Network Analysis Results

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```
df_clean <- clean_data("data/GSS_panel06w123_R6a - SPSS.sav")
```

Table 1
*Descriptives of the Sample Demographics by Year**

```
kable(describe(df_clean[df_clean$yearID == 2006, 3:7]))
```

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
age	1	661	41.121029	12.126500	42	41.206049	14.826	18	69	51	-0.0683680	-1.0699482	0.4716662
sex	2	662	1.570997	0.495308	2	1.588679	0.000	1	2	1	-0.2862451	-1.9209587	0.0192507
wrkstat	3	662	2.620846	2.412095	1	2.239623	0.000	1	8	7	1.1090382	-0.4751688	0.0937487
degree	4	662	1.716012	1.173723	1	1.626415	0.000	0	4	4	0.6305640	-0.7922347	0.0456180
race	5	662	1.368580	0.676006	1	1.211321	0.000	1	3	2	1.5688668	0.9677646	0.0262737

```
kable(describe(df_clean[df_clean$yearID == 2008, 3:7]))
```

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
age	1	656	42.952744	12.0578463	44	43.047528	14.826	20	64	44	-0.0788999	-1.0898176	0.4707798
sex	2	661	1.568835	0.4956141	2	1.586011	0.000	1	2	1	-0.2773568	-1.9259801	0.0192772
wrkstat	3	661	2.697428	2.4616715	1	2.321361	0.000	1	8	7	1.0543965	-0.5758758	0.0957479
degree	4	661	1.741301	1.1695392	1	1.646503	0.000	0	4	4	0.6024832	-0.8711086	0.0454898
race	5	661	1.293495	0.5993204	1	1.147448	0.000	1	3	2	1.8873925	2.2919810	0.0233109

```
kable(describe(df_clean[df_clean$yearID == 2010, 3:7]))
