

# Resultados

## Mixed Model

Model Info

| Info                  |  |
|-----------------------|--|
| Estimate              | Linear mixed model fit by REML                             |
| Call                  | mediana ~ 1 + angulo + lados + angulo:lados+( 1   sujeto ) |
| AIC                   | -1697.096  |
| BIC                   | -1408.964  |
| LogLikel.             | 785.980  |
| R-squared Marginal    | 0.768  |
| R-squared Conditional | 0.790  |
| Converged             | yes  |
| Optimizer             | bobyqa   |

[3]

## Model Results

Fixed Effect Omnibus tests

|                | F     | Num df | Den df | p      |
|----------------|-------|--------|--------|--------|
| angulo         | 214.3 | 5      | 483    | < .001 |
| lados          | 11.5  | 3      | 483    | < .001 |
| angulo * lados | 54.8  | 15     | 483    | < .001 |

Nota. Satterthwaite method for degrees of freedom

## Fixed Effects Parameter Estimates

| Names            | Effect                       | Estimate | SE      | 95% Confidence Interval |          | df    | t       | p      |
|------------------|------------------------------|----------|---------|-------------------------|----------|-------|---------|--------|
|                  |                              |          |         | Lower                   | Upper    |       |         |        |
| (Intercept)      | (Intercept)                  | 0.13009  | 0.00375 | 0.12273                 | 0.13745  | 21.0  | 34.653  | < .001 |
| angulo1          | hip_addu - ankle             | 0.00479  | 0.00694 | -0.00881                | 0.01840  | 483.0 | 0.690   | 0.490  |
| angulo2          | hip_flex - ankle             | -0.01128 | 0.00694 | -0.02489                | 0.00232  | 483.0 | -1.626  | 0.105  |
| angulo3          | hip_rot - ankle              | -0.12151 | 0.00694 | -0.13511                | -0.10790 | 483.0 | -17.505 | < .001 |
| angulo4          | knee - ankle                 | 0.05496  | 0.00694 | 0.04135                 | 0.06856  | 483.0 | 7.917   | < .001 |
| angulo5          | subt - ankle                 | -0.11818 | 0.00694 | -0.13179                | -0.10458 | 483.0 | -17.026 | < .001 |
| lados1           | L-R - L-L                    | -0.02054 | 0.00567 | -0.03165                | -0.00943 | 483.0 | -3.624  | < .001 |
| lados2           | R-L - L-L                    | -0.02162 | 0.00567 | -0.03273                | -0.01052 | 483.0 | -3.815  | < .001 |
| lados3           | R-R - L-L                    | 0.00447  | 0.00567 | -0.00664                | 0.01558  | 483.0 | 0.789   | 0.431  |
| angulo1 * lados1 | hip_addu - ankle * L-R - L-L | -0.14516 | 0.01963 | -0.18364                | -0.10668 | 483.0 | -7.394  | < .001 |
| angulo2 * lados1 | hip_flex - ankle * L-R - L-L | -0.09633 | 0.01963 | -0.13481                | -0.05785 | 483.0 | -4.906  | < .001 |
| angulo3 * lados1 | hip_rot - ankle * L-R - L-L  | -0.13748 | 0.01963 | -0.17596                | -0.09900 | 483.0 | -7.003  | < .001 |
| angulo4 * lados1 | knee - ankle * L-R - L-L     | -0.36312 | 0.01963 | -0.40160                | -0.32464 | 483.0 | -18.496 | < .001 |
| angulo5 * lados1 | subt - ankle * L-R - L-L     | -0.12357 | 0.01963 | -0.16204                | -0.08509 | 483.0 | -6.294  | < .001 |
| angulo1 * lados2 | hip_addu - ankle * R-L - L-L | -0.16100 | 0.01963 | -0.19948                | -0.12252 | 483.0 | -8.201  | < .001 |
| angulo2 * lados2 | hip_flex - ankle * R-L - L-L | -0.09262 | 0.01963 | -0.13110                | -0.05414 | 483.0 | -4.717  | < .001 |
| angulo3 * lados2 | hip_rot - ankle * R-L - L-L  | -0.15888 | 0.01963 | -0.19736                | -0.12040 | 483.0 | -8.093  | < .001 |
| angulo4 * lados2 | knee - ankle * R-L - L-L     | -0.37562 | 0.01963 | -0.41410                | -0.33714 | 483.0 | -19.132 | < .001 |
| angulo5 * lados2 | subt - ankle * R-L - L-L     | -0.15228 | 0.01963 | -0.19076                | -0.11380 | 483.0 | -7.756  | < .001 |
| angulo1 * lados3 | hip_addu - ankle * R-R - L-L | 0.00802  | 0.01963 | -0.03046                | 0.04650  | 483.0 | 0.409   | 0.683  |
| angulo2 * lados3 | hip_flex - ankle * R-R - L-L | -0.00407 | 0.01963 | -0.04255                | 0.03441  | 483.0 | -0.207  | 0.836  |
| angulo3 * lados3 | hip_rot - ankle * R-R - L-L  | -0.01318 | 0.01963 | -0.05166                | 0.02530  | 483.0 | -0.671  | 0.502  |
| angulo4 * lados3 | knee - ankle * R-R - L-L     | 0.01965  | 0.01963 | -0.01883                | 0.05813  | 483.0 | 1.001   | 0.317  |
| angulo5 * lados3 | subt - ankle * R-R - L-L     | 0.01209  | 0.01963 | -0.02639                | 0.05057  | 483.0 | 0.616   | 0.538  |

