# General Factorial Regression: GapA versus Blocks, VisitsA, FreqA, CentA, OFA

```
Factor Information

Factor    Levels  Values
VisitsA       2   20, 30
FreqA         3   1.00, 1.33, 2.00
CentA         2   0, 1
OFA           3   1, 2, 3
```

Analysis of Variance

| Source | DF | Seq SS | Contribution | Adj SS | Adj MS | F-Value | P-Value |
|---|---|---|---|---|---|---|---|
| Model | 13 | 106139 | 92.26% | 106139 | 8164.6 | 53.18 | 0.000 |
| Blocks | 1 | 30 | 0.03% | 30 | 30.1 | 0.20 | 0.659 |
| Linear | 6 | 97241 | 84.53% | 97241 | 16206.9 | 105.57 | 0.000 |
| VisitsA | 1 | 8313 | 7.23% | 8313 | 8313.4 | 54.15 | 0.000 |
| FreqA | 2 | 1792 | 1.56% | 1792 | 895.9 | 5.84 | 0.005 |
| CentA | 1 | 1255 | 1.09% | 1255 | 1255.3 | 8.18 | 0.006 |
| OFA | 2 | 85881 | 74.65% | 85881 | 42940.3 | 279.72 | 0.000 |
| 2-Way Interactions | 6 | 8868 | 7.71% | 8868 | 1478.0 | 9.63 | 0.000 |
| VisitsA*FreqA | 2 | 1762 | 1.53% | 1762 | 881.0 | 5.74 | 0.005 |
| VisitsA*OFA | 2 | 5980 | 5.20% | 5980 | 2990.2 | 19.48 | 0.000 |
| CentA*OFA | 2 | 1126 | 0.98% | 1126 | 562.8 | 3.67 | 0.032 |
| Error | 58 | 8904 | 7.74% | 8904 | 153.5 | | |
| Total | 71 | 115043 | 100.00% | | | | |

Model Summary

```
      S    R-sq  R-sq(adj)    PRESS   R-sq(pred)
12.3901  92.26%     90.53%  13721.0       88.07%
```

Regression Equation

```
GapA = 52.64 - 10.75 VisitsA_20 + 10.75 VisitsA_30 + 2.79 FreqA_1.00 + 4.22 FreqA_1.33
       - 7.01 FreqA_2.00 + 4.18 CentA_0 - 4.18 CentA_1 + 44.82 OFA_1 - 5.59 OFA_2
       - 39.22 OFA_3 - 1.70 VisitsA*FreqA_20 1.00 + 6.73 VisitsA*FreqA_20 1.33
       - 5.03 VisitsA*FreqA_20 2.00 + 1.70 VisitsA*FreqA_30 1.00 - 6.73 VisitsA*FreqA_30
1.33
       + 5.03 VisitsA*FreqA_30 2.00 + 8.20 VisitsA*OFA_20 1 - 12.71 VisitsA*OFA_20 2
       + 4.51 VisitsA*OFA_20 3 - 8.20 VisitsA*OFA_30 1 + 12.71 VisitsA*OFA_30 2
       - 4.51 VisitsA*OFA_30 3 - 1.63 CentA*OFA_0 1 - 3.81 CentA*OFA_0 2
+ 5.45 CentA*OFA_0 3
       + 1.63 CentA*OFA_1 1 + 3.81 CentA*OFA_1 2 - 5.45 CentA*OFA_1 3
```

# General Factorial Regression: GapB versus Blocks, VisitsB, FreqB, Cent, OF

```
Factor Information

Factor    Levels  Values
VisitsB      4    12, 20, 40, 60
FreqB        3    1.00000, 1.33333, 2.00000
Cent         2    0, 1
OF           3    1, 2, 3
```