```

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
age	1	1005	45.3791041	2.1419460	46	45.542857	14.826	21	66	45	-0.1041095	-1.1105440	0.3830057
sex	2	1005	1.583085	0.4932941	2	1.603727	0.000	1	2	1	-0.3365210	-1.8886299	0.0155605
wrkstat	3	1004	2.689243	2.3504192	1	2.319652	0.000	1	8	7	1.0230980	-0.5225581	0.0741786
degree	4	1005	1.750249	1.2043714	1	1.673292	0.000	0	4	4	0.5660481	-0.9423631	0.0379907
race	5	1005	1.303483	0.6041340	1	1.159006	0.000	1	3	2	1.8289264	2.0792792	0.0190568

Table 2

Descriptives of the Analysis Variables by Year

```
kable(describe(df_clean[df_clean$yearID == 2006, 8:32]))
```

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
eqwlth	1	323	3.560372	1.9204463	3	3.451738	2.9652	1	7	6	0.2647652	-0.9674682	0.1068565
marblk	2	660	2.845455	1.1816993	3	2.806818	1.4826	1	5	4	0.0248751	-0.5908756	0.0459976
marwht	3	659	1.996965	0.9564959	2	1.969754	1.4826	1	5	4	0.2557416	-1.1657505	0.0372598
marasian	4	660	2.698485	1.0387036	3	2.681818	0.7413	1	5	4	0.0002999	-0.2119145	0.0404315
marhisp	5	661	2.679274	1.0885117	3	2.648393	1.4826	1	5	4	0.0542360	-0.4011268	0.0423382
marhomo	6	335	3.331343	1.5027130	4	3.412639	1.4826	1	5	4	-0.2559043	-1.4523893	0.0821020
socrel	7	662	3.277946	1.5745989	3	3.216981	1.4826	1	7	6	0.3611004	-0.7773915	0.0611985
socommun	8	662	4.524169	2.0452940	5	4.603774	2.9652	1	7	6	-0.1745227	-1.3817091	0.0794926
