| Model Information | |
| --- | --- |
| **Data Set** | WORK.RESULTS |
| **Response Variable** | q2\_signed\_error |
| **Response Distribution** | Gaussian |
| **Link Function** | Identity |
| **Variance Function** | Default |
| **Variance Matrix Blocked By** | block |
| **Estimation Technique** | Restricted Maximum Likelihood |
| **Degrees of Freedom Method** | Containment |

| Class Level Information | | |
| --- | --- | --- |
| Class | Levels | Values |
| block | 18 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 |
| user\_id | 196 | 01a74b042fbb38c63121c61b3088d44e  0321162d0e39427d5e29d2bfbdbc291f  038e3262e4beea25129050e84cb5c6ba  03e6066b40eaa37f0757544d2b63c4c7  05b75ea899a1af6ab62a04567cbddd07  07828319b83df9a6305e58ded879cb9c  0cb92eb524bda4b8ad02f15f6bc73876  0ed4c738b86d5cd8202b19777836cc6c  0f2048110ffb7a9389ce62a82bb6a991  10f5a26c206e890b4c34bc1a32ff98f3  11381516724cd0e756e8df3c7b0e1576  11688597922b52da118fa62e46cb3b3c  122f70cc2f31b9d2469cefafec345f4c  131565a9ea605cf180d7de695129a299  136485b899e08b7c4231f0f22e683849  14aae7ac66d012b731cb6a1b509af320  161d880481d9a75ae15f4763d7d638a1  162d8160c0340900ce122198c496bbe7  16f8ff6718e42ff0fa4882bec9af76d4  187227a1cf07187e0cc3d33ed1184087  1b314cf17c219e35b5cd11b867b4863f  1bad085ba46106d508d171b89ccbdba2  1d3d5a1d63ed762dda3726a01a9a7dcb  1eefdea0963b6bee526cb69c52ceb769  1ef9f3a09cc28905a2192ce89f4c36f4  1f4b21bd31b5f0eab310d240f7d4d55f  2037826a2d539c8b809d1cccc2c2c3f8  205bf71a59c22ca230bcbf31be0d4373  2225f1dc80a8164c419fc542469b24c3  230590ef1a090669112c8be8afdf9597  2535cf856f831cf3edc2eb0393793c69  2667c5e6ea63f95422abd46f8bdb65ff  28160540c8b41d617a8d7ef7e48e0a68  29b75a026732701e743fa6ba0dd02c24  2bacf8834b9d37d6c0e34a13b403f74b  2c3a9969b20a771996de27b52f4bf552  2c876e5105b4bc085b56f788a18c05d6  2c8f571a333c67fc590bda685f8d7fe8  2dc6aa328d07957266504b3ee1f39593  2e4f252cd443650e03266eb1d803321c  30afd795c4aa4b6da6f36753414c70d5  316d313b43865d16a149c94cf28afded  3598ef87c475c2536b4ee3fc0363338f  35a2123de983629f89f515d1e57886da  35f4e2131484e131d0c760cfa29bd0d8  380458ea92ef57ecc180804173ddaa8a  3889b24858bb7d413f6e106b217a25e1  38bb3c7991daa12cc41d68175b8b013e  395e77a1f0c555d3d9fb235390cbae05  3a151bbd55576da08d9615d9e432f4fc  3c39697ad34ef4cac2bac5a6cfd8b90e  3d09edfc857b170c59f6422ca407e303  3e2f74e13713c8217c26f61ebb22d1aa  3e3a45e2b6960fde4d3e4eae18553a53  3fb38197da08cdf62479b464e8b5c464  4115dd096171825b9d4a82901b0733d8  41c9e6be5ba04e30ead052b7c5059a1b  42116c4585a0d83b33f131a8ce27f2e1  449ceaf6250a9780cd9e2946088be66c  45b7093618b340e503070dd1b8c3cde8  47b8f64022e823959a88848e8ea060da  4935461c435dea587a22f5904f4a997c  4965b1a73bc8db734fd5dbebe948c68e  49a4651227e32a14878e18d7af697c1c  4a012593fe2dcec9266ad54148962ec4  4f3a3d9979896b49ed4a000cbf1a9dae  5011d8b03c7ba6148cce7e9454cc6f31  5159066c6dcf6d3eca97d9e7e00489e9  52228ece0404c6be2732dd4d22ba7979  5263c3fbc4f0ad5f9a4433f011c09101  52d6c07e34b1005b7822c8951ab6d0f2  54bb1455cce098f73d4755b7196ba04a  554157ded9688d5558c771818608037e  55bc93c29d1743726620f90fb90e99cd  57e88e91731d9a1c66f2702958c0b3a9  585fb36d01fe4f180d740fc83f8210bb  58aae8847286cdd92c64512cc75df648  58c73694f8dbffe6b3fbe29b03c3c159  5dd6ba2fef5a7a2a0e908908dd857eed  69d651cbc8d01c01e0a859bdce933451  69e88d888071a73b1200d856374e4648  6a4fb9a9a94820bb5f6df71749b0e724  6b837d3f9effeaf0e296c34c12cf6390  6bb82ab5cc34a170671909db462a5e17  6d60df5581e4c901edec602f2b2bbbbb  6d85f4b2f6c51b0f7c4e566be2fdb8e8  6dd8fa822c4f26f5682562b4130fadc0  7115594e6dfc8d716b767b925fc4f394  73edb98af59a12809ae804a7c2574175  74313f0fdd71b205a2d32493a9a674e4  74425afa05adb40abc678cb0662fbd42  769bb19a4a8da9569be8665f3ab18c10  773966d68f5e13e119b6d13c8f16a68e  7753790e37138b699b994222c2cffb97  787b74f0ec20ebb5229977f343ead9a9  78eedb82dcd2fb4d8e8b06892c935644  79468f768c8edad0a915dffc6ffc8b88  7ba1d1d0d7564ce20cc5861ef7f9ced1  7c78c0ba5e892359875adea7676003de  7d13844b0a0ecfd984cebc3e840363f2  7f32f8bd7c1b468893a24122c7cb1230  81cbd2e05b8bff07309927ed54f76a3a  81d3cbe3230faa39f99d6a545b06d134  830490699b621559e1910756be28cc84  859216e5e3f8ee5eeb1d36bf614d1bf8  859cb75228b03de37aed8f039910e8c6  85cc1181458c3c67c00aa06e5dadc873  85cd07d9c58fa253256d1fdc55ff5577  871675c14d17b7ad6441053c8c7d2d53  8965f82a205ad65aa7ddc1bd16b2ecd0  8bdf186191b6329b9a73906d14e1cfac  8d42308697455ccaf7a6f327d2374bf8  90022ee1d925eff0780246c4dd5f699a  90116784a302cb283508dd607409aacd  94032fdc8eb4e0f75caea5b27ca09915  95ff37c12d97fde858cc7638bfd63514  96ea6ab73cf2ebd5cb44f8fa93640b17  97fbc0ccd937809856c28eb2e1812d5d  9815e23a49f2e5d1d14d35f57a874eae  9873de0d79c274cbfb1fceddae5c7271  9ac7adb2fbb60cb32273f6c7fc8a7e90  9c0e69876ef883e848dbac0bf5f833ad  9f401d9ccebe2867b0a08686329a921e  9f843f727e66ad5c9bd61b150351b4d3  9fd7c7ca2fa26afd0b2ab532442a27c0  a090ae42d260628bb8f50f5ccff51c2a  a15d5b00edff2da27ee271d9451e9aae  a3966c3b2eddc25e6fb33154aeedd372  a6e1a51c552a082122147366f7c2a4e5  a7dde31bf4ddf9202aca3c7b4d7608d6  a8453ae1e063fa9a3937cb8e93c04128  a93dfc54329ff883c71096f1664f28c9  a9e06000bf1c8973803af845fe6bd466  ad28668f94811fca38e0ef2c7c2405d0  ad77f0143c14addacacff5161e20bfd8  ae30d27d9132844a2be645a49a3643dc  ae6930edcb8e5719ba336260e79d0b32  b02476116adb2849a56be979d56e592a  b1f7bc8648dc212088c89e502c42c85e  b1fc489a9f8234ab72cff48816da2981  b3007418a03b7cfc25ac305b5f1c792b  b3d0c390e5884a9772e3383254635def  b471d5fb91c0420be34dd717cf54671c  b66da46ae95d651545167bcd77a64fb3  b68e91bf33cdeca7f8f79a3828cbb307  b6a7d60ffc2c837655ee7b9e638265b5  b964e9258d843432fc9400d3385b25ea  b988a49b6fe7b42e38ffde53e086da91  b9dc23dacf2c9ec76dc453ab1773a177  ba3bca0c56303f8fa53035a4ac6813ff  bb3d7729bc5deeb2456eab58565e7ef2  bda4ff16a365c6c4c1d33b2202c0fc1a  be1982dfebf98c4882b95cdf50d9415d  bf74c2156cb7b58660e7afb2e26aa718  c3c21d608cd1db8b25a0eb154c1442ad  c3f16ceb85b808df9ae405f3ec1f3ab7  c4442adef4d65bb111f451e8a2bf20be  c526d0f862e2508e81822f063426ae00  c6b4ca8fd139386066acdbc51fc35dbf  c6eec96092269b5cde4d6ab2e5443fae  c70a488f40067c046c0ebe47dfe91ef7  c9b6ccb0be8570da85ab2f1aa13edbfe  cb8ceed21013a757b668d1562575e88f  cc2b97fc599d1214cc2b586a8452bf12  cc540d73fa2c162d2df017e8c0c6f731  ce819302c7572c11673c368e565ae0bf  d08683c78eda875ff9929ee62510580f  d0c2bc276b4d5ff4c7c137dce3a1271b  d1ca5bf1e1c1bf4c8b6ad91a53c08202  d27cb8e5711fb5930393469e0e8feac4  d2ac629c7238f9a16bf63e7f3672d6d2  d30bae8ae853db6bfdc4f04e46be43d8  d343e2f5bd88fa2b771309eb590e3870  d38962cdca12e30d0cf7ac728504c0aa  d3e59e94cb8ec84d1a6dd5b7d2604c33  d6c0385c8b86f89f47c7c35bc23c0772  db27a8f684448dafed1914bdb4782235  db4f8bcfb11165dcb37acba04cae6bb9  dc3106943b769236cb43a5c37bb25400  e0dbd0fca7e0fb9c05d3d7462eabba0e  e0e07d893326d0f2ea4503f66cbf0a9b  e0f49de494818ec9d7a021cd98579285  e1eff3c41cff7bb469c4e605fbe65817  e253a59f802acec881fca8eb3bb23a1c  e27b405f5770563c62f1860f5a4a1ad0  e6d5d8081c55fe066c7c3d2e57cbfd91  e9084bf2d3950a2c3d8be2298d988cba  ea72eb3f615e626e926f3001389123c1  efa12944608a4dc4ca9f4c5bbdf1b012  efeda1b48ed64a6ab9f0357201ce76e8  efee5a23339b17755f4d00c89975165c  f09ae45b1c5ff547deba46ab10f316b7  f12c6a747ba35c64022aa20f95187b69  f223f32a5c63b6acbed3e1e699506080  f5f8395c7a198158f5e62caef52ba035  fc59f442401904b5d62f978c5ee8cae9 |
| set | 2 | set1 set2 |
| media | 3 | 2dd 3dd 3dp |
| pair\_id | 8 | 1 2 3 4 6 7 8 9 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2938 |
| **Number of Observations Used** | 2938 |

| Dimensions | |
| --- | --- |
| **G-side Cov. Parameters** | 2 |
| **R-side Cov. Parameters** | 1 |
| **Columns in X** | 30 |
| **Columns in Z per Subject** | 196 |
| **Subjects (Blocks in V)** | 18 |
| **Max Obs per Subject** | 225 |

| Parameter Search | | | |
| --- | --- | --- | --- |
| CovP1 | CovP2 | CovP3 | Objective Function |
| 1.0000 | 204.80 | 351.60 | 26750.938748 |

| Optimization Information | |
| --- | --- |
| **Optimization Technique** | Newton-Raphson |
| **Parameters in Optimization** | 2 |
| **Lower Boundaries** | 1 |
| **Upper Boundaries** | 0 |
| **Fixed Effects** | Profiled |
| **Residual Variance** | Profiled |
| **Starting From** | Data |

| Iteration History | | | | | |
| --- | --- | --- | --- | --- | --- |
| Iteration | Restarts | Evaluations | Objective Function | Change | Max Gradient |
| **0** | **0** | 4 | 26750.938748 | . | 14110.59 |
| **1** | **0** | 14 | 26702.346991 | 48.59175750 | 13528.51 |
| **2** | **0** | 3 | 26609.260669 | 93.08632172 | 11000.24 |
| **3** | **0** | 3 | 26347.216794 | 262.04387548 | 5323.506 |
| **4** | **0** | 3 | 26150.569416 | 196.64737742 | 2309.064 |
| **5** | **0** | 3 | 26032.264629 | 118.30478719 | 969.4705 |
| **6** | **0** | 3 | 25968.738247 | 63.52638175 | 387.2731 |
| **7** | **0** | 3 | 25940.168079 | 28.57016798 | 140.9996 |
| **8** | **0** | 3 | 25930.867125 | 9.30095415 | 41.98773 |
| **9** | **0** | 3 | 25929.27544 | 1.59168462 | 7.655447 |
| **10** | **0** | 3 | 25929.202133 | 0.07330718 | 0.411037 |
| **11** | **0** | 3 | 25929.201905 | 0.00022808 | 0.001691 |
| **12** | **0** | 3 | 25929.201905 | 0.00000000 | 8.068E-7 |

|  |
| --- |
| Convergence criterion (GCONV=1E-8) satisfied. |

**Estimated G matrix is not positive definite.**

| Fit Statistics | |
| --- | --- |
| **-2 Res Log Likelihood** | 25929.20 |
| **AIC (smaller is better)** | 25935.20 |
| **AICC (smaller is better)** | 25935.21 |
| **BIC (smaller is better)** | 25937.87 |
| **CAIC (smaller is better)** | 25940.87 |
| **HQIC (smaller is better)** | 25935.57 |
| **Generalized Chi-Square** | 1026628 |
| **Gener. Chi-Square / DF** | 351.58 |

| Covariance Parameter Estimates | | | |
| --- | --- | --- | --- |
| Cov Parm | Subject | Estimate | Standard Error |
| Variance | block | 208.49 | 25.0354 |
| CS | block | -3.9586 | 6.5603 |
| Residual |  | 351.58 | 9.5244 |