## Analysis of Variance

| Source | DF | Seq SS | Contribution | Adj SS | Adj MS | F-Value | P-Value |
|---|---|---|---|---|---|---|---|
| Model | 25 | 234664 | 87.55% | 234664 | 9386.6 | 33.18 | 0.000 |
|   Blocks | 1 | 327 | 0.12% | 327 | 326.6 | 1.15 | 0.285 |
|   Linear | 8 | 197524 | 73.69% | 197524 | 24690.5 | 87.27 | 0.000 |
|     VisitsB | 3 | 91111 | 33.99% | 91111 | 30370.4 | 107.35 | 0.000 |
|     FreqB | 2 | 12940 | 4.83% | 12940 | 6469.8 | 22.87 | 0.000 |
|     Cent | 1 | 952 | 0.36% | 952 | 952.2 | 3.37 | 0.069 |
|     OF | 2 | 92521 | 34.52% | 92521 | 46260.6 | 163.52 | 0.000 |
|   2-Way Interactions | 16 | 36813 | 13.73% | 36813 | 2300.8 | 8.13 | 0.000 |
|     VisitsB*FreqB | 6 | 9639 | 3.60% | 9639 | 1606.4 | 5.68 | 0.000 |
|     VisitsB*OF | 6 | 21499 | 8.02% | 21499 | 3583.2 | 12.67 | 0.000 |
|     FreqB*OF | 4 | 5676 | 2.12% | 5676 | 1418.9 | 5.02 | 0.001 |
| Error | 118 | 33383 | 12.45% | 33383 | 282.9 | | |
| Total | 143 | 268047 | 100.00% | | | | |

## Model Summary

| S | R-sq | R-sq(adj) | PRESS | R-sq(pred) |
|---|---|---|---|---|
| 16.8198 | 87.55% | 84.91% | 49714.9 | 81.45% |

## Regression Equation

```
GapB = 45.95 - 33.31 VisitsB_12 - 15.05 VisitsB_20 + 20.63 VisitsB_40 + 27.73 VisitsB_60
       + 11.81 FreqB_1.00000 - 0.41 FreqB_1.33333 - 11.40 FreqB_2.00000 + 2.57 Cent_0
       - 2.57 Cent_1 + 31.13 OF_1 - 0.17 OF_2 - 30.96 OF_3 + 13.47 VisitsB*FreqB_12
1.00000
       - 12.23 VisitsB*FreqB_12 1.33333 - 1.24 VisitsB*FreqB_12 2.00000
       + 5.07 VisitsB*FreqB_20 1.00000 + 6.10 VisitsB*FreqB_20 1.33333
       - 11.18 VisitsB*FreqB_20 2.00000 - 10.14 VisitsB*FreqB_40 1.00000
       + 1.69 VisitsB*FreqB_40 1.33333 + 8.45 VisitsB*FreqB_40 2.00000
       - 8.40 VisitsB*FreqB_60 1.00000 + 4.43 VisitsB*FreqB_60 1.33333
       + 3.97 VisitsB*FreqB_60 2.00000 - 10.44 VisitsB*OF_12 1 - 7.88 VisitsB*OF_12 2
       + 18.32 VisitsB*OF_12 3 + 12.96 VisitsB*OF_20 1 - 19.10 VisitsB*OF_20 2
       + 6.14 VisitsB*OF_20 3 + 2.29 VisitsB*OF_40 1 + 10.14 VisitsB*OF_40 2
       - 12.43 VisitsB*OF_40 3 - 4.82 VisitsB*OF_60 1 + 16.84 VisitsB*OF_60 2
       - 12.03 VisitsB*OF_60 3 + 11.11 FreqB*OF_1.00000 1 - 2.47 FreqB*OF_1.00000 2
       - 8.63 FreqB*OF_1.00000 3 - 1.67 FreqB*OF_1.33333 1 - 1.65 FreqB*OF_1.33333 2
       + 3.32 FreqB*OF_1.33333 3 - 9.44 FreqB*OF_2.00000 1 + 4.12 FreqB*OF_2.00000 2
       + 5.32 FreqB*OF_2.00000 3
```

Equation averaged over blocks.