Coffee brand

November 22, 2012

```
> library(EffectStars)
> data(coffee)
```

Effect Stars for multinomial logit model for coffee data.

```
> star.nominal(Brand ~ Amount + Age + SocialLevel + Income + Persons +
+ PriceSensitivity + Education, coffee, cex.cat = 1, cex.labels = 1.2,
+ lwd.circle = 1.5)

$odds
               (Intercept) Amount>= 2  Age>= 50 SocialLevellow Income>= 2500
Jacobs           1.7921912  2.0611862 1.2710021      0.8906470     1.0109014
JacobsSpecial    0.7105079  1.5160332 1.0853299      1.0124528     1.2790397
Aldi             0.7462833  1.1866558 1.0624513      1.3369529     1.0650309
AldiSpecial      0.4430541  1.7583451 0.6776823      1.4971118     1.0871445
Eduscho          0.2578988  0.7876474 1.1948984      1.2774100     0.8332758
EduschoSpecial   1.3049076  0.5907297 0.9033230      0.6985463     0.9977979
Tchibo           0.8860839  0.4164343 1.0027474      0.7607307     0.8276003
TchiboSpecial    2.2749597  0.6018416 0.8420753      0.8718790     0.9123693
Others           3.5011330  1.3152123 1.1046897      0.9361308     1.0639838
                 Persons PriceSensitivitysensitive EducationHighschool
Jacobs         0.8778951                 0.8580355           0.7859879
JacobsSpecial  0.9597767                 0.7178063           0.8295715
Aldi           1.0119845                 1.0119784           1.5101571
AldiSpecial    0.9122767                 1.4655512           2.0554289
Eduscho        1.1887164                 1.3955956           0.9186669
EduschoSpecial 0.9983747                 1.4671325           0.9123891
Tchibo         1.0915821                 0.6538652           0.9442711
TchiboSpecial  1.0273066                 0.8438983           0.8438364
Others         0.9659586                 0.9689646           0.7397971


$coefficients
               (Intercept) Amount>= 2     Age>= 50 SocialLevellow Income>= 2500
Jacobs           0.5834390  0.7232816  0.239805611    -0.11580706   0.010842442
JacobsSpecial   -0.3417752  0.4160972  0.081884016     0.01237589   0.246109590
Aldi            -0.2926500  0.1711391  0.060578793     0.29039305   0.063003792
AldiSpecial     -0.8140633  0.5643731 -0.389076714     0.40353779   0.083554550
Eduscho         -1.3551881 -0.2387048  0.178061119     0.24483462  -0.182390616
EduschoSpecial   0.2661322 -0.5263967 -0.101675113    -0.35875376  -0.002204562
Tchibo          -0.1209437 -0.8760266  0.002743593    -0.27347586  -0.189224950
```

```
TchiboSpecial     0.8219623 -0.5077610 -0.171885805     -0.13710463  -0.091710405
Others            1.2530866  0.2739981  0.099564501     -0.06600003   0.062020158
                  Persons PriceSensitivitysensitive EducationHighschool
Jacobs         -0.130228144                -0.15310982         -0.24081383
JacobsSpecial  -0.041054658                -0.33155547         -0.18684602
Aldi            0.011913228                 0.01190725          0.41221369
AldiSpecial    -0.091811947                 0.38223142          0.72048452
Eduscho         0.172874059                 0.33332131         -0.08483165
EduschoSpecial -0.001626669                 0.38330985         -0.09168876
Tchibo          0.087628082                -0.42485404         -0.05734199
TchiboSpecial   0.026940381                -0.16972327         -0.16979662
Others         -0.034634332                -0.03152722         -0.30137934

$se
                (Intercept) Amount>= 2  Age>= 50 SocialLevellow Income>= 2500
Jacobs            0.2704455  0.1364399 0.1513856      0.1374692    0.12456152
JacobsSpecial     0.3641188  0.1909493 0.2003857      0.1840357    0.16717488
Aldi              0.2865785  0.1588105 0.1539883      0.1489903    0.13043304
AldiSpecial       0.3638133  0.1883987 0.1931409      0.1943086    0.16988588
Eduscho           0.4322133  0.2659765 0.2335270      0.2208703    0.19666229
EduschoSpecial    0.3034228  0.2172741 0.1681698      0.1552822    0.14448949
Tchibo            0.3636384  0.2876464 0.2015705      0.1846750    0.17054339
TchiboSpecial     0.2506745  0.1740178 0.1388519      0.1291454    0.11836496
Others            0.1999703  0.1133587 0.1104981      0.1019407    0.09262787
                Persons PriceSensitivitysensitive EducationHighschool
Jacobs         0.06203593                 0.1490741          0.12307697
JacobsSpecial  0.08252800                 0.2112361          0.16488954
Aldi           0.06288105                 0.1566784          0.12668282
AldiSpecial    0.08129319                 0.1904160          0.16861630
Eduscho        0.09162189                 0.2216638          0.19308771
EduschoSpecial 0.06840142                 0.1581201          0.14381055
Tchibo         0.08022710                 0.2184221          0.16690606
TchiboSpecial  0.05613704                 0.1428395          0.11684127
Others         0.04500855                 0.1092795          0.09222343

$pvalues
                (Intercept)   Amount>= 2   Age>= 50 SocialLevellow
Jacobs         3.098029e-02 1.151056e-07 0.11317745     0.39955198
JacobsSpecial  3.479174e-01 2.932444e-02 0.68280968     0.94638488
Aldi           3.071664e-01 2.811986e-01 0.69402498     0.05128664
AldiSpecial    2.524809e-02 2.738767e-03 0.04396017     0.03782112
Eduscho        1.715839e-03 3.694705e-01 0.44576979     0.26764613
EduschoSpecial 3.804321e-01 1.540434e-02 0.54544629     0.02086967
Tchibo         7.394414e-01 2.322955e-03 0.98914026     0.13864671
TchiboSpecial  1.041749e-03 3.524343e-03 0.21575032     0.28840361
Others         3.695799e-10 1.564515e-02 0.36756081     0.51735030
                Income>= 2500   Persons PriceSensitivitysensitive
Jacobs            0.9306358 0.03579599                 0.30438647
JacobsSpecial     0.1409754 0.61886233                 0.11650897
Aldi              0.6290705 0.84973498                 0.93942063
```