socfrend	9	662	3.764350	1.5786198	4	3.671698	1.4826	1	7	6	0.3421944	-0.6724178	0.0613548
parsol	10	324	2.246914	1.1648183	2	2.138462	1.4826	1	5	4	0.6141786	-0.6496581	0.0647121
kidssol	11	323	2.613003	1.5206910	2	2.401544	1.4826	1	6	5	0.8999546	-0.0989172	0.0846135
goodlife	12	325	2.313846	1.0393310	2	2.214559	0.0000	1	5	4	0.8781789	0.2216805	0.0576517
fechld	13	657	2.105023	0.8569599	2	2.058823	1.4826	1	4	3	0.3493668	-0.5944580	0.0334332
fepresch	14	654	2.691132	0.7997019	3	2.719466	0.0000	1	4	3	-0.3760261	-0.2348412	0.0312708
fefam	15	653	2.826952	0.8430932	3	2.875717	1.4826	1	4	3	-0.4012547	-0.3737780	0.0329928
punsin	16	625	2.675200	0.9911997	3	2.718563	1.4826	1	4	3	-0.1449342	-1.0483865	0.0396480
blkwhite	17	654	1.840979	0.9222964	2	1.696565	1.4826	1	4	3	0.9620647	0.0879924	0.0360646
rotapple	18	650	2.189231	0.9708578	2	2.111538	1.4826	1	4	3	0.3519162	-0.8868560	0.0380802

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
permoral	19	651	2.006144	0.8909592	2	1.925144	1.4826	1	4	3	0.5483876	-0.4996630	0.0349194
finrela	20	659	2.895296	0.8784618	3	2.911153	1.4826	1	5	4	-0.0912055	-0.1041532	0.0342200
polviews	21	647	4.132921	1.4232527	4	4.169557	1.4826	1	7	6	-0.1347386	-0.3938910	0.0559538
happy	22	661	1.788200	0.5984171	2	1.741021	0.0000	1	3	2	0.1161747	-0.4636170	0.0232757