| Solutions for Fixed Effects | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Effect | set | media | pair\_id | Estimate | Standard Error | DF | t Value | Pr > |t| |
| Intercept |  |  |  | -4.1478 | 1.8388 | 195 | -2.26 | 0.0252 |
| set | set1 |  |  | -2.9525 | 1.9136 | 2725 | -1.54 | 0.1230 |
| set | set2 |  |  | 0 | . | . | . | . |
| media |  | 2dd |  | 1.4984 | 0.9724 | 2725 | 1.54 | 0.1235 |
| media |  | 3dd |  | -0.3525 | 0.9393 | 2725 | -0.38 | 0.7075 |
| media |  | 3dp |  | 0 | . | . | . | . |
| pair\_id |  |  | 1 | -5.1314 | 2.0580 | 2725 | -2.49 | 0.0127 |
| pair\_id |  |  | 2 | -4.2607 | 2.0718 | 2725 | -2.06 | 0.0398 |
| pair\_id |  |  | 3 | -13.0021 | 1.9992 | 2725 | -6.50 | <.0001 |
| pair\_id |  |  | 4 | -17.4310 | 2.1101 | 2725 | -8.26 | <.0001 |
| pair\_id |  |  | 6 | -14.4754 | 2.1624 | 2725 | -6.69 | <.0001 |
| pair\_id |  |  | 7 | -14.9666 | 1.9601 | 2725 | -7.64 | <.0001 |
| pair\_id |  |  | 8 | -8.8574 | 2.0595 | 2725 | -4.30 | <.0001 |
| pair\_id |  |  | 9 | 0 | . | . | . | . |
| set\*pair\_id | set1 |  | 1 | 6.7790 | 2.7510 | 2725 | 2.46 | 0.0138 |
| set\*pair\_id | set1 |  | 2 | 0.5478 | 2.7338 | 2725 | 0.20 | 0.8412 |
| set\*pair\_id | set1 |  | 3 | 3.7191 | 2.7214 | 2725 | 1.37 | 0.1719 |
| set\*pair\_id | set1 |  | 4 | 3.0999 | 2.8410 | 2725 | 1.09 | 0.2753 |
| set\*pair\_id | set1 |  | 6 | 3.0556 | 2.8281 | 2725 | 1.08 | 0.2800 |
| set\*pair\_id | set1 |  | 7 | 8.9984 | 2.6616 | 2725 | 3.38 | 0.0007 |
| set\*pair\_id | set1 |  | 8 | 4.8098 | 2.7593 | 2725 | 1.74 | 0.0814 |
| set\*pair\_id | set1 |  | 9 | 0 | . | . | . | . |
| set\*pair\_id | set2 |  | 1 | 0 | . | . | . | . |
| set\*pair\_id | set2 |  | 2 | 0 | . | . | . | . |
| set\*pair\_id | set2 |  | 3 | 0 | . | . | . | . |
| set\*pair\_id | set2 |  | 4 | 0 | . | . | . | . |
| set\*pair\_id | set2 |  | 6 | 0 | . | . | . | . |
| set\*pair\_id | set2 |  | 7 | 0 | . | . | . | . |
| set\*pair\_id | set2 |  | 8 | 0 | . | . | . | . |
| set\*pair\_id | set2 |  | 9 | 0 | . | . | . | . |

| Type III Tests of Fixed Effects | | | | |
| --- | --- | --- | --- | --- |
| Effect | Num  DF | Den  DF | F Value | Pr > F |
| set | 1 | 2725 | 1.74 | 0.1869 |
| media | 2 | 2725 | 2.77 | 0.0628 |
| pair\_id | 7 | 2725 | 27.70 | <.0001 |
| set\*pair\_id | 7 | 2725 | 2.48 | 0.0156 |

| set Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| set | Estimate | Standard Error | DF | t Value | Pr > |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| set1 | -12.6077 | 1.0533 | 2725 | -11.97 | <.0001 | 0.05 | -14.6731 | -10.5423 | -12.6077 | 1.0533 | -14.6731 | -10.5423 |
| set2 | -13.5314 | 1.0581 | 2725 | -12.79 | <.0001 | 0.05 | -15.6062 | -11.4567 | -13.5314 | 1.0581 | -15.6062 | -11.4567 |

| Differences of set Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| set | \_set | Estimate | Standard  Error | DF | t Value | Pr > |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| set1 | set2 | 0.9237 | 0.6997 | 2725 | 1.32 | 0.1869 | 0.1869 | 0.05 | -0.4484 | 2.2958 | -0.4484 | 2.2958 |

| media Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| media | Estimate | Standard Error | DF | t   Value | Pr >  |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| 2dd | -11.9532 | 1.0981 | 2725 | -10.89 | <.0001 | 0.05 | -14.1063 | -9.8000 | -11.9532 | 1.0981 | -14.1063 | -9.8000 |
| 3dd | -13.8040 | 1.0702 | 2725 | -12.90 | <.0001 | 0.05 | -15.9026 | -11.7055 | -13.8040 | 1.0702 | -15.9026 | -11.7055 |
| 3dp | -13.4515 | 1.2054 | 2725 | -11.16 | <.0001 | 0.05 | -15.8151 | -11.0879 | -13.4515 | 1.2054 | -15.8151 | -11.0879 |

| Differences of media Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| media | \_media | Estimate | Standard  Error | DF | t Value | Pr > |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| 2dd | 3dd | 1.8509 | 0.8095 | 2725 | 2.29 | 0.0223 | 0.0579 | 0.05 | 0.2635 | 3.4383 | -0.04747 | 3.7492 |
| 2dd | 3dp | 1.4984 | 0.9724 | 2725 | 1.54 | 0.1235 | 0.2720 | 0.05 | -0.4084 | 3.4051 | -0.7819 | 3.7787 |
| 3dd | 3dp | -0.3525 | 0.9393 | 2725 | -0.38 | 0.7075 | 0.9253 | 0.05 | -2.1944 | 1.4893 | -2.5552 | 1.8502 |

| pair\_id Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pair\_id | Estimate | Standard Error | DF | t   Value | Pr >  |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| 1 | -6.9839 | 1.4121 | 2725 | -4.95 | <.0001 | 0.05 | -9.7528 | -4.2151 | -6.9839 | 1.4121 | -9.7528 | -4.2151 |
| 2 | -9.2289 | 1.4118 | 2725 | -6.54 | <.0001 | 0.05 | -11.9972 | -6.4606 | -9.2289 | 1.4118 | -11.9972 | -6.4606 |
| 3 | -16.3847 | 1.4008 | 2725 | -11.70 | <.0001 | 0.05 | -19.1314 | -13.6379 | -16.3847 | 1.4008 | -19.1314 | -13.6379 |
| 4 | -21.1231 | 1.4751 | 2725 | -14.32 | <.0001 | 0.05 | -24.0155 | -18.2308 | -21.1231 | 1.4751 | -24.0155 | -18.2308 |
| 6 | -18.1897 | 1.4569 | 2725 | -12.49 | <.0001 | 0.05 | -21.0463 | -15.3330 | -18.1897 | 1.4569 | -21.0463 | -15.3330 |
| 7 | -15.7095 | 1.3600 | 2725 | -11.55 | <.0001 | 0.05 | -18.3762 | -13.0428 | -15.7095 | 1.3600 | -18.3762 | -13.0428 |
| 8 | -11.6946 | 1.4271 | 2725 | -8.19 | <.0001 | 0.05 | -14.4929 | -8.8963 | -11.6946 | 1.4271 | -14.4929 | -8.8963 |
| 9 | -5.2421 | 1.3968 | 2725 | -3.75 | 0.0002 | 0.05 | -7.9810 | -2.5032 | -5.2421 | 1.3968 | -7.9810 | -2.5032 |

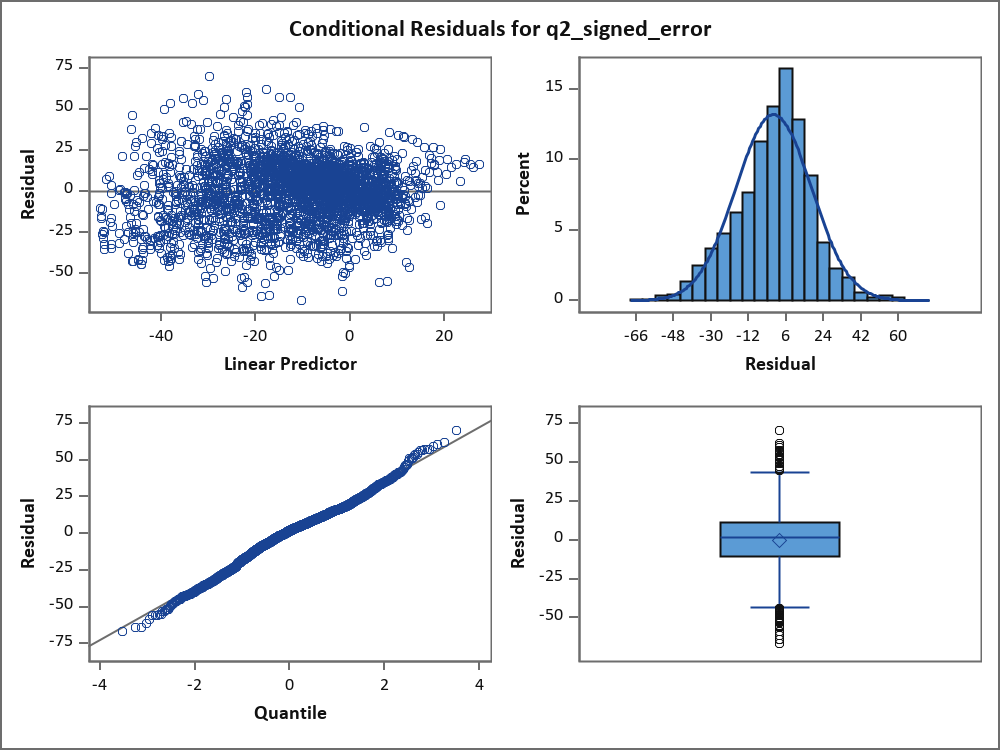
| Differences of pair\_id Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pair\_id | \_pair\_id | Estimate | Standard  Error | DF | t   Value | Pr >  |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| 1 | 2 | 2.2450 | 1.5316 | 2725 | 1.47 | 0.1428 | 0.8257 | 0.05 | -0.7583 | 5.2483 | -2.4009 | 6.8908 |
| 1 | 3 | 9.4007 | 1.4949 | 2725 | 6.29 | <.0001 | <.0001 | 0.05 | 6.4695 | 12.3319 | 4.8664 | 13.9350 |
| 1 | 4 | 14.1392 | 1.5797 | 2725 | 8.95 | <.0001 | <.0001 | 0.05 | 11.0417 | 17.2366 | 9.3477 | 18.9307 |
| 1 | 6 | 11.2057 | 1.5509 | 2725 | 7.23 | <.0001 | <.0001 | 0.05 | 8.1647 | 14.2468 | 6.5015 | 15.9099 |
| 1 | 7 | 8.7256 | 1.4664 | 2725 | 5.95 | <.0001 | <.0001 | 0.05 | 5.8502 | 11.6010 | 4.2775 | 13.1736 |
| 1 | 8 | 4.7107 | 1.5354 | 2725 | 3.07 | 0.0022 | 0.0451 | 0.05 | 1.6999 | 7.7214 | 0.05333 | 9.3680 |
| 1 | 9 | -1.7419 | 1.4998 | 2725 | -1.16 | 0.2456 | 0.9426 | 0.05 | -4.6827 | 1.1990 | -6.2911 | 2.8074 |
| 2 | 3 | 7.1557 | 1.5028 | 2725 | 4.76 | <.0001 | <.0001 | 0.05 | 4.2089 | 10.1025 | 2.5972 | 11.7142 |
| 2 | 4 | 11.8942 | 1.5807 | 2725 | 7.52 | <.0001 | <.0001 | 0.05 | 8.7946 | 14.9938 | 7.0994 | 16.6890 |
| 2 | 6 | 8.9607 | 1.5268 | 2725 | 5.87 | <.0001 | <.0001 | 0.05 | 5.9670 | 11.9545 | 4.3296 | 13.5919 |
| 2 | 7 | 6.4806 | 1.4628 | 2725 | 4.43 | <.0001 | 0.0003 | 0.05 | 3.6123 | 9.3488 | 2.0437 | 10.9175 |
| 2 | 8 | 2.4657 | 1.5224 | 2725 | 1.62 | 0.1054 | 0.7385 | 0.05 | -0.5195 | 5.4509 | -2.1521 | 7.0835 |
| 2 | 9 | -3.9869 | 1.5077 | 2725 | -2.64 | 0.0082 | 0.1407 | 0.05 | -6.9431 | -1.0306 | -8.5600 | 0.5863 |
| 3 | 4 | 4.7385 | 1.5712 | 2725 | 3.02 | 0.0026 | 0.0526 | 0.05 | 1.6577 | 7.8193 | -0.02723 | 9.5042 |
| 3 | 6 | 1.8050 | 1.5537 | 2725 | 1.16 | 0.2454 | 0.9425 | 0.05 | -1.2415 | 4.8516 | -2.9077 | 6.5178 |
| 3 | 7 | -0.6751 | 1.4646 | 2725 | -0.46 | 0.6449 | 0.9998 | 0.05 | -3.5469 | 2.1967 | -5.1176 | 3.7673 |
| 3 | 8 | -4.6900 | 1.5303 | 2725 | -3.06 | 0.0022 | 0.0456 | 0.05 | -7.6907 | -1.6894 | -9.3318 | -0.04828 |
| 3 | 9 | -11.1426 | 1.4833 | 2725 | -7.51 | <.0001 | <.0001 | 0.05 | -14.0511 | -8.2340 | -15.6419 | -6.6433 |
| 4 | 6 | -2.9335 | 1.6281 | 2725 | -1.80 | 0.0717 | 0.6190 | 0.05 | -6.1260 | 0.2591 | -7.8720 | 2.0051 |
| 4 | 7 | -5.4136 | 1.5173 | 2725 | -3.57 | 0.0004 | 0.0088 | 0.05 | -8.3888 | -2.4384 | -10.0160 | -0.8112 |
| 4 | 8 | -9.4285 | 1.5934 | 2725 | -5.92 | <.0001 | <.0001 | 0.05 | -12.5528 | -6.3042 | -14.2616 | -4.5955 |
| 4 | 9 | -15.8811 | 1.5488 | 2725 | -10.25 | <.0001 | <.0001 | 0.05 | -18.9180 | -12.8441 | -20.5789 | -11.1832 |
| 6 | 7 | -2.4802 | 1.5062 | 2725 | -1.65 | 0.0998 | 0.7217 | 0.05 | -5.4336 | 0.4733 | -7.0489 | 2.0886 |
| 6 | 8 | -6.4950 | 1.5672 | 2725 | -4.14 | <.0001 | 0.0009 | 0.05 | -9.5681 | -3.4220 | -11.2488 | -1.7413 |
| 6 | 9 | -12.9476 | 1.5457 | 2725 | -8.38 | <.0001 | <.0001 | 0.05 | -15.9785 | -9.9167 | -17.6361 | -8.2591 |
| 7 | 8 | -4.0149 | 1.4761 | 2725 | -2.72 | 0.0066 | 0.1169 | 0.05 | -6.9092 | -1.1205 | -8.4922 | 0.4624 |
| 7 | 9 | -10.4674 | 1.4498 | 2725 | -7.22 | <.0001 | <.0001 | 0.05 | -13.3102 | -7.6247 | -14.8649 | -6.0700 |
| 8 | 9 | -6.4526 | 1.5068 | 2725 | -4.28 | <.0001 | 0.0005 | 0.05 | -9.4072 | -3.4979 | -11.0231 | -1.8820 |