2

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AldiSpecial        0.6228413 0.25873214                  0.04471253
Eduscho            0.3537030 0.05918446                  0.13265233
EduschoSpecial     0.9878267 0.98102712                  0.01534348
Tchibo             0.2671967 0.27472305                  0.05176229
TchiboSpecial      0.4384517 0.63129579                  0.23475077
Others             0.5031367 0.44159325                  0.77296345
                   EducationHighschool
Jacobs             5.039315e-02
JacobsSpecial      2.571476e-01
Aldi               1.138309e-03
AldiSpecial        1.929268e-05
Eduscho            6.604133e-01
EduschoSpecial     5.237561e-01
Tchibo             7.311783e-01
TchiboSpecial      1.461614e-01
Others             1.083387e-03


$p_rel
       Amount>= 2  Age>= 50 SocialLevellow Income>= 2500   Persons
[1,] 3.160405e-11 0.3167893      0.032723     0.7518783 0.2745836
     PriceSensitivitysensitive EducationHighschool
[1,]               0.01724551        6.729396e-07


$xlim
[1]  9.102946 49.716089

$ylim
[1]  8.717821 48.910828
```
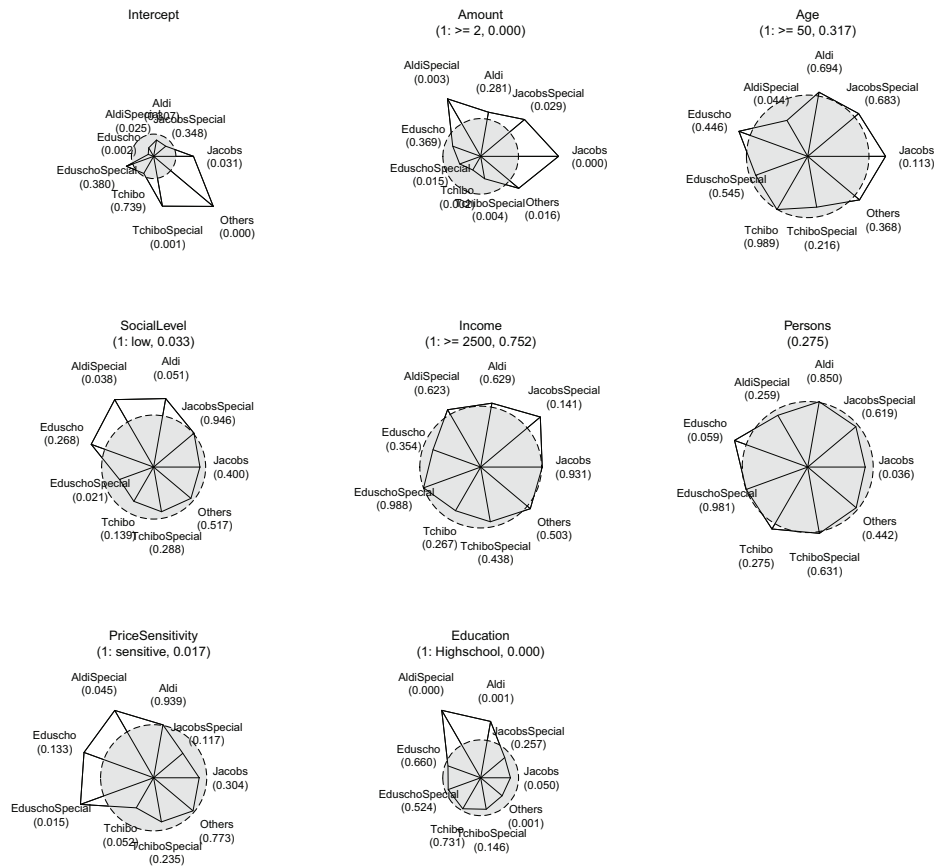
Effect Stars for multinomial logit model for coffee data without p-values.

```
> star.nominal(Brand ~ Amount + Age + SocialLevel + Income + Persons +
+ PriceSensitivity + Education, coffee, cex.cat = 1, cex.labels = 1.2,
+ lwd.circle = 1.5, printpvalues = FALSE)

$odds
```

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow	Income>= 2500
Jacobs	1.7921912	2.0611862	1.2710021	0.8906470	1.0109014
JacobsSpecial	0.7105079	1.5160332	1.0853299	1.0124528	1.2790397
Aldi	0.7462833	1.1866558	1.0624513	1.3369529	1.0650309
AldiSpecial	0.4430541	1.7583451	0.6776823	1.4971118	1.0871445
Eduscho	0.2578988	0.7876474	1.1948984	1.2774100	0.8332758