news	23	662	2.593656	1.4000720	2	2.492453	1.4826	1	5	4	0.4056065	-1.1628574	0.0544153
relpersn	24	656	2.376524	0.9246402	2	2.346008	1.4826	1	4	3	0.2765654	-0.7571598	0.0361011
sprtprsn	25	656	2.057927	0.9010586	2	1.988593	1.4826	1	4	3	0.4364459	-0.6811205	0.0351804

```
kable(describe(df_clean[df_clean$yearID == 2008, 8:32]))
```

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
eqwlth	1	320	3.500000	1.8569534	3	3.386719	1.4826	1	7	6	0.3074593	-0.8170794	0.1038068
marblk	2	661	2.801815	1.1207667	3	2.767486	0.0000	1	5	4	0.0140267	-0.3450672	0.0435928
marwht	3	661	2.086233	0.9724109	2	2.077505	1.4826	1	5	4	0.0446310	-1.4302302	0.0378224
marasian	4	659	2.649469	0.9939233	3	2.633270	0.0000	1	5	4	-0.0819897	-0.0341109	0.0387178
marhisp	5	660	2.657576	1.0207350	3	2.642046	0.0000	1	5	4	-0.0828630	-0.1858970	0.0397321
marhomo	6	334	3.191617	1.5321740	3	3.238806	2.9652	1	5	4	-0.0930046	-1.5206734	0.0838368
socrel	7	661	3.334342	1.6063843	3	3.264650	1.4826	1	7	6	0.3459977	-0.8610435	0.0624811
socommun	8	661	4.523449	1.9574591	4	4.587902	2.9652	1	7	6	-0.1222415	-1.2985371	0.0761363
socfrend	9	661	3.821483	1.4786024	4	3.742911	1.4826	1	7	6	0.2520300	-0.6337509	0.0575110
parsol	10	324	2.256173	1.1694481	2	2.138462	1.4826	1	5	4	0.6524065	-0.5226602	0.0649693
kidssol	11	316	2.743671	1.5370941	2	2.559055	1.4826	1	6	5	0.7569148	-0.3645338	0.0864683