| set\*pair\_id Least Squares Means | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| set | pair\_id | Estimate | Standard Error | DF | t Value | Pr > |t| | Alpha | Lower | Upper | Mean | Standard Error Mean |
| set1 | 1 | -5.0707 | 1.7038 | 2725 | -2.98 | 0.0029 | 0.05 | -8.4116 | -1.7298 | -5.0707 | 1.7038 |
| set1 | 2 | -10.4313 | 1.6843 | 2725 | -6.19 | <.0001 | 0.05 | -13.7339 | -7.1287 | -10.4313 | 1.6843 |
| set1 | 3 | -16.0013 | 1.7289 | 2725 | -9.25 | <.0001 | 0.05 | -19.3915 | -12.6112 | -16.0013 | 1.7289 |
| set1 | 4 | -21.0494 | 1.8186 | 2725 | -11.57 | <.0001 | 0.05 | -24.6154 | -17.4835 | -21.0494 | 1.8186 |
| set1 | 6 | -18.1381 | 1.7236 | 2725 | -10.52 | <.0001 | 0.05 | -21.5179 | -14.7583 | -18.1381 | 1.7236 |
| set1 | 7 | -12.6866 | 1.6660 | 2725 | -7.62 | <.0001 | 0.05 | -15.9533 | -9.4199 | -12.6866 | 1.6660 |
| set1 | 8 | -10.7660 | 1.7315 | 2725 | -6.22 | <.0001 | 0.05 | -14.1612 | -7.3707 | -10.7660 | 1.7315 |
| set1 | 9 | -6.7183 | 1.6788 | 2725 | -4.00 | <.0001 | 0.05 | -10.0102 | -3.4264 | -6.7183 | 1.6788 |
| set2 | 1 | -8.8972 | 1.7449 | 2725 | -5.10 | <.0001 | 0.05 | -12.3187 | -5.4757 | -8.8972 | 1.7449 |
| set2 | 2 | -8.0266 | 1.7491 | 2725 | -4.59 | <.0001 | 0.05 | -11.4562 | -4.5969 | -8.0266 | 1.7491 |
| set2 | 3 | -16.7680 | 1.6768 | 2725 | -10.00 | <.0001 | 0.05 | -20.0559 | -13.4800 | -16.7680 | 1.6768 |
| set2 | 4 | -21.1968 | 1.8016 | 2725 | -11.77 | <.0001 | 0.05 | -24.7294 | -17.6643 | -21.1968 | 1.8016 |
| set2 | 6 | -18.2412 | 1.8553 | 2725 | -9.83 | <.0001 | 0.05 | -21.8792 | -14.6033 | -18.2412 | 1.8553 |
| set2 | 7 | -18.7325 | 1.6244 | 2725 | -11.53 | <.0001 | 0.05 | -21.9177 | -15.5472 | -18.7325 | 1.6244 |
| set2 | 8 | -12.6233 | 1.7469 | 2725 | -7.23 | <.0001 | 0.05 | -16.0487 | -9.1979 | -12.6233 | 1.7469 |
| set2 | 9 | -3.7658 | 1.7072 | 2725 | -2.21 | 0.0275 | 0.05 | -7.1134 | -0.4183 | -3.7658 | 1.7072 |

| set\*pair\_id Least Squares  Means | | | |
| --- | --- | --- | --- |
| set | pair\_id | Lower Mean | Upper Mean |
| set1 | 1 | -8.4116 | -1.7298 |
| set1 | 2 | -13.7339 | -7.1287 |
| set1 | 3 | -19.3915 | -12.6112 |
| set1 | 4 | -24.6154 | -17.4835 |
| set1 | 6 | -21.5179 | -14.7583 |
| set1 | 7 | -15.9533 | -9.4199 |
| set1 | 8 | -14.1612 | -7.3707 |
| set1 | 9 | -10.0102 | -3.4264 |
| set2 | 1 | -12.3187 | -5.4757 |
| set2 | 2 | -11.4562 | -4.5969 |
| set2 | 3 | -20.0559 | -13.4800 |
| set2 | 4 | -24.7294 | -17.6643 |
| set2 | 6 | -21.8792 | -14.6033 |
| set2 | 7 | -21.9177 | -15.5472 |
| set2 | 8 | -16.0487 | -9.1979 |
| set2 | 9 | -7.1134 | -0.4183 |