EduschoSpecial	1.3049076	0.5907297	0.9033230	0.6985463	0.9977979
Tchibo	0.8860839	0.4164343	1.0027474	0.7607307	0.8276003
TchiboSpecial	2.2749597	0.6018416	0.8420753	0.8718790	0.9123693
Others	3.5011330	1.3152123	1.1046897	0.9361308	1.0639838

	Persons	PriceSensitivitysensitive	EducationHighschool
Jacobs	0.8778951	0.8580355	0.7859879

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```
JacobsSpecial   0.9597767                     0.7178063                 0.8295715
Aldi            1.0119845                     1.0119784                 1.5101571
AldiSpecial     0.9122767                     1.4655512                 2.0554289
Eduscho         1.1887164                     1.3955956                 0.9186669
EduschoSpecial  0.9983747                     1.4671325                 0.9123891
Tchibo          1.0915821                     0.6538652                 0.9442711
TchiboSpecial   1.0273066                     0.8438983                 0.8438364
Others          0.9659586                     0.9689646                 0.7397971
```

$coefficients

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow	Income>= 2500
Jacobs	0.5834390	0.7232816	0.239805611	-0.11580706	0.010842442
JacobsSpecial	-0.3417752	0.4160972	0.081884016	0.01237589	0.246109590
Aldi	-0.2926500	0.1711391	0.060578793	0.29039305	0.063003792
AldiSpecial	-0.8140633	0.5643731	-0.389076714	0.40353779	0.083554550
Eduscho	-1.3551881	-0.2387048	0.178061119	0.24483462	-0.182390616
EduschoSpecial	0.2661322	-0.5263967	-0.101675113	-0.35875376	-0.002204562
Tchibo	-0.1209437	-0.8760266	0.002743593	-0.27347586	-0.189224950
TchiboSpecial	0.8219623	-0.5077610	-0.171885805	-0.13710463	-0.091710405
Others	1.2530866	0.2739981	0.099564501	-0.06600003	0.062020158