goodlife	12	326	2.561350	1.0901983	2	2.507634	0.0000	1	5	4	0.6600970	-0.5240039	0.0603805
fechld	13	658	2.050152	0.8470065	2	2.015151	1.4826	1	4	3	0.2801130	-0.8048810	0.0330198
fepresch	14	656	2.763720	0.7857282	3	2.788973	0.0000	1	4	3	-0.3887551	-0.1420209	0.0306775
fefam	15	658	2.855623	0.8415433	3	2.910985	1.4826	1	4	3	-0.4577065	-0.2944609	0.0328068
punsin	16	624	2.666667	0.9900522	3	2.708000	1.4826	1	4	3	-0.1291729	-1.0503516	0.0396338

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
blkwhite	17	655	1.890076	0.9514880	2	1.739048	1.4826	1	4	3	0.9431058	-0.0067173	0.0371777
rotapple	18	652	2.280675	0.9865739	2	2.226054	1.4826	1	4	3	0.3370861	-0.9010103	0.0386372
permoral	19	643	2.076205	0.9416512	2	1.980582	1.4826	1	4	3	0.5076920	-0.6697897	0.0371351
finrela	20	654	2.857798	0.8835533	3	2.868321	1.4826	1	5	4	-0.0391185	-0.3032728	0.0345497
polviews	21	648	4.010802	1.3960224	4	4.017308	1.4826	1	7	6	-0.0362247	-0.4049603	0.0548409
happy	22	660	1.809091	0.5855434	2	1.768939	0.0000	1	3	2	0.0603567	-0.3471685	0.0227922
news	23	661	2.656581	1.4061789	2	2.570889	1.4826	1	5	4	0.3647099	-1.1925918	0.0546940
relpersn	24	658	2.413374	0.9648008	2	2.392046	1.4826	1	4	3	0.2455597	-0.9060453	0.0376119
sprtprsn	25	657	2.098935	0.9111180	2	2.022770	1.4826	1	4	3	0.4442007	-0.6419895	0.0355461

```
kable(describe(df_clean[df_clean$yearID == 2010, 8:32]))