| Differences of set\*pair\_id Least Squares Means Adjustment for Multiple Comparisons:  Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| set | pair\_id | \_set | \_pair\_id | Estimate | Standard  Error | DF | t Value | Pr > |t| | Adj P | Alpha | Lower | Upper |
| set1 | 1 | set1 | 2 | 5.3606 | 2.0256 | 2725 | 2.65 | 0.0082 | 0.3665 | 0.05 | 1.3887 | 9.3325 |
| set1 | 1 | set1 | 3 | 10.9306 | 2.0423 | 2725 | 5.35 | <.0001 | <.0001 | 0.05 | 6.9260 | 14.9353 |
| set1 | 1 | set1 | 4 | 15.9787 | 2.1321 | 2725 | 7.49 | <.0001 | <.0001 | 0.05 | 11.7979 | 20.1595 |
| set1 | 1 | set1 | 6 | 13.0674 | 2.0411 | 2725 | 6.40 | <.0001 | <.0001 | 0.05 | 9.0652 | 17.0697 |
| set1 | 1 | set1 | 7 | 7.6159 | 1.9978 | 2725 | 3.81 | 0.0001 | 0.0134 | 0.05 | 3.6985 | 11.5332 |
| set1 | 1 | set1 | 8 | 5.6953 | 2.0574 | 2725 | 2.77 | 0.0057 | 0.2882 | 0.05 | 1.6610 | 9.7296 |
| set1 | 1 | set1 | 9 | 1.6476 | 2.0119 | 2725 | 0.82 | 0.4129 | 1.0000 | 0.05 | -2.2974 | 5.5926 |
| set1 | 1 | set2 | 1 | 3.8265 | 1.9798 | 2725 | 1.93 | 0.0534 | 0.8607 | 0.05 | -0.05564 | 7.7086 |
| set1 | 1 | set2 | 2 | 2.9559 | 2.0816 | 2725 | 1.42 | 0.1557 | 0.9899 | 0.05 | -1.1258 | 7.0375 |
| set1 | 1 | set2 | 3 | 11.6973 | 2.0000 | 2725 | 5.85 | <.0001 | <.0001 | 0.05 | 7.7755 | 15.6190 |
| set1 | 1 | set2 | 4 | 16.1261 | 2.1201 | 2725 | 7.61 | <.0001 | <.0001 | 0.05 | 11.9689 | 20.2834 |
| set1 | 1 | set2 | 6 | 13.1705 | 2.1625 | 2725 | 6.09 | <.0001 | <.0001 | 0.05 | 8.9301 | 17.4109 |
| set1 | 1 | set2 | 7 | 13.6618 | 1.9654 | 2725 | 6.95 | <.0001 | <.0001 | 0.05 | 9.8080 | 17.5155 |
| set1 | 1 | set2 | 8 | 7.5526 | 2.0723 | 2725 | 3.64 | 0.0003 | 0.0244 | 0.05 | 3.4892 | 11.6159 |
| set1 | 1 | set2 | 9 | -1.3049 | 2.0347 | 2725 | -0.64 | 0.5214 | 1.0000 | 0.05 | -5.2946 | 2.6848 |
| set1 | 2 | set1 | 3 | 5.5700 | 2.0304 | 2725 | 2.74 | 0.0061 | 0.3033 | 0.05 | 1.5888 | 9.5513 |
| set1 | 2 | set1 | 4 | 10.6181 | 2.1104 | 2725 | 5.03 | <.0001 | <.0001 | 0.05 | 6.4799 | 14.7563 |
| set1 | 2 | set1 | 6 | 7.7068 | 2.0125 | 2725 | 3.83 | 0.0001 | 0.0125 | 0.05 | 3.7606 | 11.6530 |
| set1 | 2 | set1 | 7 | 2.2553 | 1.9774 | 2725 | 1.14 | 0.2542 | 0.9991 | 0.05 | -1.6222 | 6.1327 |
| set1 | 2 | set1 | 8 | 0.3347 | 2.0290 | 2725 | 0.16 | 0.8690 | 1.0000 | 0.05 | -3.6439 | 4.3133 |
| set1 | 2 | set1 | 9 | -3.7130 | 1.9977 | 2725 | -1.86 | 0.0632 | 0.8942 | 0.05 | -7.6302 | 0.2042 |
| set1 | 2 | set2 | 1 | -1.5341 | 2.0578 | 2725 | -0.75 | 0.4560 | 1.0000 | 0.05 | -5.5692 | 2.5009 |
| set1 | 2 | set2 | 2 | -2.4047 | 1.9544 | 2725 | -1.23 | 0.2186 | 0.9978 | 0.05 | -6.2369 | 1.4274 |
| set1 | 2 | set2 | 3 | 6.3367 | 1.9858 | 2725 | 3.19 | 0.0014 | 0.1021 | 0.05 | 2.4428 | 10.2305 |
| set1 | 2 | set2 | 4 | 10.7655 | 2.0982 | 2725 | 5.13 | <.0001 | <.0001 | 0.05 | 6.6513 | 14.8798 |
| set1 | 2 | set2 | 6 | 7.8099 | 2.1224 | 2725 | 3.68 | 0.0002 | 0.0216 | 0.05 | 3.6482 | 11.9716 |
| set1 | 2 | set2 | 7 | 8.3012 | 1.9430 | 2725 | 4.27 | <.0001 | 0.0021 | 0.05 | 4.4913 | 12.1110 |
| set1 | 2 | set2 | 8 | 2.1919 | 2.0434 | 2725 | 1.07 | 0.2835 | 0.9995 | 0.05 | -1.8149 | 6.1988 |
| set1 | 2 | set2 | 9 | -6.6655 | 2.0214 | 2725 | -3.30 | 0.0010 | 0.0750 | 0.05 | -10.6291 | -2.7019 |
| set1 | 3 | set1 | 4 | 5.0481 | 2.1470 | 2725 | 2.35 | 0.0188 | 0.5849 | 0.05 | 0.8382 | 9.2579 |
| set1 | 3 | set1 | 6 | 2.1368 | 2.0669 | 2725 | 1.03 | 0.3013 | 0.9997 | 0.05 | -1.9161 | 6.1896 |
| set1 | 3 | set1 | 7 | -3.3148 | 2.0221 | 2725 | -1.64 | 0.1013 | 0.9611 | 0.05 | -7.2797 | 0.6502 |
| set1 | 3 | set1 | 8 | -5.2353 | 2.0810 | 2725 | -2.52 | 0.0119 | 0.4601 | 0.05 | -9.3159 | -1.1548 |
| set1 | 3 | set1 | 9 | -9.2830 | 2.0265 | 2725 | -4.58 | <.0001 | 0.0005 | 0.05 | -13.2566 | -5.3095 |
| set1 | 3 | set2 | 1 | -7.1041 | 2.0770 | 2725 | -3.42 | 0.0006 | 0.0514 | 0.05 | -11.1768 | -3.0315 |
| set1 | 3 | set2 | 2 | -7.9748 | 2.0898 | 2725 | -3.82 | 0.0001 | 0.0132 | 0.05 | -12.0725 | -3.8771 |
| set1 | 3 | set2 | 3 | 0.7666 | 1.9373 | 2725 | 0.40 | 0.6923 | 1.0000 | 0.05 | -3.0320 | 4.5653 |
| set1 | 3 | set2 | 4 | 5.1955 | 2.1387 | 2725 | 2.43 | 0.0152 | 0.5254 | 0.05 | 1.0018 | 9.3892 |
| set1 | 3 | set2 | 6 | 2.2399 | 2.1860 | 2725 | 1.02 | 0.3056 | 0.9997 | 0.05 | -2.0465 | 6.5263 |
| set1 | 3 | set2 | 7 | 2.7311 | 1.9921 | 2725 | 1.37 | 0.1705 | 0.9929 | 0.05 | -1.1750 | 6.6372 |
| set1 | 3 | set2 | 8 | -3.3781 | 2.0928 | 2725 | -1.61 | 0.1066 | 0.9660 | 0.05 | -7.4817 | 0.7256 |
| set1 | 3 | set2 | 9 | -12.2355 | 2.0468 | 2725 | -5.98 | <.0001 | <.0001 | 0.05 | -16.2489 | -8.2221 |
| set1 | 4 | set1 | 6 | -2.9113 | 2.1462 | 2725 | -1.36 | 0.1751 | 0.9936 | 0.05 | -7.1196 | 1.2970 |
| set1 | 4 | set1 | 7 | -8.3628 | 2.0861 | 2725 | -4.01 | <.0001 | 0.0063 | 0.05 | -12.4533 | -4.2724 |
| set1 | 4 | set1 | 8 | -10.2834 | 2.1558 | 2725 | -4.77 | <.0001 | 0.0002 | 0.05 | -14.5105 | -6.0563 |
| set1 | 4 | set1 | 9 | -14.3311 | 2.0930 | 2725 | -6.85 | <.0001 | <.0001 | 0.05 | -18.4351 | -10.2271 |
| set1 | 4 | set2 | 1 | -12.1522 | 2.1573 | 2725 | -5.63 | <.0001 | <.0001 | 0.05 | -16.3824 | -7.9221 |
| set1 | 4 | set2 | 2 | -13.0229 | 2.1690 | 2725 | -6.00 | <.0001 | <.0001 | 0.05 | -17.2759 | -8.7698 |
| set1 | 4 | set2 | 3 | -4.2815 | 2.1063 | 2725 | -2.03 | 0.0422 | 0.8068 | 0.05 | -8.4116 | -0.1513 |
| set1 | 4 | set2 | 4 | 0.1474 | 2.0983 | 2725 | 0.07 | 0.9440 | 1.0000 | 0.05 | -3.9669 | 4.2618 |
| set1 | 4 | set2 | 6 | -2.8082 | 2.2572 | 2725 | -1.24 | 0.2136 | 0.9975 | 0.05 | -7.2342 | 1.6178 |
| set1 | 4 | set2 | 7 | -2.3170 | 2.0502 | 2725 | -1.13 | 0.2585 | 0.9992 | 0.05 | -6.3370 | 1.7031 |
| set1 | 4 | set2 | 8 | -8.4262 | 2.1641 | 2725 | -3.89 | 0.0001 | 0.0098 | 0.05 | -12.6696 | -4.1828 |
| set1 | 4 | set2 | 9 | -17.2836 | 2.1157 | 2725 | -8.17 | <.0001 | <.0001 | 0.05 | -21.4322 | -13.1350 |
| set1 | 6 | set1 | 7 | -5.4516 | 2.0129 | 2725 | -2.71 | 0.0068 | 0.3254 | 0.05 | -9.3984 | -1.5047 |
| set1 | 6 | set1 | 8 | -7.3721 | 2.0632 | 2725 | -3.57 | 0.0004 | 0.0312 | 0.05 | -11.4177 | -3.3265 |
| set1 | 6 | set1 | 9 | -11.4198 | 2.0252 | 2725 | -5.64 | <.0001 | <.0001 | 0.05 | -15.3909 | -7.4487 |
| set1 | 6 | set2 | 1 | -9.2409 | 2.0652 | 2725 | -4.47 | <.0001 | 0.0009 | 0.05 | -13.2905 | -5.1913 |
| set1 | 6 | set2 | 2 | -10.1116 | 2.0559 | 2725 | -4.92 | <.0001 | 0.0001 | 0.05 | -14.1429 | -6.0802 |
| set1 | 6 | set2 | 3 | -1.3702 | 2.0225 | 2725 | -0.68 | 0.4982 | 1.0000 | 0.05 | -5.3359 | 2.5956 |
| set1 | 6 | set2 | 4 | 3.0587 | 2.1390 | 2725 | 1.43 | 0.1528 | 0.9891 | 0.05 | -1.1356 | 7.2530 |
| set1 | 6 | set2 | 6 | 0.1031 | 2.0824 | 2725 | 0.05 | 0.9605 | 1.0000 | 0.05 | -3.9801 | 4.1863 |
| set1 | 6 | set2 | 7 | 0.5943 | 1.9770 | 2725 | 0.30 | 0.7637 | 1.0000 | 0.05 | -3.2821 | 4.4708 |
| set1 | 6 | set2 | 8 | -5.5149 | 2.0768 | 2725 | -2.66 | 0.0080 | 0.3603 | 0.05 | -9.5870 | -1.4427 |
| set1 | 6 | set2 | 9 | -14.3723 | 2.0482 | 2725 | -7.02 | <.0001 | <.0001 | 0.05 | -18.3884 | -10.3562 |
| set1 | 7 | set1 | 8 | -1.9206 | 2.0177 | 2725 | -0.95 | 0.3413 | 0.9999 | 0.05 | -5.8770 | 2.0358 |
| set1 | 7 | set1 | 9 | -5.9682 | 1.9757 | 2725 | -3.02 | 0.0025 | 0.1608 | 0.05 | -9.8424 | -2.0941 |
| set1 | 7 | set2 | 1 | -3.7894 | 2.0283 | 2725 | -1.87 | 0.0618 | 0.8902 | 0.05 | -7.7666 | 0.1878 |
| set1 | 7 | set2 | 2 | -4.6600 | 2.0322 | 2725 | -2.29 | 0.0219 | 0.6290 | 0.05 | -8.6447 | -0.6753 |
| set1 | 7 | set2 | 3 | 4.0814 | 1.9804 | 2725 | 2.06 | 0.0394 | 0.7899 | 0.05 | 0.1982 | 7.9646 |
| set1 | 7 | set2 | 4 | 8.5103 | 2.0775 | 2725 | 4.10 | <.0001 | 0.0044 | 0.05 | 4.4367 | 12.5838 |
| set1 | 7 | set2 | 6 | 5.5546 | 2.1244 | 2725 | 2.61 | 0.0090 | 0.3885 | 0.05 | 1.3890 | 9.7203 |
| set1 | 7 | set2 | 7 | 6.0459 | 1.8521 | 2725 | 3.26 | 0.0011 | 0.0827 | 0.05 | 2.4142 | 9.6775 |
| set1 | 7 | set2 | 8 | -0.06332 | 2.0322 | 2725 | -0.03 | 0.9751 | 1.0000 | 0.05 | -4.0481 | 3.9214 |
| set1 | 7 | set2 | 9 | -8.9207 | 1.9978 | 2725 | -4.47 | <.0001 | 0.0009 | 0.05 | -12.8381 | -5.0034 |
| set1 | 8 | set1 | 9 | -4.0477 | 2.0264 | 2725 | -2.00 | 0.0459 | 0.8269 | 0.05 | -8.0211 | -0.07423 |
| set1 | 8 | set2 | 1 | -1.8688 | 2.0894 | 2725 | -0.89 | 0.3712 | 1.0000 | 0.05 | -5.9657 | 2.2281 |
| set1 | 8 | set2 | 2 | -2.7394 | 2.0848 | 2725 | -1.31 | 0.1890 | 0.9955 | 0.05 | -6.8274 | 1.3485 |
| set1 | 8 | set2 | 3 | 6.0020 | 2.0397 | 2725 | 2.94 | 0.0033 | 0.1949 | 0.05 | 2.0025 | 10.0014 |
| set1 | 8 | set2 | 4 | 10.4308 | 2.1360 | 2725 | 4.88 | <.0001 | 0.0001 | 0.05 | 6.2425 | 14.6192 |
| set1 | 8 | set2 | 6 | 7.4752 | 2.1775 | 2725 | 3.43 | 0.0006 | 0.0494 | 0.05 | 3.2054 | 11.7450 |
| set1 | 8 | set2 | 7 | 7.9665 | 1.9802 | 2725 | 4.02 | <.0001 | 0.0059 | 0.05 | 4.0836 | 11.8493 |
| set1 | 8 | set2 | 8 | 1.8573 | 1.9883 | 2725 | 0.93 | 0.3503 | 0.9999 | 0.05 | -2.0415 | 5.7560 |
| set1 | 8 | set2 | 9 | -7.0002 | 2.0480 | 2725 | -3.42 | 0.0006 | 0.0518 | 0.05 | -11.0159 | -2.9844 |
| set1 | 9 | set2 | 1 | 2.1789 | 2.0387 | 2725 | 1.07 | 0.2853 | 0.9996 | 0.05 | -1.8187 | 6.1764 |
| set1 | 9 | set2 | 2 | 1.3082 | 2.0505 | 2725 | 0.64 | 0.5235 | 1.0000 | 0.05 | -2.7125 | 5.3289 |
| set1 | 9 | set2 | 3 | 10.0496 | 1.9806 | 2725 | 5.07 | <.0001 | <.0001 | 0.05 | 6.1659 | 13.9333 |
| set1 | 9 | set2 | 4 | 14.4785 | 2.0857 | 2725 | 6.94 | <.0001 | <.0001 | 0.05 | 10.3888 | 18.5682 |
| set1 | 9 | set2 | 6 | 11.5229 | 2.1407 | 2725 | 5.38 | <.0001 | <.0001 | 0.05 | 7.3254 | 15.7204 |
| set1 | 9 | set2 | 7 | 12.0141 | 1.9397 | 2725 | 6.19 | <.0001 | <.0001 | 0.05 | 8.2107 | 15.8176 |
| set1 | 9 | set2 | 8 | 5.9049 | 2.0385 | 2725 | 2.90 | 0.0038 | 0.2171 | 0.05 | 1.9079 | 9.9020 |
| set1 | 9 | set2 | 9 | -2.9525 | 1.9136 | 2725 | -1.54 | 0.1230 | 0.9774 | 0.05 | -6.7048 | 0.7998 |
| set2 | 1 | set2 | 2 | -0.8706 | 2.1100 | 2725 | -0.41 | 0.6799 | 1.0000 | 0.05 | -5.0080 | 3.2668 |
| set2 | 1 | set2 | 3 | 7.8708 | 2.0313 | 2725 | 3.87 | 0.0001 | 0.0106 | 0.05 | 3.8877 | 11.8538 |
| set2 | 1 | set2 | 4 | 12.2996 | 2.1468 | 2725 | 5.73 | <.0001 | <.0001 | 0.05 | 8.0902 | 16.5091 |
| set2 | 1 | set2 | 6 | 9.3440 | 2.1839 | 2725 | 4.28 | <.0001 | 0.0021 | 0.05 | 5.0618 | 13.6262 |
| set2 | 1 | set2 | 7 | 9.8353 | 1.9959 | 2725 | 4.93 | <.0001 | 0.0001 | 0.05 | 5.9216 | 13.7489 |
| set2 | 1 | set2 | 8 | 3.7261 | 2.1001 | 2725 | 1.77 | 0.0761 | 0.9255 | 0.05 | -0.3920 | 7.8441 |
| set2 | 1 | set2 | 9 | -5.1314 | 2.0580 | 2725 | -2.49 | 0.0127 | 0.4767 | 0.05 | -9.1667 | -1.0960 |
| set2 | 2 | set2 | 3 | 8.7414 | 2.0429 | 2725 | 4.28 | <.0001 | 0.0021 | 0.05 | 4.7356 | 12.7472 |
| set2 | 2 | set2 | 4 | 13.1703 | 2.1578 | 2725 | 6.10 | <.0001 | <.0001 | 0.05 | 8.9391 | 17.4014 |
| set2 | 2 | set2 | 6 | 10.2147 | 2.1676 | 2725 | 4.71 | <.0001 | 0.0003 | 0.05 | 5.9644 | 14.4649 |
| set2 | 2 | set2 | 7 | 10.7059 | 1.9983 | 2725 | 5.36 | <.0001 | <.0001 | 0.05 | 6.7875 | 14.6243 |
| set2 | 2 | set2 | 8 | 4.5967 | 2.0987 | 2725 | 2.19 | 0.0286 | 0.7042 | 0.05 | 0.4814 | 8.7120 |
| set2 | 2 | set2 | 9 | -4.2607 | 2.0718 | 2725 | -2.06 | 0.0398 | 0.7925 | 0.05 | -8.3231 | -0.1984 |
| set2 | 3 | set2 | 4 | 4.4289 | 2.0999 | 2725 | 2.11 | 0.0350 | 0.7594 | 0.05 | 0.3113 | 8.5465 |
| set2 | 3 | set2 | 6 | 1.4733 | 2.1457 | 2725 | 0.69 | 0.4924 | 1.0000 | 0.05 | -2.7341 | 5.6806 |
| set2 | 3 | set2 | 7 | 1.9645 | 1.9453 | 2725 | 1.01 | 0.3126 | 0.9998 | 0.05 | -1.8499 | 5.7789 |
| set2 | 3 | set2 | 8 | -4.1447 | 2.0501 | 2725 | -2.02 | 0.0433 | 0.8132 | 0.05 | -8.1645 | -0.1249 |
| set2 | 3 | set2 | 9 | -13.0021 | 1.9992 | 2725 | -6.50 | <.0001 | <.0001 | 0.05 | -16.9223 | -9.0819 |
| set2 | 4 | set2 | 6 | -2.9556 | 2.2508 | 2725 | -1.31 | 0.1892 | 0.9955 | 0.05 | -7.3690 | 1.4577 |
| set2 | 4 | set2 | 7 | -2.4644 | 2.0424 | 2725 | -1.21 | 0.2277 | 0.9982 | 0.05 | -6.4691 | 1.5404 |
| set2 | 4 | set2 | 8 | -8.5736 | 2.1490 | 2725 | -3.99 | <.0001 | 0.0068 | 0.05 | -12.7874 | -4.3597 |
| set2 | 4 | set2 | 9 | -17.4310 | 2.1101 | 2725 | -8.26 | <.0001 | <.0001 | 0.05 | -21.5686 | -13.2934 |
| set2 | 6 | set2 | 7 | 0.4913 | 2.0901 | 2725 | 0.24 | 0.8142 | 1.0000 | 0.05 | -3.6070 | 4.5895 |
| set2 | 6 | set2 | 8 | -5.6180 | 2.1916 | 2725 | -2.56 | 0.0104 | 0.4250 | 0.05 | -9.9153 | -1.3206 |
| set2 | 6 | set2 | 9 | -14.4754 | 2.1624 | 2725 | -6.69 | <.0001 | <.0001 | 0.05 | -18.7156 | -10.2352 |
| set2 | 7 | set2 | 8 | -6.1092 | 1.9942 | 2725 | -3.06 | 0.0022 | 0.1441 | 0.05 | -10.0195 | -2.1989 |
| set2 | 7 | set2 | 9 | -14.9666 | 1.9601 | 2725 | -7.64 | <.0001 | <.0001 | 0.05 | -18.8102 | -11.1231 |
| set2 | 8 | set2 | 9 | -8.8574 | 2.0595 | 2725 | -4.30 | <.0001 | 0.0019 | 0.05 | -12.8958 | -4.8191 |