## Random Components

| Groups   | Name        | SD     | Variance | ICC    |
|----------|-------------|--------|----------|--------|
| sujeto   | (Intercept) | 0.0149 | 2.22e-4  | 0.0947 |
| Residual |             | 0.0460 | 0.00212  |        |

Nota. Number of Obs: 528 , groups: sujeto 22

## Post Hoc Tests

Post Hoc Comparisons - angulo \* lados

| Comparison |       |            |       |  | Difference | SE     | t         | df  | Pbonferroni | Pholm  |
|------------|-------|------------|-------|--|------------|--------|-----------|-----|-------------|--------|
| angulo     | lados | angulo     | lados |  |            |        |           |     |             |        |
| ankle      | L-L   | - ankle    | L-R   |  | -0.12373   | 0.0139 | -8.91294  | 483 | < .001      | < .001 |
| ankle      | L-L   | - ankle    | R-L   |  | -0.13511   | 0.0139 | -9.73226  | 483 | < .001      | < .001 |
| ankle      | L-L   | - ankle    | R-R   |  | -7.17e-4   | 0.0139 | -0.05166  | 483 | 1.000       | 1.000  |
| ankle      | L-L   | - hip_addu | L-L   |  | -0.07933   | 0.0139 | -5.71414  | 483 | < .001      | < .001 |
| ankle      | L-L   | - hip_addu | L-R   |  | -0.05790   | 0.0139 | -4.17083  | 483 | 0.010       | 0.004  |
| ankle      | L-L   | - hip_addu | R-L   |  | -0.05343   | 0.0139 | -3.84886  | 483 | 0.037       | 0.013  |
| ankle      | L-L   | - hip_addu | R-R   |  | -0.08807   | 0.0139 | -6.34381  | 483 | < .001      | < .001 |
| ankle      | L-L   | - hip_flex | L-L   |  | -0.03697   | 0.0139 | -2.66301  | 483 | 1.000       | 0.520  |
| ankle      | L-L   | - hip_flex | L-R   |  | -0.06437   | 0.0139 | -4.63711  | 483 | 0.001       | < .001 |
| ankle      | L-L   | - hip_flex | R-L   |  | -0.07946   | 0.0139 | -5.72387  | 483 | < .001      | < .001 |
| ankle      | L-L   | - hip_flex | R-R   |  | -0.03362   | 0.0139 | -2.42140  | 483 | 1.000       | 0.943  |
| ankle      | L-L   | - hip_rot  | L-L   |  | 0.04412    | 0.0139 | 3.17836   | 483 | 0.435       | 0.120  |
| ankle      | L-L   | - hip_rot  | L-R   |  | 0.05787    | 0.0139 | 4.16869   | 483 | 0.010       | 0.004  |
| ankle      | L-L   | - hip_rot  | R-L   |  | 0.06789    | 0.0139 | 4.89069   | 483 | < .001      | < .001 |
| ankle      | L-L   | - hip_rot  | R-R   |  | 0.05658    | 0.0139 | 4.07594   | 483 | 0.015       | 0.005  |
| ankle      | L-L   | - knee     | L-L   |  | -0.23473   | 0.0139 | -16.90811 | 483 | < .001      | < .001 |
| ankle      | L-L   | - knee     | L-R   |  | 0.00466    | 0.0139 | 0.33562   | 483 | 1.000       | 1.000  |
| ankle      | L-L   | - knee     | R-L   |  | 0.00578    | 0.0139 | 0.41669   | 483 | 1.000       | 1.000  |
| ankle      | L-L   | - knee     | R-R   |  | -0.25510   | 0.0139 | -18.37551 | 483 | < .001      | < .001 |
| ankle      | L-L   | - subt     | L-L   |  | 0.05225    | 0.0139 | 3.76352   | 483 | 0.052       | 0.017  |
| ankle      | L-L   | - subt     | L-R   |  | 0.05208    | 0.0139 | 3.75136   | 483 | 0.054       | 0.018  |