```

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
eqwlth	1	668	4.011976	2.0171321	4	4.014925	2.9652	1	7	6	0.0011844	-1.1358667	0.0780452
marblk	2	660	2.766667	1.1032210	3	2.731061	0.0000	1	5	4	0.0291482	-0.2647893	0.0429428
marwht	3	660	2.116667	0.9777624	2	2.106061	1.4826	1	5	4	0.0477292	-1.3129183	0.0380593
marasian	4	660	2.657576	0.9498919	3	2.659091	0.0000	1	5	4	-0.0234296	0.2168592	0.0369745
marhisp	5	660	2.656061	0.9784675	3	2.647727	0.0000	1	5	4	-0.1344810	0.0154177	0.0380868
marhomo	6	674	3.090505	1.5232128	3	3.112963	1.4826	1	5	4	-0.0140479	-1.5110547	0.0586720
socrel	7	1005	3.352239	1.5903430	3	3.286957	1.4826	1	7	6	0.3242512	-0.8248789	0.0501658
soccommun	8	1004	4.658366	1.9698170	5	4.757463	2.9652	1	7	6	-0.2429352	-1.2721363	0.0621669
socfrend	9	1005	4.008955	1.5451116	4	3.931677	1.4826	1	7	6	0.2423946	-0.6788440	0.0487390
parsol	10	668	2.299401	1.1007152	2	2.207090	1.4826	1	5	4	0.5143618	-0.5165059	0.0425879
kidssol	11	657	2.872146	1.5798176	3	2.717268	1.4826	1	6	5	0.6019510	-0.6443186	0.0616346
goodlife	12	667	2.674663	1.1233275	2	2.648598	1.4826	1	5	4	0.3957956	-0.8826210	0.0434954
fechld	13	657	2.042618	0.8308153	2	1.988615	1.4826	1	4	3	0.4619663	-0.3568139	0.0324132
fepresch	14	656	2.756098	0.7546048	3	2.754753	0.0000	1	4	3	-0.2255326	-0.2425476	0.0294624

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