| Differences of set\*pair\_id Least Squares  Means Adjustment for Multiple Comparisons:  Tukey-Kramer | | | | | |
| --- | --- | --- | --- | --- | --- |
| set | pair\_id | \_set | \_pair\_id | Adj  Lower | Adj  Upper |
| set1 | 1 | set1 | 2 | -1.5858 | 12.3070 |
| set1 | 1 | set1 | 3 | 3.9269 | 17.9344 |
| set1 | 1 | set1 | 4 | 8.6670 | 23.2904 |
| set1 | 1 | set1 | 6 | 6.0679 | 20.0669 |
| set1 | 1 | set1 | 7 | 0.7648 | 14.4669 |
| set1 | 1 | set1 | 8 | -1.3602 | 12.7508 |
| set1 | 1 | set1 | 9 | -5.2517 | 8.5470 |
| set1 | 1 | set2 | 1 | -2.9629 | 10.6159 |
| set1 | 1 | set2 | 2 | -4.1826 | 10.0943 |
| set1 | 1 | set2 | 3 | 4.8386 | 18.5560 |
| set1 | 1 | set2 | 4 | 8.8556 | 23.3967 |
| set1 | 1 | set2 | 6 | 5.7546 | 20.5865 |
| set1 | 1 | set2 | 7 | 6.9220 | 20.4015 |
| set1 | 1 | set2 | 8 | 0.4461 | 14.6590 |
| set1 | 1 | set2 | 9 | -8.2824 | 5.6726 |
| set1 | 2 | set1 | 3 | -1.3927 | 12.5328 |
| set1 | 2 | set1 | 4 | 3.3808 | 17.8554 |
| set1 | 2 | set1 | 6 | 0.8053 | 14.6083 |
| set1 | 2 | set1 | 7 | -4.5259 | 9.0365 |
| set1 | 2 | set1 | 8 | -6.6235 | 7.2928 |
| set1 | 2 | set1 | 9 | -10.5637 | 3.1377 |
| set1 | 2 | set2 | 1 | -8.5910 | 5.5228 |
| set1 | 2 | set2 | 2 | -9.1068 | 4.2973 |
| set1 | 2 | set2 | 3 | -0.4733 | 13.1466 |
| set1 | 2 | set2 | 4 | 3.5702 | 17.9609 |
| set1 | 2 | set2 | 6 | 0.5315 | 15.0883 |
| set1 | 2 | set2 | 7 | 1.6381 | 14.9642 |
| set1 | 2 | set2 | 8 | -4.8156 | 9.1995 |
| set1 | 2 | set2 | 9 | -13.5974 | 0.2664 |
| set1 | 3 | set1 | 4 | -2.3144 | 12.4106 |
| set1 | 3 | set1 | 6 | -4.9512 | 9.2248 |
| set1 | 3 | set1 | 7 | -10.2490 | 3.6195 |
| set1 | 3 | set1 | 8 | -12.3718 | 1.9012 |
| set1 | 3 | set1 | 9 | -16.2323 | -2.3337 |
| set1 | 3 | set2 | 1 | -14.2268 | 0.01847 |
| set1 | 3 | set2 | 2 | -15.1412 | -0.8083 |
| set1 | 3 | set2 | 3 | -5.8768 | 7.4100 |
| set1 | 3 | set2 | 4 | -2.1388 | 12.5298 |
| set1 | 3 | set2 | 6 | -5.2566 | 9.7364 |
| set1 | 3 | set2 | 7 | -4.1002 | 9.5625 |
| set1 | 3 | set2 | 8 | -10.5549 | 3.7987 |
| set1 | 3 | set2 | 9 | -19.2545 | -5.2165 |
| set1 | 4 | set1 | 6 | -10.2711 | 4.4485 |
| set1 | 4 | set1 | 7 | -15.5166 | -1.2091 |
| set1 | 4 | set1 | 8 | -17.6762 | -2.8907 |
| set1 | 4 | set1 | 9 | -21.5086 | -7.1536 |
| set1 | 4 | set2 | 1 | -19.5503 | -4.7542 |
| set1 | 4 | set2 | 2 | -20.4610 | -5.5847 |
| set1 | 4 | set2 | 3 | -11.5047 | 2.9418 |
| set1 | 4 | set2 | 4 | -7.0481 | 7.3430 |
| set1 | 4 | set2 | 6 | -10.5489 | 4.9325 |
| set1 | 4 | set2 | 7 | -9.3476 | 4.7137 |
| set1 | 4 | set2 | 8 | -15.8474 | -1.0049 |
| set1 | 4 | set2 | 9 | -24.5390 | -10.0282 |
| set1 | 6 | set1 | 7 | -12.3542 | 1.4511 |
| set1 | 6 | set1 | 8 | -14.4474 | -0.2968 |
| set1 | 6 | set1 | 9 | -18.3647 | -4.4749 |
| set1 | 6 | set2 | 1 | -16.3232 | -2.1586 |
| set1 | 6 | set2 | 2 | -17.1619 | -3.0612 |
| set1 | 6 | set2 | 3 | -8.3058 | 5.5655 |
| set1 | 6 | set2 | 4 | -4.2767 | 10.3941 |
| set1 | 6 | set2 | 6 | -7.0380 | 7.2442 |
| set1 | 6 | set2 | 7 | -6.1852 | 7.3739 |
| set1 | 6 | set2 | 8 | -12.6367 | 1.6069 |
| set1 | 6 | set2 | 9 | -21.3960 | -7.3486 |
| set1 | 7 | set1 | 8 | -8.8399 | 4.9987 |
| set1 | 7 | set1 | 9 | -12.7436 | 0.8072 |
| set1 | 7 | set2 | 1 | -10.7450 | 3.1663 |
| set1 | 7 | set2 | 2 | -11.6289 | 2.3089 |
| set1 | 7 | set2 | 3 | -2.7099 | 10.8727 |
| set1 | 7 | set2 | 4 | 1.3861 | 15.6344 |
| set1 | 7 | set2 | 6 | -1.7307 | 12.8400 |
| set1 | 7 | set2 | 7 | -0.3055 | 12.3972 |
| set1 | 7 | set2 | 8 | -7.0322 | 6.9056 |
| set1 | 7 | set2 | 9 | -15.7717 | -2.0698 |
| set1 | 8 | set1 | 9 | -10.9968 | 2.9014 |
| set1 | 8 | set2 | 1 | -9.0338 | 5.2962 |
| set1 | 8 | set2 | 2 | -9.8888 | 4.4099 |
| set1 | 8 | set2 | 3 | -0.9926 | 12.9966 |
| set1 | 8 | set2 | 4 | 3.1059 | 17.7558 |
| set1 | 8 | set2 | 6 | 0.007807 | 14.9426 |
| set1 | 8 | set2 | 7 | 1.1758 | 14.7571 |
| set1 | 8 | set2 | 8 | -4.9613 | 8.6758 |
| set1 | 8 | set2 | 9 | -14.0233 | 0.02297 |
| set1 | 9 | set2 | 1 | -4.8125 | 9.1702 |
| set1 | 9 | set2 | 2 | -5.7235 | 8.3400 |
| set1 | 9 | set2 | 3 | 3.2575 | 16.8418 |
| set1 | 9 | set2 | 4 | 7.3261 | 21.6310 |
| set1 | 9 | set2 | 6 | 4.1819 | 18.8639 |
| set1 | 9 | set2 | 7 | 5.3624 | 18.6659 |
| set1 | 9 | set2 | 8 | -1.0855 | 12.8954 |
| set1 | 9 | set2 | 9 | -9.5148 | 3.6098 |
| set2 | 1 | set2 | 2 | -8.1065 | 6.3652 |
| set2 | 1 | set2 | 3 | 0.9049 | 14.8367 |
| set2 | 1 | set2 | 4 | 4.9378 | 19.6615 |
| set2 | 1 | set2 | 6 | 1.8549 | 16.8331 |
| set2 | 1 | set2 | 7 | 2.9907 | 16.6798 |
| set2 | 1 | set2 | 8 | -3.4759 | 10.9280 |
| set2 | 1 | set2 | 9 | -12.1887 | 1.9260 |
| set2 | 2 | set2 | 3 | 1.7357 | 15.7471 |
| set2 | 2 | set2 | 4 | 5.7704 | 20.5701 |
| set2 | 2 | set2 | 6 | 2.7814 | 17.6479 |
| set2 | 2 | set2 | 7 | 3.8531 | 17.5587 |
| set2 | 2 | set2 | 8 | -2.6005 | 11.7939 |
| set2 | 2 | set2 | 9 | -11.3654 | 2.8439 |
| set2 | 3 | set2 | 4 | -2.7723 | 11.6301 |
| set2 | 3 | set2 | 6 | -5.8849 | 8.8314 |
| set2 | 3 | set2 | 7 | -4.7064 | 8.6354 |
| set2 | 3 | set2 | 8 | -11.1749 | 2.8855 |
| set2 | 3 | set2 | 9 | -19.8581 | -6.1461 |
| set2 | 4 | set2 | 6 | -10.6741 | 4.7629 |
| set2 | 4 | set2 | 7 | -9.4682 | 4.5395 |
| set2 | 4 | set2 | 8 | -15.9431 | -1.2041 |
| set2 | 4 | set2 | 9 | -24.6673 | -10.1948 |
| set2 | 6 | set2 | 7 | -6.6762 | 7.6587 |
| set2 | 6 | set2 | 8 | -13.1335 | 1.8976 |
| set2 | 6 | set2 | 9 | -21.8910 | -7.0598 |
| set2 | 7 | set2 | 8 | -12.9479 | 0.7295 |
| set2 | 7 | set2 | 9 | -21.6885 | -8.2447 |
| set2 | 8 | set2 | 9 | -15.9201 | -1.7948 |



| Model Information | |
| --- | --- |
| **Data Set** | WORK.RESULTS |
| **Response Variable** | q2\_abs\_error |
| **Response Distribution** | Gamma |
| **Link Function** | Log |
| **Variance Function** | Default |
| **Variance Matrix Blocked By** | block |
| **Estimation Technique** | Maximum Likelihood |
| **Likelihood Approximation** | Laplace |
| **Degrees of Freedom Method** | Containment |

| Class Level Information | | |
| --- | --- | --- |
| Class | Levels | Values |
| block | 18 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 |
| user\_id | 196 | 01a74b042fbb38c63121c61b3088d44e  0321162d0e39427d5e29d2bfbdbc291f  038e3262e4beea25129050e84cb5c6ba  03e6066b40eaa37f0757544d2b63c4c7  05b75ea899a1af6ab62a04567cbddd07  07828319b83df9a6305e58ded879cb9c  0cb92eb524bda4b8ad02f15f6bc73876  0ed4c738b86d5cd8202b19777836cc6c  0f2048110ffb7a9389ce62a82bb6a991  10f5a26c206e890b4c34bc1a32ff98f3  11381516724cd0e756e8df3c7b0e1576  11688597922b52da118fa62e46cb3b3c  122f70cc2f31b9d2469cefafec345f4c  131565a9ea605cf180d7de695129a299  136485b899e08b7c4231f0f22e683849  14aae7ac66d012b731cb6a1b509af320  161d880481d9a75ae15f4763d7d638a1  162d8160c0340900ce122198c496bbe7  16f8ff6718e42ff0fa4882bec9af76d4  187227a1cf07187e0cc3d33ed1184087  1b314cf17c219e35b5cd11b867b4863f  1bad085ba46106d508d171b89ccbdba2  1d3d5a1d63ed762dda3726a01a9a7dcb  1eefdea0963b6bee526cb69c52ceb769  1ef9f3a09cc28905a2192ce89f4c36f4  1f4b21bd31b5f0eab310d240f7d4d55f  2037826a2d539c8b809d1cccc2c2c3f8  205bf71a59c22ca230bcbf31be0d4373  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b68e91bf33cdeca7f8f79a3828cbb307  b6a7d60ffc2c837655ee7b9e638265b5  b964e9258d843432fc9400d3385b25ea  b988a49b6fe7b42e38ffde53e086da91  b9dc23dacf2c9ec76dc453ab1773a177  ba3bca0c56303f8fa53035a4ac6813ff  bb3d7729bc5deeb2456eab58565e7ef2  bda4ff16a365c6c4c1d33b2202c0fc1a  be1982dfebf98c4882b95cdf50d9415d  bf74c2156cb7b58660e7afb2e26aa718  c3c21d608cd1db8b25a0eb154c1442ad  c3f16ceb85b808df9ae405f3ec1f3ab7  c4442adef4d65bb111f451e8a2bf20be  c526d0f862e2508e81822f063426ae00  c6b4ca8fd139386066acdbc51fc35dbf  c6eec96092269b5cde4d6ab2e5443fae  c70a488f40067c046c0ebe47dfe91ef7  c9b6ccb0be8570da85ab2f1aa13edbfe  cb8ceed21013a757b668d1562575e88f  cc2b97fc599d1214cc2b586a8452bf12  cc540d73fa2c162d2df017e8c0c6f731  ce819302c7572c11673c368e565ae0bf  d08683c78eda875ff9929ee62510580f  d0c2bc276b4d5ff4c7c137dce3a1271b  d1ca5bf1e1c1bf4c8b6ad91a53c08202  d27cb8e5711fb5930393469e0e8feac4  d2ac629c7238f9a16bf63e7f3672d6d2  d30bae8ae853db6bfdc4f04e46be43d8  d343e2f5bd88fa2b771309eb590e3870  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| set | 2 | set1 set2 |
| media | 3 | 2dd 3dd 3dp |
| pair\_id | 8 | 1 2 3 4 6 7 8 9 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2938 |
| **Number of Observations Used** | 2938 |

| Dimensions | |
| --- | --- |
| **G-side Cov. Parameters** | 2 |
| **R-side Cov. Parameters** | 1 |
| **Columns in X** | 14 |
| **Columns in Z per Subject** | 197 |
| **Subjects (Blocks in V)** | 18 |
| **Max Obs per Subject** | 225 |

| Parameter Search | | | |
| --- | --- | --- | --- |
| CovP1 | CovP2 | CovP3 | Objective Function |
| 0.001575 | 0.3810 | 0.7658 | 22392.528186 |

| Optimization Information | |
| --- | --- |
| **Optimization Technique** | Dual Quasi-Newton |
| **Parameters in Optimization** | 14 |
| **Lower Boundaries** | 3 |
| **Upper Boundaries** | 0 |
| **Fixed Effects** | Not Profiled |
| **Starting From** | GLM estimates |