	Persons	PriceSensitivitysensitive	EducationHighschool
Jacobs	-0.130228144	-0.15310982	-0.24081383
JacobsSpecial	-0.041054658	-0.33155547	-0.18684602
Aldi	0.011913228	0.01190725	0.41221369
AldiSpecial	-0.091811947	0.38223142	0.72048452
Eduscho	0.172874059	0.33332131	-0.08483165
EduschoSpecial	-0.001626669	0.38330985	-0.09168876
Tchibo	0.087628082	-0.42485404	-0.05734199
TchiboSpecial	0.026940381	-0.16972327	-0.16979662
Others	-0.034634332	-0.03152722	-0.30137934

$se

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow	Income>= 2500
Jacobs	0.2704455	0.1364399	0.1513856	0.1374692	0.12456152
JacobsSpecial	0.3641188	0.1909493	0.2003857	0.1840357	0.16717488
Aldi	0.2865785	0.1588105	0.1539883	0.1489903	0.13043304
AldiSpecial	0.3638133	0.1883987	0.1931409	0.1943086	0.16988588
Eduscho	0.4322133	0.2659765	0.2335270	0.2208703	0.19666229
EduschoSpecial	0.3034228	0.2172741	0.1681698	0.1552822	0.14448949
Tchibo	0.3636384	0.2876464	0.2015705	0.1846750	0.17054339
TchiboSpecial	0.2506745	0.1740178	0.1388519	0.1291454	0.11836496
Others	0.1999703	0.1133587	0.1104981	0.1019407	0.09262787

	Persons	PriceSensitivitysensitive	EducationHighschool
Jacobs	0.06203593	0.1490741	0.12307697
JacobsSpecial	0.08252800	0.2112361	0.16488954
Aldi	0.06288105	0.1566784	0.12668282
AldiSpecial	0.08129319	0.1904160	0.16861630
Eduscho	0.09162189	0.2216638	0.19308771
EduschoSpecial	0.06840142	0.1581201	0.14381055
Tchibo	0.08022710	0.2184221	0.16690606

```
TchiboSpecial  0.05613704                    0.1428395           0.11684127
Others         0.04500855                    0.1092795           0.09222343

$p_rel
       Amount>= 2  Age>= 50 SocialLevellow Income>= 2500   Persons
[1,] 3.160405e-11 0.3167893      0.032723     0.7518783 0.2745836
     PriceSensitivitysensitive EducationHighschool
[1,]                0.01724551        6.729396e-07


$xlim
[1]  9.102946 49.716089


$ylim
[1]  8.717821 48.910828
```
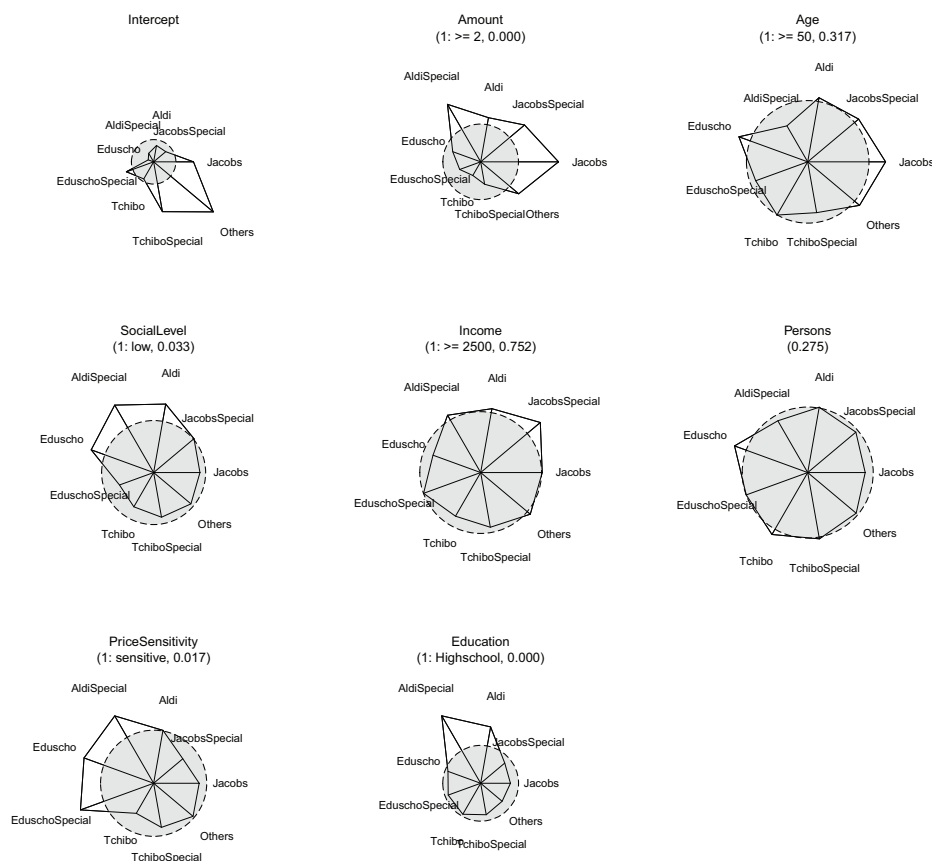

