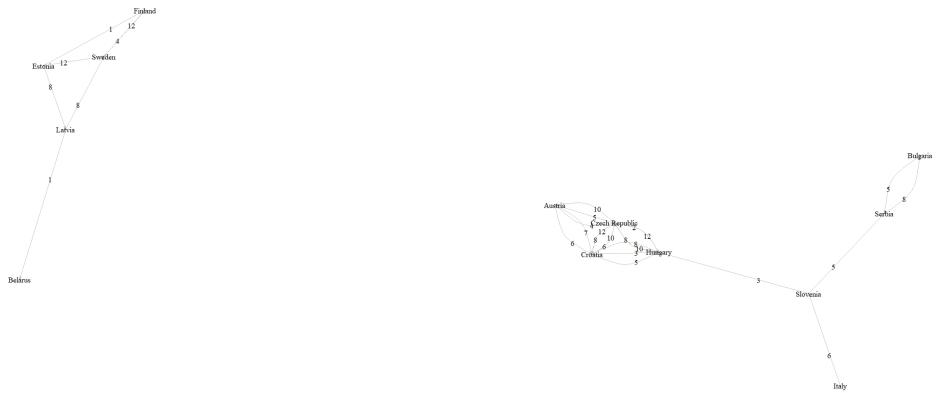


Televote Cap Dist

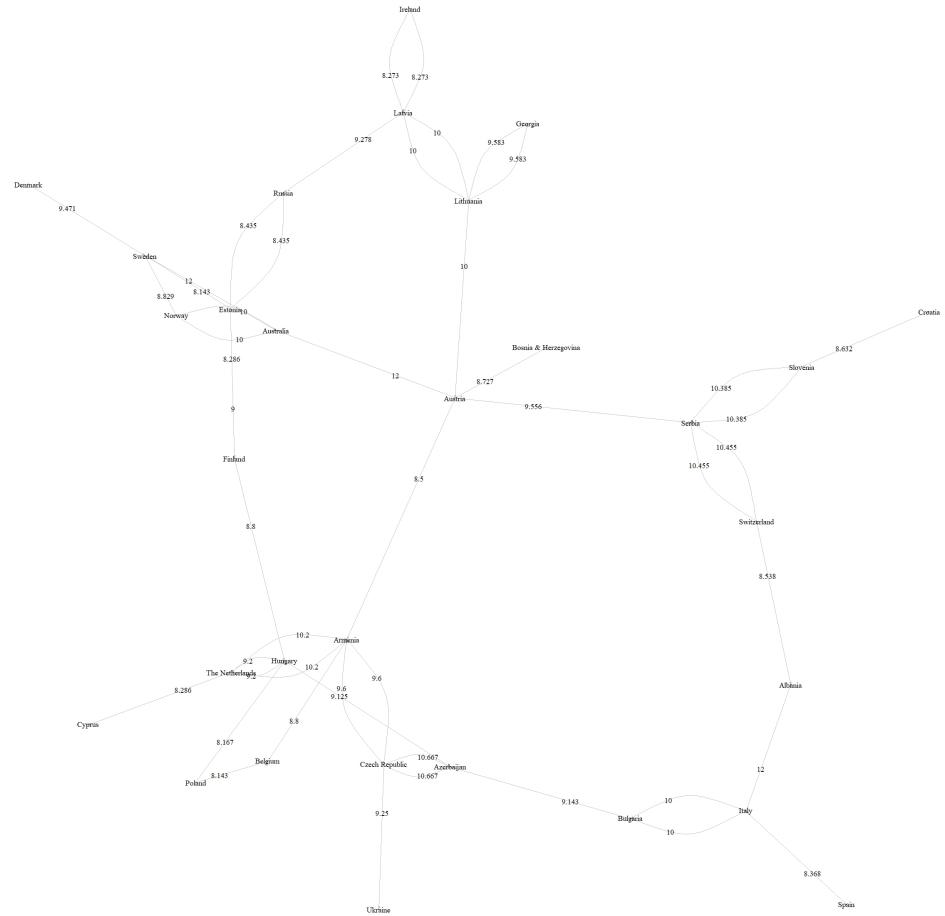


Jury Cap Dist

Denmark — 6 ————— Norway



Televote Average Points



Jury Average Points