| Iteration History | | | | | |
| --- | --- | --- | --- | --- | --- |
| Iteration | Restarts | Evaluations | Objective Function | Change | Max Gradient |
| **0** | **0** | 4 | 22392.528186 | . | 314.1492 |
| **1** | **0** | 3 | 22374.182393 | 18.34579330 | 128.1354 |
| **2** | **0** | 2 | 22367.977533 | 6.20485968 | 105.9686 |
| **3** | **0** | 4 | 22359.997382 | 7.98015055 | 95.81747 |
| **4** | **1** | 5 | 22357.597742 | 2.39964076 | 77.31362 |
| **5** | **1** | 2 | 22356.530353 | 1.06738860 | 30.05296 |
| **6** | **1** | 4 | 22356.415154 | 0.11519933 | 18.84237 |
| **7** | **1** | 2 | 22356.300443 | 0.11471103 | 22.72225 |
| **8** | **1** | 2 | 22356.153067 | 0.14737583 | 9.98334 |
| **9** | **1** | 3 | 22356.065857 | 0.08720943 | 5.360207 |
| **10** | **1** | 2 | 22356.038237 | 0.02762003 | 18.41841 |
| **11** | **1** | 4 | 22355.968633 | 0.06960467 | 4.408338 |
| **12** | **1** | 3 | 22355.921409 | 0.04722417 | 11.15515 |
| **13** | **1** | 2 | 22355.898839 | 0.02256953 | 13.32053 |
| **14** | **1** | 2 | 22355.876401 | 0.02243772 | 4.166706 |
| **15** | **1** | 3 | 22355.869228 | 0.00717306 | 2.563985 |
| **16** | **1** | 3 | 22355.865808 | 0.00341988 | 0.396824 |
| **17** | **1** | 3 | 22355.865686 | 0.00012263 | 0.399814 |

|  |
| --- |
| Convergence criterion (GCONV=1E-8) satisfied. |

| Fit Statistics | |
| --- | --- |
| **-2 Log Likelihood** | 22355.87 |
| **AIC (smaller is better)** | 22383.87 |
| **AICC (smaller is better)** | 22384.01 |
| **BIC (smaller is better)** | 22396.33 |
| **CAIC (smaller is better)** | 22410.33 |
| **HQIC (smaller is better)** | 22385.58 |

| Fit Statistics for Conditional Distribution | |
| --- | --- |
| **-2 log L(q2\_abs\_error | r. effects)** | 21779.44 |
| **Pearson Chi-Square** | 1698.45 |
| **Pearson Chi-Square / DF** | 0.58 |

| Covariance Parameter Estimates | | | |
| --- | --- | --- | --- |
| Cov Parm | Subject | Estimate | Standard Error |
| Intercept | block | 0.001612 | 0.01470 |
| user\_id | block | 0.3810 | 0.04646 |
| Residual |  | 0.7658 | 0.01850 |

| Solutions for Fixed Effects | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Effect | set | media | pair\_id | Estimate | Standard Error | DF | t Value | Pr > |t| |
| Intercept |  |  |  | 2.7521 | 0.07785 | 17 | 35.35 | <.0001 |
| set | set1 |  |  | -0.04236 | 0.03325 | 2732 | -1.27 | 0.2028 |
| set | set2 |  |  | 0 | . | . | . | . |
| media |  | 2dd |  | 0.2441 | 0.04629 | 2732 | 5.27 | <.0001 |
| media |  | 3dd |  | 0.04592 | 0.04464 | 2732 | 1.03 | 0.3038 |
| media |  | 3dp |  | 0 | . | . | . | . |
| pair\_id |  |  | 1 | 0.02486 | 0.07252 | 2732 | 0.34 | 0.7318 |
| pair\_id |  |  | 2 | 0.06779 | 0.07336 | 2732 | 0.92 | 0.3556 |
| pair\_id |  |  | 3 | -0.00783 | 0.07216 | 2732 | -0.11 | 0.9136 |
| pair\_id |  |  | 4 | -0.02494 | 0.07506 | 2732 | -0.33 | 0.7398 |
| pair\_id |  |  | 6 | -0.1588 | 0.07630 | 2732 | -2.08 | 0.0375 |
| pair\_id |  |  | 7 | -0.02002 | 0.07047 | 2732 | -0.28 | 0.7763 |
| pair\_id |  |  | 8 | 0.02986 | 0.07326 | 2732 | 0.41 | 0.6836 |
| pair\_id |  |  | 9 | 0 | . | . | . | . |

| Type III Tests of Fixed Effects | | | | |
| --- | --- | --- | --- | --- |
| Effect | Num  DF | Den  DF | F Value | Pr > F |
| set | 1 | 2732 | 1.62 | 0.2028 |
| media | 2 | 2732 | 18.54 | <.0001 |
| pair\_id | 7 | 2732 | 1.55 | 0.1443 |

| set Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| set | Estimate | Standard Error | DF | t Value | Pr > |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| set1 | 2.7953 | 0.05147 | 2732 | 54.31 | <.0001 | 0.05 | 2.6944 | 2.8962 | 16.3678 | 0.8425 | 14.7964 | 18.1060 |
| set2 | 2.8377 | 0.05172 | 2732 | 54.87 | <.0001 | 0.05 | 2.7363 | 2.9391 | 17.0760 | 0.8832 | 15.4292 | 18.8986 |

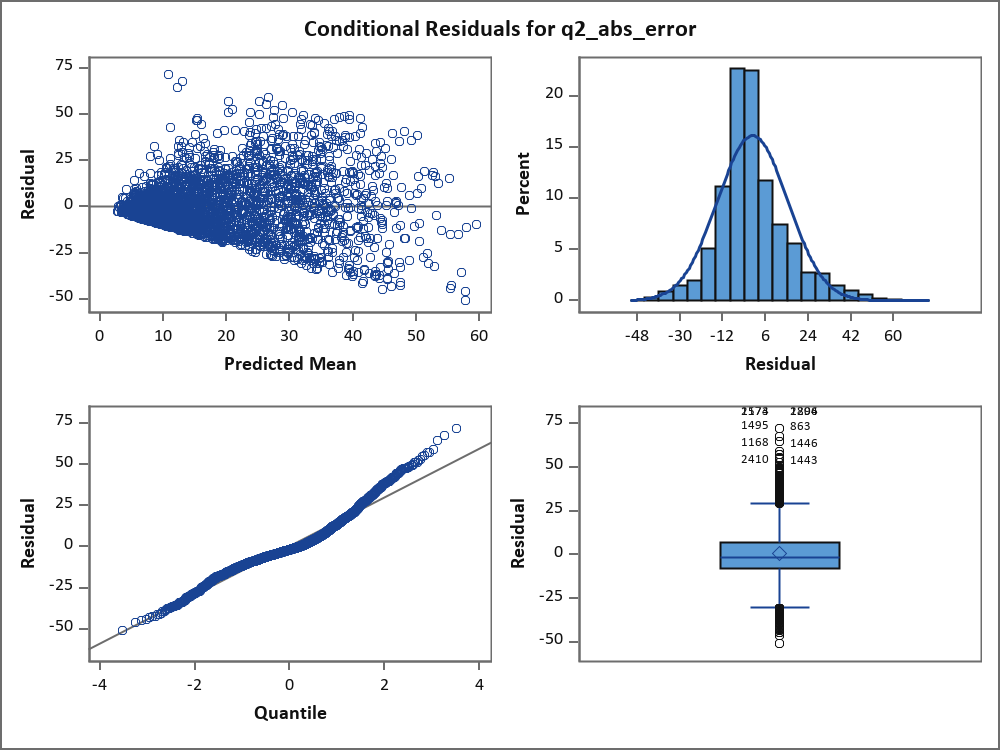
| Differences of set Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| set | \_set | Estimate | Standard  Error | DF | t Value | Pr > |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| set1 | set2 | -0.04236 | 0.03325 | 2732 | -1.27 | 0.2028 | 0.2028 | 0.05 | -0.1076 | 0.02284 | -0.1076 | 0.02284 |

| media Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| media | Estimate | Standard Error | DF | t Value | Pr > |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| 2dd | 2.9639 | 0.05368 | 2732 | 55.22 | <.0001 | 0.05 | 2.8587 | 3.0692 | 19.3743 | 1.0399 | 17.4388 | 21.5246 |
| 3dd | 2.7657 | 0.05228 | 2732 | 52.90 | <.0001 | 0.05 | 2.6632 | 2.8682 | 15.8906 | 0.8307 | 14.3424 | 17.6059 |
| 3dp | 2.7198 | 0.05848 | 2732 | 46.51 | <.0001 | 0.05 | 2.6051 | 2.8345 | 15.1774 | 0.8876 | 13.5331 | 17.0216 |

| Differences of media Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| media | \_media | Estimate | Standard  Error | DF | t Value | Pr > |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| 2dd | 3dd | 0.1982 | 0.03866 | 2732 | 5.13 | <.0001 | <.0001 | 0.05 | 0.1224 | 0.2740 | 0.1076 | 0.2889 |
| 2dd | 3dp | 0.2441 | 0.04629 | 2732 | 5.27 | <.0001 | <.0001 | 0.05 | 0.1534 | 0.3349 | 0.1356 | 0.3527 |
| 3dd | 3dp | 0.04592 | 0.04464 | 2732 | 1.03 | 0.3038 | 0.5588 | 0.05 | -0.04162 | 0.1335 | -0.05877 | 0.1506 |

| pair\_id Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pair\_id | Estimate | Standard Error | DF | t Value | Pr > |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| 1 | 2.8525 | 0.06848 | 2732 | 41.65 | <.0001 | 0.05 | 2.7182 | 2.9868 | 17.3308 | 1.1868 | 15.1531 | 19.8215 |
| 2 | 2.8954 | 0.06820 | 2732 | 42.45 | <.0001 | 0.05 | 2.7617 | 3.0291 | 18.0910 | 1.2339 | 15.8264 | 20.6796 |
| 3 | 2.8198 | 0.06804 | 2732 | 41.44 | <.0001 | 0.05 | 2.6864 | 2.9532 | 16.7734 | 1.1412 | 14.6785 | 19.1672 |
| 4 | 2.8027 | 0.07180 | 2732 | 39.03 | <.0001 | 0.05 | 2.6619 | 2.9435 | 16.4889 | 1.1839 | 14.3235 | 18.9818 |
| 6 | 2.6689 | 0.07180 | 2732 | 37.17 | <.0001 | 0.05 | 2.5281 | 2.8097 | 14.4236 | 1.0356 | 12.5294 | 16.6042 |
| 7 | 2.8076 | 0.06585 | 2732 | 42.63 | <.0001 | 0.05 | 2.6785 | 2.9367 | 16.5701 | 1.0912 | 14.5629 | 18.8541 |
| 8 | 2.8575 | 0.06916 | 2732 | 41.32 | <.0001 | 0.05 | 2.7219 | 2.9931 | 17.4177 | 1.2046 | 15.2087 | 19.9474 |
| 9 | 2.8276 | 0.06847 | 2732 | 41.30 | <.0001 | 0.05 | 2.6934 | 2.9619 | 16.9053 | 1.1575 | 14.7813 | 19.3344 |

| Differences of pair\_id Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pair\_id | \_pair\_id | Estimate | Standard  Error | DF | t   Value | Pr >  |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| 1 | 2 | -0.04293 | 0.07223 | 2732 | -0.59 | 0.5524 | 0.9990 | 0.05 | -0.1846 | 0.09871 | -0.2620 | 0.1762 |
| 1 | 3 | 0.03270 | 0.07128 | 2732 | 0.46 | 0.6465 | 0.9998 | 0.05 | -0.1071 | 0.1725 | -0.1835 | 0.2489 |
| 1 | 4 | 0.04980 | 0.07638 | 2732 | 0.65 | 0.5145 | 0.9981 | 0.05 | -0.09997 | 0.1996 | -0.1819 | 0.2815 |
| 1 | 6 | 0.1836 | 0.07587 | 2732 | 2.42 | 0.0156 | 0.2318 | 0.05 | 0.03485 | 0.3324 | -0.04651 | 0.4138 |
| 1 | 7 | 0.04488 | 0.06953 | 2732 | 0.65 | 0.5186 | 0.9982 | 0.05 | -0.09145 | 0.1812 | -0.1660 | 0.2558 |
| 1 | 8 | -0.00500 | 0.07405 | 2732 | -0.07 | 0.9462 | 1.0000 | 0.05 | -0.1502 | 0.1402 | -0.2296 | 0.2196 |
| 1 | 9 | 0.02486 | 0.07252 | 2732 | 0.34 | 0.7318 | 1.0000 | 0.05 | -0.1173 | 0.1671 | -0.1951 | 0.2448 |
| 2 | 3 | 0.07562 | 0.07168 | 2732 | 1.06 | 0.2915 | 0.9657 | 0.05 | -0.06493 | 0.2162 | -0.1418 | 0.2930 |
| 2 | 4 | 0.09272 | 0.07619 | 2732 | 1.22 | 0.2237 | 0.9271 | 0.05 | -0.05667 | 0.2421 | -0.1384 | 0.3238 |
| 2 | 6 | 0.2265 | 0.07428 | 2732 | 3.05 | 0.0023 | 0.0476 | 0.05 | 0.08091 | 0.3722 | 0.001251 | 0.4518 |
| 2 | 7 | 0.08781 | 0.06942 | 2732 | 1.26 | 0.2060 | 0.9117 | 0.05 | -0.04831 | 0.2239 | -0.1228 | 0.2984 |
| 2 | 8 | 0.03793 | 0.07256 | 2732 | 0.52 | 0.6012 | 0.9995 | 0.05 | -0.1043 | 0.1802 | -0.1822 | 0.2580 |
| 2 | 9 | 0.06779 | 0.07336 | 2732 | 0.92 | 0.3556 | 0.9838 | 0.05 | -0.07606 | 0.2116 | -0.1547 | 0.2903 |
| 3 | 4 | 0.01710 | 0.07584 | 2732 | 0.23 | 0.8216 | 1.0000 | 0.05 | -0.1316 | 0.1658 | -0.2129 | 0.2471 |
| 3 | 6 | 0.1509 | 0.07566 | 2732 | 1.99 | 0.0462 | 0.4855 | 0.05 | 0.002573 | 0.2993 | -0.07856 | 0.3804 |
| 3 | 7 | 0.01219 | 0.07032 | 2732 | 0.17 | 0.8624 | 1.0000 | 0.05 | -0.1257 | 0.1501 | -0.2011 | 0.2255 |
| 3 | 8 | -0.03769 | 0.07364 | 2732 | -0.51 | 0.6088 | 0.9996 | 0.05 | -0.1821 | 0.1067 | -0.2611 | 0.1857 |
| 3 | 9 | -0.00783 | 0.07216 | 2732 | -0.11 | 0.9136 | 1.0000 | 0.05 | -0.1493 | 0.1337 | -0.2267 | 0.2110 |
| 4 | 6 | 0.1338 | 0.07974 | 2732 | 1.68 | 0.0934 | 0.7015 | 0.05 | -0.02253 | 0.2902 | -0.1080 | 0.3757 |
| 4 | 7 | -0.00491 | 0.07351 | 2732 | -0.07 | 0.9467 | 1.0000 | 0.05 | -0.1490 | 0.1392 | -0.2279 | 0.2181 |
| 4 | 8 | -0.05479 | 0.07699 | 2732 | -0.71 | 0.4767 | 0.9967 | 0.05 | -0.2058 | 0.09618 | -0.2883 | 0.1787 |
| 4 | 9 | -0.02494 | 0.07506 | 2732 | -0.33 | 0.7398 | 1.0000 | 0.05 | -0.1721 | 0.1222 | -0.2526 | 0.2027 |
| 6 | 7 | -0.1387 | 0.07267 | 2732 | -1.91 | 0.0563 | 0.5446 | 0.05 | -0.2812 | 0.003757 | -0.3592 | 0.08169 |
| 6 | 8 | -0.1886 | 0.07658 | 2732 | -2.46 | 0.0138 | 0.2119 | 0.05 | -0.3388 | -0.03846 | -0.4209 | 0.04366 |
| 6 | 9 | -0.1588 | 0.07630 | 2732 | -2.08 | 0.0375 | 0.4277 | 0.05 | -0.3084 | -0.00915 | -0.3902 | 0.07268 |
| 7 | 8 | -0.04988 | 0.07046 | 2732 | -0.71 | 0.4790 | 0.9968 | 0.05 | -0.1880 | 0.08828 | -0.2636 | 0.1638 |
| 7 | 9 | -0.02002 | 0.07047 | 2732 | -0.28 | 0.7763 | 1.0000 | 0.05 | -0.1582 | 0.1181 | -0.2338 | 0.1937 |
| 8 | 9 | 0.02986 | 0.07326 | 2732 | 0.41 | 0.6836 | 0.9999 | 0.05 | -0.1138 | 0.1735 | -0.1924 | 0.2521 |