| ankle      | L-L   | - subt     | R-L   |  | 0.06941    | 0.0139 | 5.00015   | 483 | < .001      | < .001 |
| ankle      | L-L   | - subt     | R-R   |  | 0.03944    | 0.0139 | 2.84069   | 483 | 1.000       | 0.326  |
| ankle      | L-R   | - ankle    | R-L   |  | -0.01137   | 0.0139 | -0.81932  | 483 | 1.000       | 1.000  |
| ankle      | L-R   | - ankle    | R-R   |  | 0.12302    | 0.0139 | 8.86129   | 483 | < .001      | < .001 |
| ankle      | L-R   | - hip_addu | L-R   |  | 0.06583    | 0.0139 | 4.74211   | 483 | < .001      | < .001 |
| ankle      | L-R   | - hip_addu | R-L   |  | 0.07030    | 0.0139 | 5.06409   | 483 | < .001      | < .001 |
| ankle      | L-R   | - hip_addu | R-R   |  | 0.03567    | 0.0139 | 2.56913   | 483 | 1.000       | 0.661  |
| ankle      | L-R   | - hip_flex | L-R   |  | 0.05936    | 0.0139 | 4.27583   | 483 | 0.006       | 0.003  |
| ankle      | L-R   | - hip_flex | R-L   |  | 0.04427    | 0.0139 | 3.18908   | 483 | 0.420       | 0.117  |
| ankle      | L-R   | - hip_flex | R-R   |  | 0.09012    | 0.0139 | 6.49155   | 483 | < .001      | < .001 |
| ankle      | L-R   | - hip_rot  | L-R   |  | 0.18161    | 0.0139 | 13.08163  | 483 | < .001      | < .001 |
| ankle      | L-R   | - hip_rot  | R-L   |  | 0.19163    | 0.0139 | 13.80363  | 483 | < .001      | < .001 |
| ankle      | L-R   | - hip_rot  | R-R   |  | 0.18032    | 0.0139 | 12.98888  | 483 | < .001      | < .001 |
| ankle      | L-R   | - knee     | L-R   |  | 0.12839    | 0.0139 | 9.24857   | 483 | < .001      | < .001 |
| ankle      | L-R   | - knee     | R-L   |  | 0.12952    | 0.0139 | 9.32963   | 483 | < .001      | < .001 |
| ankle      | L-R   | - knee     | R-R   |  | -0.13136   | 0.0139 | -9.46257  | 483 | < .001      | < .001 |
| ankle      | L-R   | - subt     | L-R   |  | 0.17581    | 0.0139 | 12.66430  | 483 | < .001      | < .001 |
| ankle      | L-R   | - subt     | R-L   |  | 0.19315    | 0.0139 | 13.91310  | 483 | < .001      | < .001 |
| ankle      | L-R   | - subt     | R-R   |  | 0.16317    | 0.0139 | 11.75363  | 483 | < .001      | < .001 |
| ankle      | R-L   | - ankle    | R-R   |  | 0.13439    | 0.0139 | 9.68060   | 483 | < .001      | < .001 |
| ankle      | R-L   | - hip_addu | R-L   |  | 0.08168    | 0.0139 | 5.88340   | 483 | < .001      | < .001 |
| ankle      | R-L   | - hip_addu | R-R   |  | 0.04704    | 0.0139 | 3.38844   | 483 | 0.210       | 0.064  |
| ankle      | R-L   | - hip_flex | R-L   |  | 0.05565    | 0.0139 | 4.00839   | 483 | 0.020       | 0.007  |
| ankle      | R-L   | - hip_flex | R-R   |  | 0.10149    | 0.0139 | 7.31086   | 483 | < .001      | < .001 |
| ankle      | R-L   | - hip_rot  | R-L   |  | 0.20300    | 0.0139 | 14.62295  | 483 | < .001      | < .001 |
| ankle      | R-L   | - hip_rot  | R-R   |  | 0.19169    | 0.0139 | 13.80820  | 483 | < .001      | < .001 |
| ankle      | R-L   | - knee     | R-L   |  | 0.14089    | 0.0139 | 10.14895  | 483 | < .001      | < .001 |
| ankle      | R-L   | - knee     | R-R   |  | -0.11999   | 0.0139 | -8.64325  | 483 | < .001      | < .001 |