fefam	15	655	2.845801	0.8435997	3	2.895238	1.4826	1	4	3	-0.4050890	-0.3834920	0.0329622
punsin	16	964	2.669087	0.9918875	3	2.711140	1.4826	1	4	3	-0.1695594	-1.0282653	0.0319465
blkwhite	17	997	1.822467	0.9213971	2	1.665832	1.4826	1	4	3	1.0500539	0.3087651	0.0291809
rotapple	18	994	2.277666	0.9849646	2	2.222362	1.4826	1	4	3	0.3834775	-0.8537854	0.0312412
permoral	19	991	2.010091	0.9022414	2	1.910467	1.4826	1	4	3	0.6479391	-0.3222446	0.0286606
finrela	20	1001	2.842158	0.9203591	3	2.870162	1.4826	1	5	4	-0.0986158	-0.3599435	0.0290898
polviews	21	985	4.095432	1.4430340	4	4.129278	1.4826	1	7	6	-0.1282109	-0.4904018	0.0459789
happy	22	1004	1.882470	0.6156253	2	1.853234	0.0000	1	3	2	0.0753906	-0.4301211	0.0194290
news	23	660	2.769697	1.4715274	3	2.712121	1.4826	1	5	4	0.2348902	-1.3568358	0.0572791
relpersn	24	1002	2.423154	0.9610719	2	2.403990	1.4826	1	4	3	0.2185068	-0.9065716	0.0303614
sprtprsn	25	1004	2.088645	0.9102882	2	2.009950	1.4826	1	4	3	0.4664943	-0.6115904	0.0287284

Graph 1

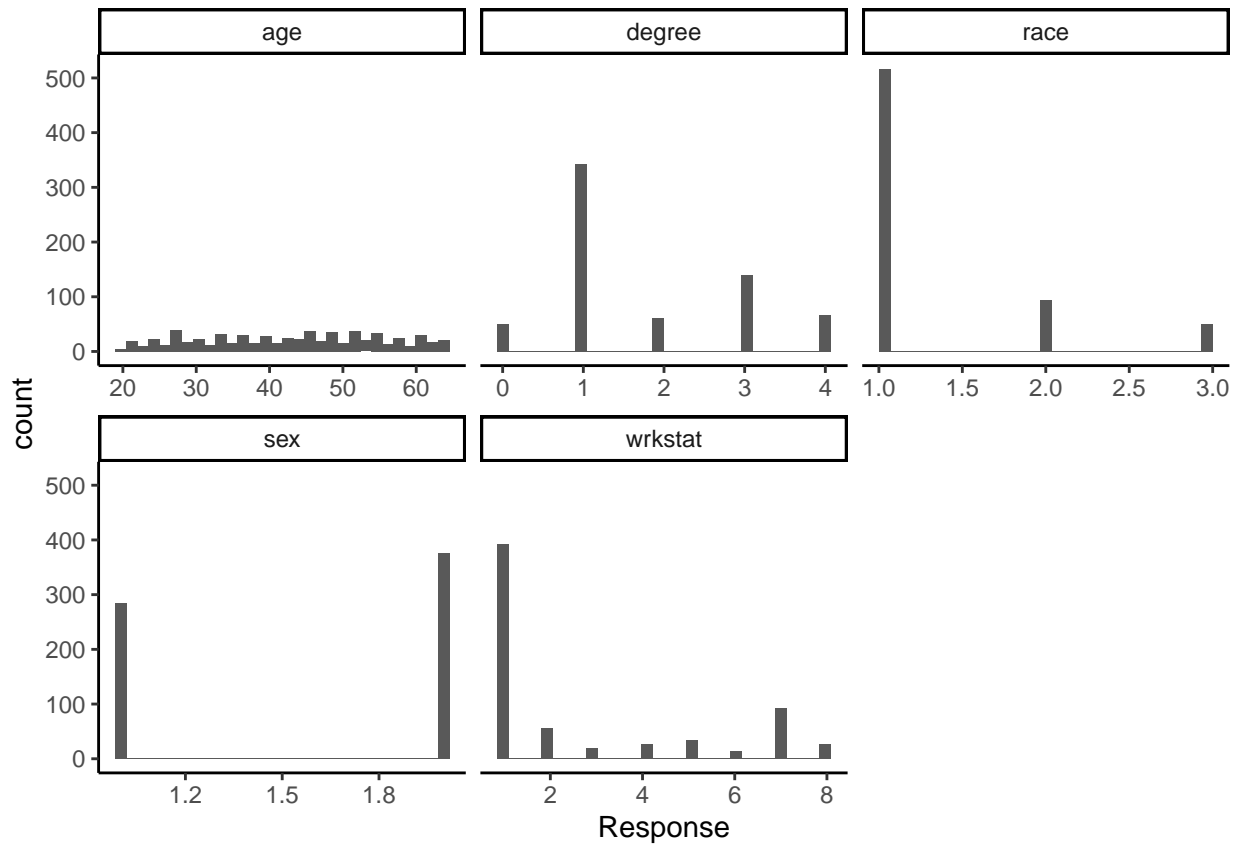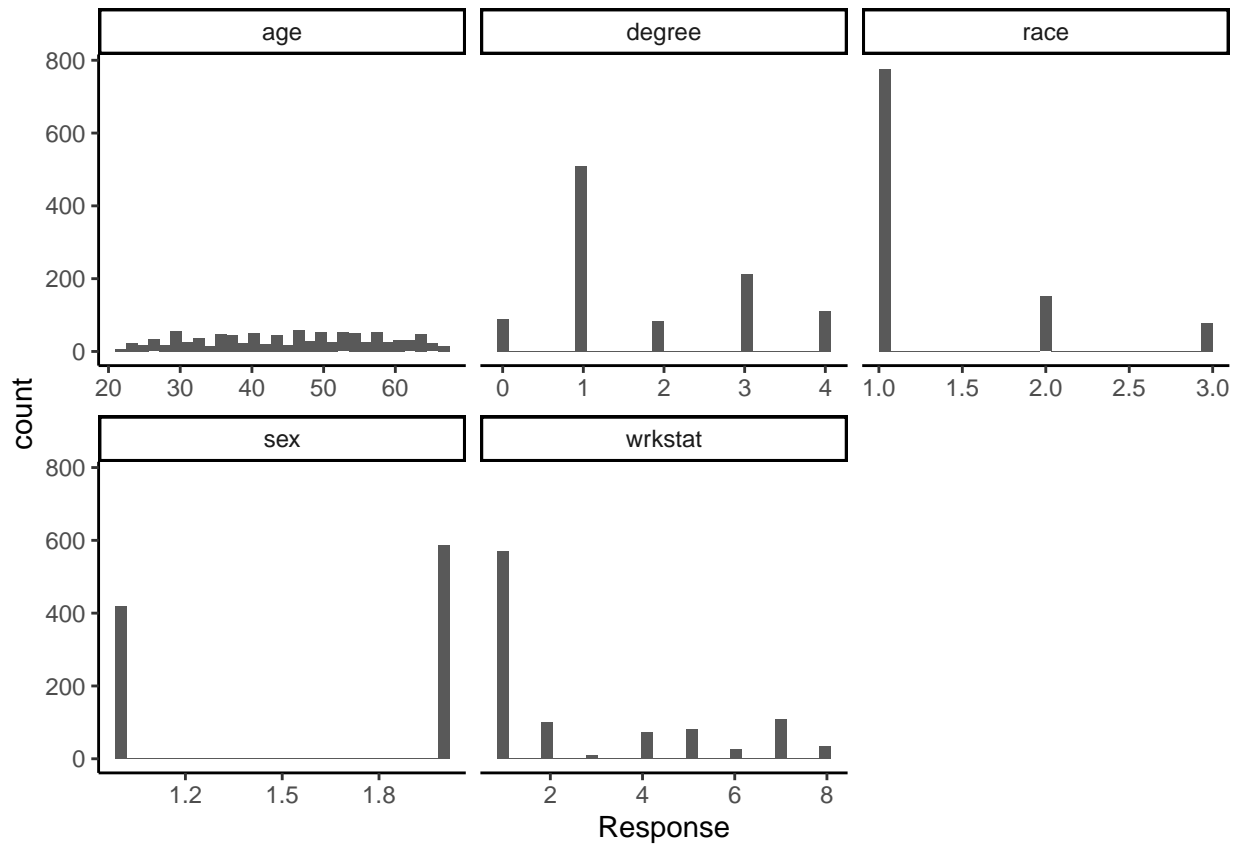*Histograms of Sample Demographics by Year*

```
ggplot(gather(df_clean[df_clean$yearID == 2006, 3:7]), aes(value)) +
  geom_histogram() +
  facet_wrap(~key, scales = "free_x") +
  theme_classic() +
  xlab("Response")
```

`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