| Model Information | |
| --- | --- |
| **Data Set** | WORK.RESULTS |
| **Response Variable** | q2\_error\_rate |
| **Response Distribution** | Gamma |
| **Link Function** | Log |
| **Variance Function** | Default |
| **Variance Matrix Blocked By** | block |
| **Estimation Technique** | Maximum Likelihood |
| **Likelihood Approximation** | Laplace |
| **Degrees of Freedom Method** | Containment |

| Class Level Information | | |
| --- | --- | --- |
| Class | Levels | Values |
| block | 18 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 |
| user\_id | 196 | 01a74b042fbb38c63121c61b3088d44e  0321162d0e39427d5e29d2bfbdbc291f  038e3262e4beea25129050e84cb5c6ba  03e6066b40eaa37f0757544d2b63c4c7  05b75ea899a1af6ab62a04567cbddd07  07828319b83df9a6305e58ded879cb9c  0cb92eb524bda4b8ad02f15f6bc73876  0ed4c738b86d5cd8202b19777836cc6c  0f2048110ffb7a9389ce62a82bb6a991  10f5a26c206e890b4c34bc1a32ff98f3  11381516724cd0e756e8df3c7b0e1576  11688597922b52da118fa62e46cb3b3c  122f70cc2f31b9d2469cefafec345f4c  131565a9ea605cf180d7de695129a299  136485b899e08b7c4231f0f22e683849  14aae7ac66d012b731cb6a1b509af320  161d880481d9a75ae15f4763d7d638a1  162d8160c0340900ce122198c496bbe7  16f8ff6718e42ff0fa4882bec9af76d4  187227a1cf07187e0cc3d33ed1184087  1b314cf17c219e35b5cd11b867b4863f  1bad085ba46106d508d171b89ccbdba2  1d3d5a1d63ed762dda3726a01a9a7dcb  1eefdea0963b6bee526cb69c52ceb769  1ef9f3a09cc28905a2192ce89f4c36f4  1f4b21bd31b5f0eab310d240f7d4d55f  2037826a2d539c8b809d1cccc2c2c3f8  205bf71a59c22ca230bcbf31be0d4373  2225f1dc80a8164c419fc542469b24c3  230590ef1a090669112c8be8afdf9597  2535cf856f831cf3edc2eb0393793c69  2667c5e6ea63f95422abd46f8bdb65ff  28160540c8b41d617a8d7ef7e48e0a68  29b75a026732701e743fa6ba0dd02c24  2bacf8834b9d37d6c0e34a13b403f74b  2c3a9969b20a771996de27b52f4bf552  2c876e5105b4bc085b56f788a18c05d6  2c8f571a333c67fc590bda685f8d7fe8  2dc6aa328d07957266504b3ee1f39593  2e4f252cd443650e03266eb1d803321c  30afd795c4aa4b6da6f36753414c70d5  316d313b43865d16a149c94cf28afded  3598ef87c475c2536b4ee3fc0363338f  35a2123de983629f89f515d1e57886da  35f4e2131484e131d0c760cfa29bd0d8  380458ea92ef57ecc180804173ddaa8a  3889b24858bb7d413f6e106b217a25e1  38bb3c7991daa12cc41d68175b8b013e  395e77a1f0c555d3d9fb235390cbae05  3a151bbd55576da08d9615d9e432f4fc  3c39697ad34ef4cac2bac5a6cfd8b90e  3d09edfc857b170c59f6422ca407e303  3e2f74e13713c8217c26f61ebb22d1aa  3e3a45e2b6960fde4d3e4eae18553a53  3fb38197da08cdf62479b464e8b5c464  4115dd096171825b9d4a82901b0733d8  41c9e6be5ba04e30ead052b7c5059a1b  42116c4585a0d83b33f131a8ce27f2e1  449ceaf6250a9780cd9e2946088be66c  45b7093618b340e503070dd1b8c3cde8  47b8f64022e823959a88848e8ea060da  4935461c435dea587a22f5904f4a997c  4965b1a73bc8db734fd5dbebe948c68e  49a4651227e32a14878e18d7af697c1c  4a012593fe2dcec9266ad54148962ec4  4f3a3d9979896b49ed4a000cbf1a9dae  5011d8b03c7ba6148cce7e9454cc6f31  5159066c6dcf6d3eca97d9e7e00489e9  52228ece0404c6be2732dd4d22ba7979  5263c3fbc4f0ad5f9a4433f011c09101  52d6c07e34b1005b7822c8951ab6d0f2  54bb1455cce098f73d4755b7196ba04a  554157ded9688d5558c771818608037e  55bc93c29d1743726620f90fb90e99cd  57e88e91731d9a1c66f2702958c0b3a9  585fb36d01fe4f180d740fc83f8210bb  58aae8847286cdd92c64512cc75df648  58c73694f8dbffe6b3fbe29b03c3c159  5dd6ba2fef5a7a2a0e908908dd857eed  69d651cbc8d01c01e0a859bdce933451  69e88d888071a73b1200d856374e4648  6a4fb9a9a94820bb5f6df71749b0e724  6b837d3f9effeaf0e296c34c12cf6390  6bb82ab5cc34a170671909db462a5e17  6d60df5581e4c901edec602f2b2bbbbb  6d85f4b2f6c51b0f7c4e566be2fdb8e8  6dd8fa822c4f26f5682562b4130fadc0  7115594e6dfc8d716b767b925fc4f394  73edb98af59a12809ae804a7c2574175  74313f0fdd71b205a2d32493a9a674e4  74425afa05adb40abc678cb0662fbd42  769bb19a4a8da9569be8665f3ab18c10  773966d68f5e13e119b6d13c8f16a68e  7753790e37138b699b994222c2cffb97  787b74f0ec20ebb5229977f343ead9a9  78eedb82dcd2fb4d8e8b06892c935644  79468f768c8edad0a915dffc6ffc8b88  7ba1d1d0d7564ce20cc5861ef7f9ced1  7c78c0ba5e892359875adea7676003de  7d13844b0a0ecfd984cebc3e840363f2  7f32f8bd7c1b468893a24122c7cb1230  81cbd2e05b8bff07309927ed54f76a3a  81d3cbe3230faa39f99d6a545b06d134  830490699b621559e1910756be28cc84  859216e5e3f8ee5eeb1d36bf614d1bf8  859cb75228b03de37aed8f039910e8c6  85cc1181458c3c67c00aa06e5dadc873  85cd07d9c58fa253256d1fdc55ff5577  871675c14d17b7ad6441053c8c7d2d53  8965f82a205ad65aa7ddc1bd16b2ecd0  8bdf186191b6329b9a73906d14e1cfac  8d42308697455ccaf7a6f327d2374bf8  90022ee1d925eff0780246c4dd5f699a  90116784a302cb283508dd607409aacd  94032fdc8eb4e0f75caea5b27ca09915  95ff37c12d97fde858cc7638bfd63514  96ea6ab73cf2ebd5cb44f8fa93640b17  97fbc0ccd937809856c28eb2e1812d5d  9815e23a49f2e5d1d14d35f57a874eae  9873de0d79c274cbfb1fceddae5c7271  9ac7adb2fbb60cb32273f6c7fc8a7e90  9c0e69876ef883e848dbac0bf5f833ad  9f401d9ccebe2867b0a08686329a921e  9f843f727e66ad5c9bd61b150351b4d3  9fd7c7ca2fa26afd0b2ab532442a27c0  a090ae42d260628bb8f50f5ccff51c2a  a15d5b00edff2da27ee271d9451e9aae  a3966c3b2eddc25e6fb33154aeedd372  a6e1a51c552a082122147366f7c2a4e5  a7dde31bf4ddf9202aca3c7b4d7608d6  a8453ae1e063fa9a3937cb8e93c04128  a93dfc54329ff883c71096f1664f28c9  a9e06000bf1c8973803af845fe6bd466  ad28668f94811fca38e0ef2c7c2405d0  ad77f0143c14addacacff5161e20bfd8  ae30d27d9132844a2be645a49a3643dc  ae6930edcb8e5719ba336260e79d0b32  b02476116adb2849a56be979d56e592a  b1f7bc8648dc212088c89e502c42c85e  b1fc489a9f8234ab72cff48816da2981  b3007418a03b7cfc25ac305b5f1c792b  b3d0c390e5884a9772e3383254635def  b471d5fb91c0420be34dd717cf54671c  b66da46ae95d651545167bcd77a64fb3  b68e91bf33cdeca7f8f79a3828cbb307  b6a7d60ffc2c837655ee7b9e638265b5  b964e9258d843432fc9400d3385b25ea  b988a49b6fe7b42e38ffde53e086da91  b9dc23dacf2c9ec76dc453ab1773a177  ba3bca0c56303f8fa53035a4ac6813ff  bb3d7729bc5deeb2456eab58565e7ef2  bda4ff16a365c6c4c1d33b2202c0fc1a  be1982dfebf98c4882b95cdf50d9415d  bf74c2156cb7b58660e7afb2e26aa718  c3c21d608cd1db8b25a0eb154c1442ad  c3f16ceb85b808df9ae405f3ec1f3ab7  c4442adef4d65bb111f451e8a2bf20be  c526d0f862e2508e81822f063426ae00  c6b4ca8fd139386066acdbc51fc35dbf  c6eec96092269b5cde4d6ab2e5443fae  c70a488f40067c046c0ebe47dfe91ef7  c9b6ccb0be8570da85ab2f1aa13edbfe  cb8ceed21013a757b668d1562575e88f  cc2b97fc599d1214cc2b586a8452bf12  cc540d73fa2c162d2df017e8c0c6f731  ce819302c7572c11673c368e565ae0bf  d08683c78eda875ff9929ee62510580f  d0c2bc276b4d5ff4c7c137dce3a1271b  d1ca5bf1e1c1bf4c8b6ad91a53c08202  d27cb8e5711fb5930393469e0e8feac4  d2ac629c7238f9a16bf63e7f3672d6d2  d30bae8ae853db6bfdc4f04e46be43d8  d343e2f5bd88fa2b771309eb590e3870  d38962cdca12e30d0cf7ac728504c0aa  d3e59e94cb8ec84d1a6dd5b7d2604c33  d6c0385c8b86f89f47c7c35bc23c0772  db27a8f684448dafed1914bdb4782235  db4f8bcfb11165dcb37acba04cae6bb9  dc3106943b769236cb43a5c37bb25400  e0dbd0fca7e0fb9c05d3d7462eabba0e  e0e07d893326d0f2ea4503f66cbf0a9b  e0f49de494818ec9d7a021cd98579285  e1eff3c41cff7bb469c4e605fbe65817  e253a59f802acec881fca8eb3bb23a1c  e27b405f5770563c62f1860f5a4a1ad0  e6d5d8081c55fe066c7c3d2e57cbfd91  e9084bf2d3950a2c3d8be2298d988cba  ea72eb3f615e626e926f3001389123c1  efa12944608a4dc4ca9f4c5bbdf1b012  efeda1b48ed64a6ab9f0357201ce76e8  efee5a23339b17755f4d00c89975165c  f09ae45b1c5ff547deba46ab10f316b7  f12c6a747ba35c64022aa20f95187b69  f223f32a5c63b6acbed3e1e699506080  f5f8395c7a198158f5e62caef52ba035  fc59f442401904b5d62f978c5ee8cae9 |
| set | 2 | set1 set2 |
| media | 3 | 2dd 3dd 3dp |
| pair\_id | 8 | 1 2 3 4 6 7 8 9 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2938 |
| **Number of Observations Used** | 2938 |

| Dimensions | |
| --- | --- |
| **G-side Cov. Parameters** | 2 |
| **R-side Cov. Parameters** | 1 |
| **Columns in X** | 14 |
| **Columns in Z per Subject** | 197 |
| **Subjects (Blocks in V)** | 18 |
| **Max Obs per Subject** | 225 |

| Parameter Search | | | |
| --- | --- | --- | --- |
| CovP1 | CovP2 | CovP3 | Objective Function |
| 0.001575 | 0.3810 | 0.7658 | -2631.514926 |

| Optimization Information | |
| --- | --- |
| **Optimization Technique** | Dual Quasi-Newton |
| **Parameters in Optimization** | 14 |
| **Lower Boundaries** | 3 |
| **Upper Boundaries** | 0 |
| **Fixed Effects** | Not Profiled |
| **Starting From** | GLM estimates |