Effect Star for amount only from the multinomial logit model for coffee data.

```
> star.nominal(Brand ~ Amount + Age + SocialLevel + Income + Persons +
+ PriceSensitivity + Education, coffee, cex.cat = 1.4, cex.labels = 1.8,
```

```
+ lwd.circle = 1.5, select = 2)

$odds
              (Intercept) Amount>= 2  Age>= 50 SocialLevellow Income>= 2500
Jacobs          1.7921912  2.0611862 1.2710021      0.8906470     1.0109014
JacobsSpecial   0.7105079  1.5160332 1.0853299      1.0124528     1.2790397
Aldi            0.7462833  1.1866558 1.0624513      1.3369529     1.0650309
AldiSpecial     0.4430541  1.7583451 0.6776823      1.4971118     1.0871445
Eduscho         0.2578988  0.7876474 1.1948984      1.2774100     0.8332758
EduschoSpecial  1.3049076  0.5907297 0.9033230      0.6985463     0.9977979
Tchibo          0.8860839  0.4164343 1.0027474      0.7607307     0.8276003
TchiboSpecial   2.2749597  0.6018416 0.8420753      0.8718790     0.9123693
Others          3.5011330  1.3152123 1.1046897      0.9361308     1.0639838
              Persons PriceSensitivitysensitive EducationHighschool
Jacobs         0.8778951                0.8580355           0.7859879
JacobsSpecial  0.9597767                0.7178063           0.8295715
Aldi           1.0119845                1.0119784           1.5101571
AldiSpecial    0.9122767                1.4655512           2.0554289
Eduscho        1.1887164                1.3955956           0.9186669
EduschoSpecial 0.9983747                1.4671325           0.9123891
Tchibo         1.0915821                0.6538652           0.9442711
TchiboSpecial  1.0273066                0.8438983           0.8438364
Others         0.9659586                0.9689646           0.7397971


$coefficients
              (Intercept) Amount>= 2      Age>= 50 SocialLevellow Income>= 2500
Jacobs          0.5834390  0.7232816  0.239805611    -0.11580706   0.010842442
JacobsSpecial  -0.3417752  0.4160972  0.081884016     0.01237589   0.246109590
Aldi           -0.2926500  0.1711391  0.060578793     0.29039305   0.063003792
AldiSpecial    -0.8140633  0.5643731 -0.389076714     0.40353779   0.083554550
Eduscho        -1.3551881 -0.2387048  0.178061119     0.24483462  -0.182390616
EduschoSpecial  0.2661322 -0.5263967 -0.101675113    -0.35875376  -0.002204562
Tchibo         -0.1209437 -0.8760266  0.002743593    -0.27347586  -0.189224950
TchiboSpecial   0.8219623 -0.5077610 -0.171885805    -0.13710463  -0.091710405
Others          1.2530866  0.2739981  0.099564501    -0.06600003   0.062020158
                  Persons PriceSensitivitysensitive EducationHighschool
Jacobs         -0.130228144               -0.15310982         -0.24081383
JacobsSpecial  -0.041054658               -0.33155547         -0.18684602
Aldi            0.011913228                0.01190725          0.41221369
AldiSpecial    -0.091811947                0.38223142          0.72048452
Eduscho         0.172874059                0.33332131         -0.08483165
EduschoSpecial -0.001626669                0.38330985         -0.09168876
Tchibo          0.087628082               -0.42485404         -0.05734199
TchiboSpecial   0.026940381               -0.16972327         -0.16979662
Others         -0.034634332               -0.03152722         -0.30137934


$se
              (Intercept) Amount>= 2  Age>= 50 SocialLevellow Income>= 2500
Jacobs          0.2704455  0.1364399 0.1513856      0.1374692    0.12456152
JacobsSpecial   0.3641188  0.1909493 0.2003857      0.1840357    0.16717488
```