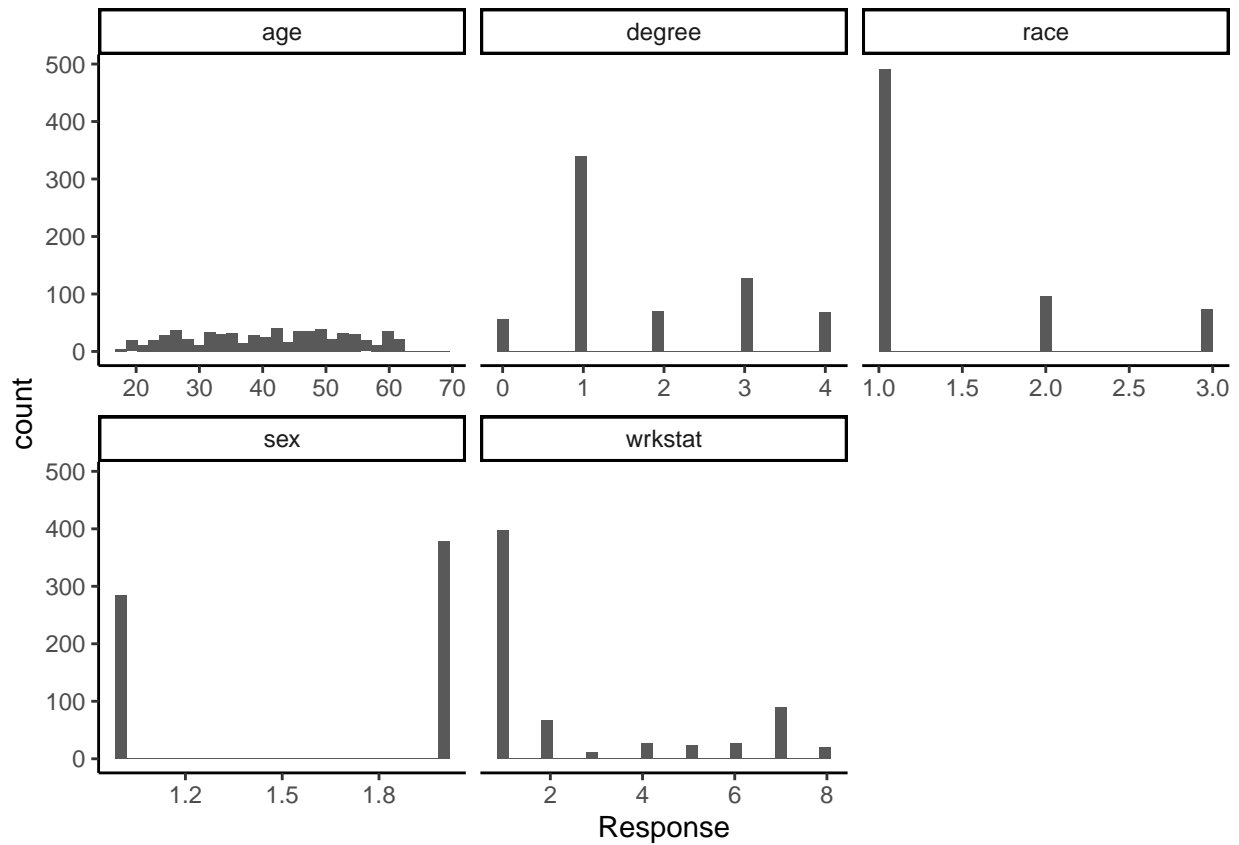
```
ggplot(gather(df_clean[df_clean$yearID == 2008, 3:7]), aes(value)) +
  geom_histogram() +
  facet_wrap(~key, scales = "free_x") +
  theme_classic() +
  xlab("Response")
```

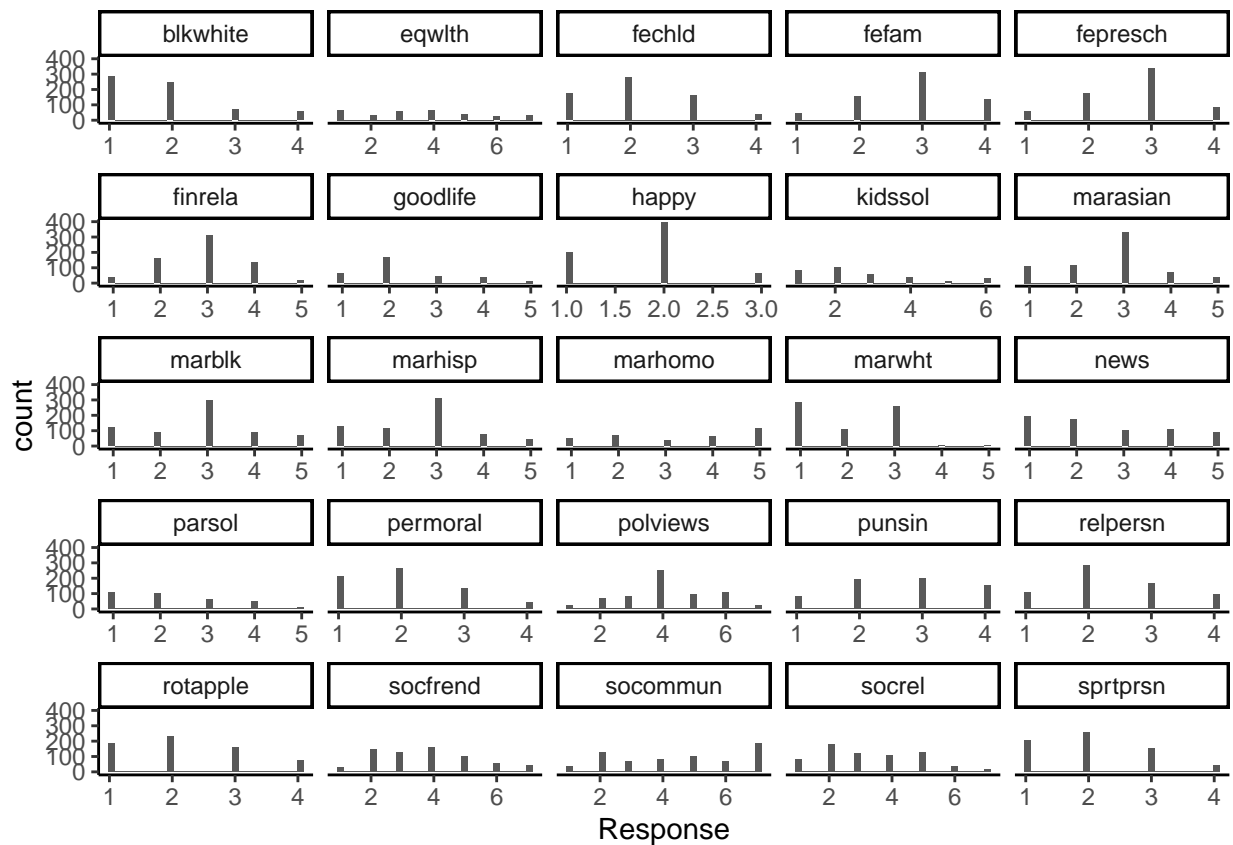## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

```
ggplot(gather(df_clean[df_clean$yearID == 2010, 3:7]), aes(value)) +
  geom_histogram() +
  facet_wrap(~key, scales = "free_x") +
  theme_classic() +
  xlab("Response")
```

`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

Graph 2
Histograms of Analysis Variables by Year

```
ggplot(gather(df_clean[df_clean$yearID == 2006, 8:32]), aes(value)) +
  geom_histogram() +
  facet_wrap(~key, scales = "free_x") +
  theme_classic() +
  xlab("Response")
```
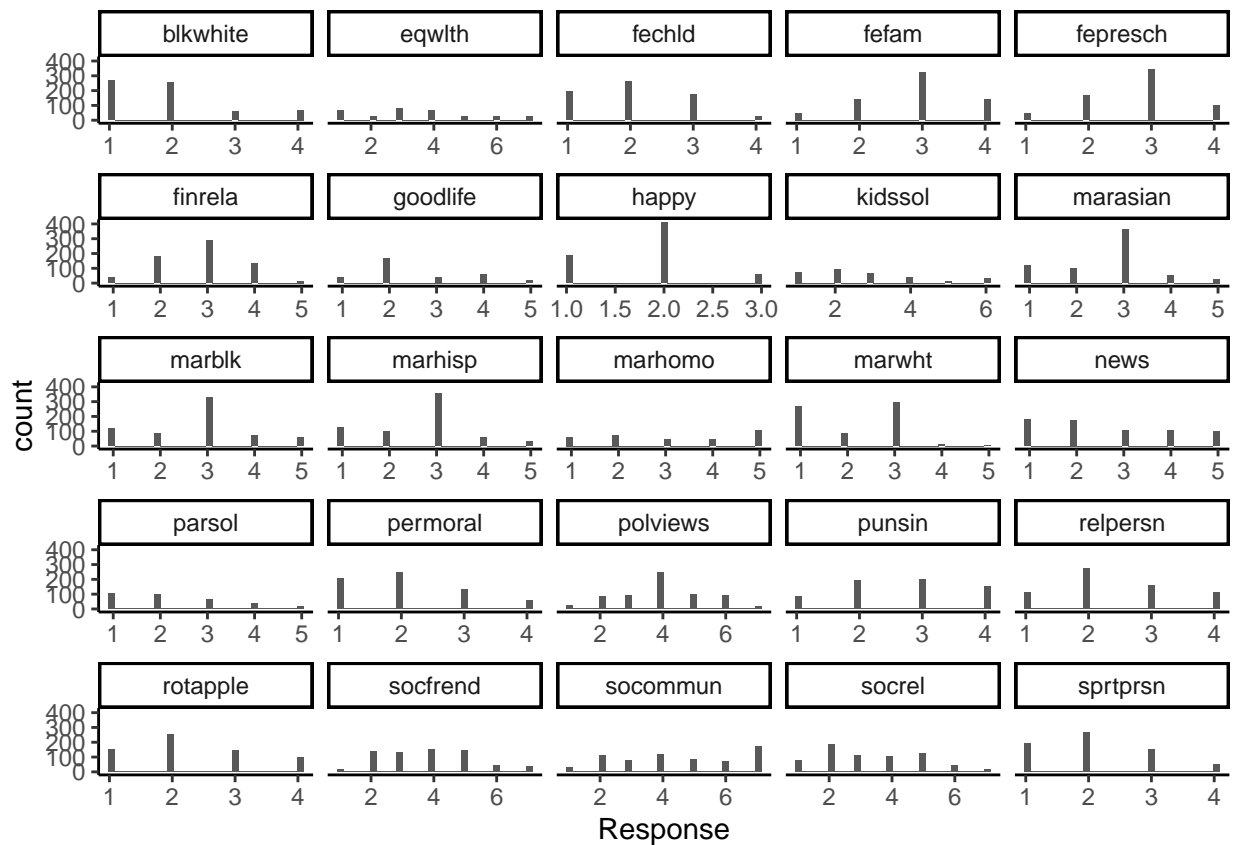
```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

```r
ggplot(gather(df_clean[df_clean$yearID == 2008, 8:32]), aes(value)) +
  geom_histogram() +
  facet_wrap(~key, scales = "free_x") +
  theme_classic() +
  xlab("Response")
```

`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

```
ggplot(gather(df_clean[df_clean$yearID == 2010, 8:32]), aes(value)) +
  geom_histogram() +
  facet_wrap(~key, scales = "free_x") +
  theme_classic() +
  xlab("Response")
```

`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.