| Iteration History | | | | | |
| --- | --- | --- | --- | --- | --- |
| Iteration | Restarts | Evaluations | Objective Function | Change | Max Gradient |
| **0** | **0** | 4 | -2631.514926 | . | 175.6364 |
| **1** | **0** | 4 | -2646.079461 | 14.56453455 | 93.62203 |
| **2** | **0** | 2 | -2654.163744 | 8.08428292 | 99.38442 |
| **3** | **0** | 2 | -2663.711699 | 9.54795481 | 54.54055 |
| **4** | **0** | 5 | -2663.965318 | 0.25361921 | 54.36645 |
| **5** | **0** | 4 | -2665.900491 | 1.93517345 | 29.21678 |
| **6** | **0** | 3 | -2666.711195 | 0.81070351 | 20.08068 |
| **7** | **0** | 2 | -2667.65079 | 0.93959535 | 12.37956 |
| **8** | **0** | 5 | -2667.655231 | 0.00444080 | 12.60748 |
| **9** | **0** | 6 | -2668.062685 | 0.40745427 | 19.19854 |
| **10** | **0** | 5 | -2668.069033 | 0.00634725 | 19.08995 |
| **11** | **0** | 6 | -2668.678032 | 0.60899965 | 17.22301 |
| **12** | **0** | 2 | -2668.948689 | 0.27065666 | 18.90151 |
| **13** | **0** | 2 | -2669.310109 | 0.36141984 | 8.386661 |
| **14** | **0** | 2 | -2669.502341 | 0.19223226 | 16.66966 |
| **15** | **0** | 5 | -2669.509191 | 0.00684988 | 7.959624 |
| **16** | **0** | 4 | -2669.553972 | 0.04478158 | 1.673849 |
| **17** | **0** | 3 | -2669.562906 | 0.00893341 | 0.484494 |
| **18** | **0** | 3 | -2669.563523 | 0.00061737 | 0.207809 |
| **19** | **0** | 3 | -2669.563569 | 0.00004557 | 0.159457 |
| **20** | **0** | 3 | -2669.563575 | 0.00000588 | 0.013069 |

|  |
| --- |
| Convergence criterion (GCONV=1E-8) satisfied. |

| Fit Statistics | |
| --- | --- |
| **-2 Log Likelihood** | -2669.56 |
| **AIC (smaller is better)** | -2641.56 |
| **AICC (smaller is better)** | -2641.42 |
| **BIC (smaller is better)** | -2629.10 |
| **CAIC (smaller is better)** | -2615.10 |
| **HQIC (smaller is better)** | -2639.84 |

| Fit Statistics for Conditional Distribution | |
| --- | --- |
| **-2 log L(q2\_error\_rate | r. effects)** | -3245.99 |
| **Pearson Chi-Square** | 1698.43 |
| **Pearson Chi-Square / DF** | 0.58 |

| Covariance Parameter Estimates | | | |
| --- | --- | --- | --- |
| Cov Parm | Subject | Estimate | Standard Error |
| Intercept | block | 0.001577 | 0.01467 |
| user\_id | block | 0.3810 | 0.04645 |
| Residual |  | 0.7658 | 0.01850 |

| Solutions for Fixed Effects | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Effect | set | media | pair\_id | Estimate | Standard Error | DF | t Value | Pr > |t| |
| Intercept |  |  |  | -1.2652 | 0.07784 | 17 | -16.26 | <.0001 |
| set | set1 |  |  | -0.04238 | 0.03325 | 2732 | -1.27 | 0.2026 |
| set | set2 |  |  | 0 | . | . | . | . |
| media |  | 2dd |  | 0.2442 | 0.04629 | 2732 | 5.28 | <.0001 |
| media |  | 3dd |  | 0.04602 | 0.04464 | 2732 | 1.03 | 0.3027 |
| media |  | 3dp |  | 0 | . | . | . | . |
| pair\_id |  |  | 1 | 0.02484 | 0.07252 | 2732 | 0.34 | 0.7320 |
| pair\_id |  |  | 2 | -0.1146 | 0.07336 | 2732 | -1.56 | 0.1185 |
| pair\_id |  |  | 3 | -0.3443 | 0.07216 | 2732 | -4.77 | <.0001 |
| pair\_id |  |  | 4 | -0.4951 | 0.07506 | 2732 | -6.60 | <.0001 |
| pair\_id |  |  | 6 | -0.6289 | 0.07630 | 2732 | -8.24 | <.0001 |
| pair\_id |  |  | 7 | -0.3565 | 0.07047 | 2732 | -5.06 | <.0001 |
| pair\_id |  |  | 8 | -0.1525 | 0.07326 | 2732 | -2.08 | 0.0375 |
| pair\_id |  |  | 9 | 0 | . | . | . | . |

| Type III Tests of Fixed Effects | | | | |
| --- | --- | --- | --- | --- |
| Effect | Num  DF | Den  DF | F Value | Pr > F |
| set | 1 | 2732 | 1.62 | 0.2026 |
| media | 2 | 2732 | 18.55 | <.0001 |
| pair\_id | 7 | 2732 | 19.93 | <.0001 |

| set Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| set | Estimate | Standard Error | DF | t Value | Pr > |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| set1 | -1.4692 | 0.05145 | 2732 | -28.56 | <.0001 | 0.05 | -1.5701 | -1.3683 | 0.2301 | 0.01184 | 0.2080 | 0.2545 |
| set2 | -1.4269 | 0.05170 | 2732 | -27.60 | <.0001 | 0.05 | -1.5282 | -1.3255 | 0.2401 | 0.01241 | 0.2169 | 0.2657 |

| Differences of set Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| set | \_set | Estimate | Standard  Error | DF | t Value | Pr > |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| set1 | set2 | -0.04238 | 0.03325 | 2732 | -1.27 | 0.2026 | 0.2026 | 0.05 | -0.1076 | 0.02282 | -0.1076 | 0.02282 |

| media Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| media | Estimate | Standard Error | DF | t Value | Pr > |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| 2dd | -1.3006 | 0.05366 | 2732 | -24.24 | <.0001 | 0.05 | -1.4058 | -1.1953 | 0.2724 | 0.01461 | 0.2452 | 0.3026 |
| 3dd | -1.4988 | 0.05226 | 2732 | -28.68 | <.0001 | 0.05 | -1.6012 | -1.3963 | 0.2234 | 0.01167 | 0.2016 | 0.2475 |
| 3dp | -1.5448 | 0.05846 | 2732 | -26.42 | <.0001 | 0.05 | -1.6594 | -1.4302 | 0.2134 | 0.01247 | 0.1902 | 0.2393 |

| Differences of media Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| media | \_media | Estimate | Standard  Error | DF | t Value | Pr > |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| 2dd | 3dd | 0.1982 | 0.03866 | 2732 | 5.13 | <.0001 | <.0001 | 0.05 | 0.1224 | 0.2740 | 0.1076 | 0.2889 |
| 2dd | 3dp | 0.2442 | 0.04629 | 2732 | 5.28 | <.0001 | <.0001 | 0.05 | 0.1535 | 0.3350 | 0.1357 | 0.3528 |
| 3dd | 3dp | 0.04602 | 0.04464 | 2732 | 1.03 | 0.3027 | 0.5574 | 0.05 | -0.04151 | 0.1336 | -0.05866 | 0.1507 |

| pair\_id Least Squares Means | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pair\_id | Estimate | Standard Error | DF | t Value | Pr > |t| | Alpha | Lower | Upper | Mean | Standard Error Mean | Lower Mean | Upper Mean |
| 1 | -1.1648 | 0.06846 | 2732 | -17.01 | <.0001 | 0.05 | -1.2991 | -1.0306 | 0.3120 | 0.02136 | 0.2728 | 0.3568 |
| 2 | -1.3042 | 0.06819 | 2732 | -19.13 | <.0001 | 0.05 | -1.4379 | -1.1705 | 0.2714 | 0.01850 | 0.2374 | 0.3102 |
| 3 | -1.5340 | 0.06802 | 2732 | -22.55 | <.0001 | 0.05 | -1.6674 | -1.4006 | 0.2157 | 0.01467 | 0.1887 | 0.2464 |
| 4 | -1.6848 | 0.07178 | 2732 | -23.47 | <.0001 | 0.05 | -1.8255 | -1.5440 | 0.1855 | 0.01331 | 0.1611 | 0.2135 |
| 6 | -1.8185 | 0.07178 | 2732 | -25.33 | <.0001 | 0.05 | -1.9593 | -1.6778 | 0.1623 | 0.01165 | 0.1410 | 0.1868 |
| 7 | -1.5462 | 0.06583 | 2732 | -23.49 | <.0001 | 0.05 | -1.6753 | -1.4171 | 0.2131 | 0.01403 | 0.1873 | 0.2424 |
| 8 | -1.3421 | 0.06914 | 2732 | -19.41 | <.0001 | 0.05 | -1.4777 | -1.2066 | 0.2613 | 0.01807 | 0.2282 | 0.2992 |
| 9 | -1.1897 | 0.06846 | 2732 | -17.38 | <.0001 | 0.05 | -1.3239 | -1.0554 | 0.3043 | 0.02083 | 0.2661 | 0.3480 |

| Differences of pair\_id Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pair\_id | \_pair\_id | Estimate | Standard  Error | DF | t   Value | Pr >  |t| | Adj P | Alpha | Lower | Upper | Adj  Lower | Adj  Upper |
| 1 | 2 | 0.1394 | 0.07223 | 2732 | 1.93 | 0.0537 | 0.5303 | 0.05 | -0.00224 | 0.2810 | -0.07970 | 0.3585 |
| 1 | 3 | 0.3692 | 0.07128 | 2732 | 5.18 | <.0001 | <.0001 | 0.05 | 0.2294 | 0.5089 | 0.1529 | 0.5854 |
| 1 | 4 | 0.5200 | 0.07638 | 2732 | 6.81 | <.0001 | <.0001 | 0.05 | 0.3702 | 0.6697 | 0.2883 | 0.7516 |
| 1 | 6 | 0.6537 | 0.07587 | 2732 | 8.62 | <.0001 | <.0001 | 0.05 | 0.5049 | 0.8025 | 0.4236 | 0.8838 |
| 1 | 7 | 0.3814 | 0.06953 | 2732 | 5.49 | <.0001 | <.0001 | 0.05 | 0.2451 | 0.5177 | 0.1705 | 0.5923 |
| 1 | 8 | 0.1773 | 0.07405 | 2732 | 2.39 | 0.0167 | 0.2443 | 0.05 | 0.03212 | 0.3225 | -0.04729 | 0.4019 |
| 1 | 9 | 0.02484 | 0.07252 | 2732 | 0.34 | 0.7320 | 1.0000 | 0.05 | -0.1174 | 0.1670 | -0.1951 | 0.2448 |
| 2 | 3 | 0.2298 | 0.07168 | 2732 | 3.21 | 0.0014 | 0.0296 | 0.05 | 0.08922 | 0.3703 | 0.01235 | 0.4472 |
| 2 | 4 | 0.3806 | 0.07619 | 2732 | 5.00 | <.0001 | <.0001 | 0.05 | 0.2312 | 0.5300 | 0.1495 | 0.6117 |
| 2 | 6 | 0.5143 | 0.07428 | 2732 | 6.92 | <.0001 | <.0001 | 0.05 | 0.3687 | 0.6599 | 0.2890 | 0.7396 |
| 2 | 7 | 0.2420 | 0.06942 | 2732 | 3.49 | 0.0005 | 0.0117 | 0.05 | 0.1059 | 0.3781 | 0.03142 | 0.4526 |
| 2 | 8 | 0.03792 | 0.07256 | 2732 | 0.52 | 0.6013 | 0.9995 | 0.05 | -0.1044 | 0.1802 | -0.1822 | 0.2580 |
| 2 | 9 | -0.1146 | 0.07336 | 2732 | -1.56 | 0.1185 | 0.7733 | 0.05 | -0.2584 | 0.02929 | -0.3371 | 0.1080 |
| 3 | 4 | 0.1508 | 0.07584 | 2732 | 1.99 | 0.0469 | 0.4898 | 0.05 | 0.002098 | 0.2995 | -0.07923 | 0.3808 |
| 3 | 6 | 0.2845 | 0.07566 | 2732 | 3.76 | 0.0002 | 0.0043 | 0.05 | 0.1362 | 0.4329 | 0.05506 | 0.5140 |
| 3 | 7 | 0.01222 | 0.07032 | 2732 | 0.17 | 0.8620 | 1.0000 | 0.05 | -0.1257 | 0.1501 | -0.2011 | 0.2255 |
| 3 | 8 | -0.1918 | 0.07364 | 2732 | -2.61 | 0.0092 | 0.1544 | 0.05 | -0.3363 | -0.04745 | -0.4152 | 0.03153 |
| 3 | 9 | -0.3443 | 0.07216 | 2732 | -4.77 | <.0001 | <.0001 | 0.05 | -0.4858 | -0.2028 | -0.5632 | -0.1254 |
| 4 | 6 | 0.1337 | 0.07974 | 2732 | 1.68 | 0.0936 | 0.7021 | 0.05 | -0.02261 | 0.2901 | -0.1081 | 0.3756 |
| 4 | 7 | -0.1386 | 0.07350 | 2732 | -1.89 | 0.0595 | 0.5612 | 0.05 | -0.2827 | 0.005550 | -0.3615 | 0.08438 |
| 4 | 8 | -0.3426 | 0.07699 | 2732 | -4.45 | <.0001 | 0.0002 | 0.05 | -0.4936 | -0.1917 | -0.5762 | -0.1091 |
| 4 | 9 | -0.4951 | 0.07506 | 2732 | -6.60 | <.0001 | <.0001 | 0.05 | -0.6423 | -0.3479 | -0.7228 | -0.2675 |
| 6 | 7 | -0.2723 | 0.07267 | 2732 | -3.75 | 0.0002 | 0.0045 | 0.05 | -0.4148 | -0.1298 | -0.4927 | -0.05190 |
| 6 | 8 | -0.4764 | 0.07658 | 2732 | -6.22 | <.0001 | <.0001 | 0.05 | -0.6265 | -0.3262 | -0.7087 | -0.2441 |
| 6 | 9 | -0.6289 | 0.07630 | 2732 | -8.24 | <.0001 | <.0001 | 0.05 | -0.7785 | -0.4793 | -0.8603 | -0.3974 |
| 7 | 8 | -0.2041 | 0.07046 | 2732 | -2.90 | 0.0038 | 0.0737 | 0.05 | -0.3422 | -0.06591 | -0.4178 | 0.009646 |
| 7 | 9 | -0.3565 | 0.07047 | 2732 | -5.06 | <.0001 | <.0001 | 0.05 | -0.4947 | -0.2184 | -0.5703 | -0.1428 |
| 8 | 9 | -0.1525 | 0.07326 | 2732 | -2.08 | 0.0375 | 0.4274 | 0.05 | -0.2961 | -0.00882 | -0.3747 | 0.06974 |