Aldi	0.2865785	0.1588105	0.1539883	0.1489903	0.13043304
AldiSpecial	0.3638133	0.1883987	0.1931409	0.1943086	0.16988588
Eduscho	0.4322133	0.2659765	0.2335270	0.2208703	0.19666229
EduschoSpecial	0.3034228	0.2172741	0.1681698	0.1552822	0.14448949
Tchibo	0.3636384	0.2876464	0.2015705	0.1846750	0.17054339
TchiboSpecial	0.2506745	0.1740178	0.1388519	0.1291454	0.11836496
Others	0.1999703	0.1133587	0.1104981	0.1019407	0.09262787

	Persons	PriceSensitivitysensitive	EducationHighschool
Jacobs	0.06203593	0.1490741	0.12307697
JacobsSpecial	0.08252800	0.2112361	0.16488954
Aldi	0.06288105	0.1566784	0.12668282
AldiSpecial	0.08129319	0.1904160	0.16861630
Eduscho	0.09162189	0.2216638	0.19308771
EduschoSpecial	0.06840142	0.1581201	0.14381055
Tchibo	0.08022710	0.2184221	0.16690606
TchiboSpecial	0.05613704	0.1428395	0.11684127
Others	0.04500855	0.1092795	0.09222343

$pvalues

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow
Jacobs	3.098029e-02	1.151056e-07	0.11317745	0.39955198
JacobsSpecial	3.479174e-01	2.932444e-02	0.68280968	0.94638488
Aldi	3.071664e-01	2.811986e-01	0.69402498	0.05128664
AldiSpecial	2.524809e-02	2.738767e-03	0.04396017	0.03782112
Eduscho	1.715839e-03	3.694705e-01	0.44576979	0.26764613
EduschoSpecial	3.804321e-01	1.540434e-02	0.54544629	0.02086967
Tchibo	7.394414e-01	2.322955e-03	0.98914026	0.13864671
TchiboSpecial	1.041749e-03	3.524343e-03	0.21575032	0.28840361
Others	3.695799e-10	1.564515e-02	0.36756081	0.51735030

	Income>= 2500	Persons	PriceSensitivitysensitive
Jacobs	0.9306358	0.03579599	0.30438647
JacobsSpecial	0.1409754	0.61886233	0.11650897
Aldi	0.6290705	0.84973498	0.93942063
AldiSpecial	0.6228413	0.25873214	0.04471253
Eduscho	0.3537030	0.05918446	0.13265233
EduschoSpecial	0.9878267	0.98102712	0.01534348
Tchibo	0.2671967	0.27472305	0.05176229
TchiboSpecial	0.4384517	0.63129579	0.23475077
Others	0.5031367	0.44159325	0.77296345

	EducationHighschool
Jacobs	5.039315e-02
JacobsSpecial	2.571476e-01
Aldi	1.138309e-03
AldiSpecial	1.929268e-05
Eduscho	6.604133e-01
EduschoSpecial	5.237561e-01
Tchibo	7.311783e-01
TchiboSpecial	1.461614e-01
Others	1.083387e-03

```
$p_rel
        Amount>= 2  Age>= 50 SocialLevellow Income>= 2500    Persons
[1,] 3.160405e-11 0.3167893      0.032723     0.7518783 0.2745836
     PriceSensitivitysensitive EducationHighschool
[1,]               0.01724551         6.729396e-07


$xlim
[1]   9.102946 20.306572


$ylim
[1]   8.717821 20.971787
```