## Post Hoc Comparisons - angulo \* lados

| Comparison |       |            |       | Difference | SE     | t         | df  | Pbonferroni | Pholm  |
|------------|-------|------------|-------|------------|--------|-----------|-----|-------------|--------|
| angulo     | lados | angulo     | lados |            |        |           |     |             |        |
| ankle      | R-L   | - subt     | R-L   | 0.20452    | 0.0139 | 14.73241  | 483 | < .001      | < .001 |
| ankle      | R-L   | - subt     | R-R   | 0.17454    | 0.0139 | 12.57295  | 483 | < .001      | < .001 |
| ankle      | R-R   | - hip_addu | R-R   | -0.08735   | 0.0139 | -6.29216  | 483 | < .001      | < .001 |
| ankle      | R-R   | - hip_flex | R-R   | -0.03290   | 0.0139 | -2.36974  | 483 | 1.000       | 1.000  |
| ankle      | R-R   | - hip_rot  | R-R   | 0.05730    | 0.0139 | 4.12760   | 483 | 0.012       | 0.004  |
| ankle      | R-R   | - knee     | R-R   | -0.25438   | 0.0139 | -18.32385 | 483 | < .001      | < .001 |
| ankle      | R-R   | - subt     | R-R   | 0.04015    | 0.0139 | 2.89235   | 483 | 1.000       | 0.284  |
| hip_addu   | L-L   | - ankle    | L-R   | -0.04441   | 0.0139 | -3.19880  | 483 | 0.406       | 0.115  |
| hip_addu   | L-L   | - ankle    | R-L   | -0.05578   | 0.0139 | -4.01811  | 483 | 0.019       | 0.007  |
| hip_addu   | L-L   | - ankle    | R-R   | 0.07861    | 0.0139 | 5.66249   | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - hip_addu | L-R   | 0.02143    | 0.0139 | 1.54331   | 483 | 1.000       | 1.000  |
| hip_addu   | L-L   | - hip_addu | R-L   | 0.02589    | 0.0139 | 1.86529   | 483 | 1.000       | 1.000  |
| hip_addu   | L-L   | - hip_addu | R-R   | -0.00874   | 0.0139 | -0.62967  | 483 | 1.000       | 1.000  |
| hip_addu   | L-L   | - hip_flex | L-L   | 0.04236    | 0.0139 | 3.05114   | 483 | 0.664       | 0.176  |
| hip_addu   | L-L   | - hip_flex | L-R   | 0.01495    | 0.0139 | 1.07703   | 483 | 1.000       | 1.000  |
| hip_addu   | L-L   | - hip_flex | R-L   | -1.35e-4   | 0.0139 | -0.00972  | 483 | 1.000       | 1.000  |
| hip_addu   | L-L   | - hip_flex | R-R   | 0.04571    | 0.0139 | 3.29275   | 483 | 0.294       | 0.085  |
| hip_addu   | L-L   | - hip_rot  | L-L   | 0.12345    | 0.0139 | 8.89250   | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - hip_rot  | L-R   | 0.13720    | 0.0139 | 9.88283   | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - hip_rot  | R-L   | 0.14722    | 0.0139 | 10.60483  | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - hip_rot  | R-R   | 0.13591    | 0.0139 | 9.79009   | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - knee     | L-L   | -0.15540   | 0.0139 | -11.19397 | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - knee     | L-R   | 0.08399    | 0.0139 | 6.04977   | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - knee     | R-L   | 0.08511    | 0.0139 | 6.13083   | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - knee     | R-R   | -0.17577   | 0.0139 | -12.66136 | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - subt     | L-L   | 0.13157    | 0.0139 | 9.47766   | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - subt     | L-R   | 0.13140    | 0.0139 | 9.46550   | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - subt     | R-L   | 0.14874    | 0.0139 | 10.71430  | 483 | < .001      | < .001 |
| hip_addu   | L-L   | - subt     | R-R   | 0.11876    | 0.0139 | 8.55484   | 483 | < .001      | < .001 |
| hip_addu   | L-R   | - ankle    | R-L   | -0.07721   | 0.0139 | -5.56143  | 483 | < .001      | < .001 |
| hip_addu   | L-R   | - ankle    | R-R   | 0.05718    | 0.0139 | 4.11917   | 483 | 0.012       | 0.005  |
| hip_addu   | L-R   | - hip_addu | R-L   | 0.00447    | 0.0139 | 0.32198   | 483 | 1.000       | 1.000  |
| hip_addu   | L-R   | - hip_addu | R-R   | -0.03017   | 0.0139 | -2.17298  | 483 | 1.000       | 1.000  |
| hip_addu   | L-R   | - hip_flex | L-R   | -0.00647   | 0.0139 | -0.46628  | 483 | 1.000       | 1.000  |
| hip_addu   | L-R   | - hip_flex | R-L   | -0.02156   | 0.0139 | -1.55303  | 483 | 1.000       | 1.000  |
| hip_addu   | L-R   | - hip_flex | R-R   | 0.02429    | 0.0139 | 1.74944   | 483 | 1.000       | 1.000  |
| hip_addu   | L-R   | - hip_rot  | L-R   | 0.11577    | 0.0139 | 8.33952   | 483 | < .001      | < .001 |
| hip_addu   | L-R   | - hip_rot  | R-L   | 0.12580    | 0.0139 | 9.06152   | 483 | < .001      | < .001 |
| hip_addu   | L-R   | - hip_rot  | R-R   | 0.11449    | 0.0139 | 8.24677   | 483 | < .001      | < .001 |
| hip_addu   | L-R   | - knee     | L-R   | 0.06256    | 0.0139 | 4.50645   | 483 | 0.002       | < .001 |
| hip_addu   | L-R   | - knee     | R-L   | 0.06369    | 0.0139 | 4.58752   | 483 | 0.002       | < .001 |
| hip_addu   | L-R   | - knee     | R-R   | -0.19720   | 0.0139 | -14.20468 | 483 | < .001      | < .001 |
| hip_addu   | L-R   | - subt     | L-R   | 0.10998    | 0.0139 | 7.92219   | 483 | < .001      | < .001 |
| hip_addu   | L-R   | - subt     | R-L   | 0.12732    | 0.0139 | 9.17098   | 483 | < .001      | < .001 |
| hip_addu   | L-R   | - subt     | R-R   | 0.09734    | 0.0139 | 7.01152   | 483 | < .001      | < .001 |
| hip_addu   | R-L   | - ankle    | R-R   | 0.05271    | 0.0139 | 3.79720   | 483 | 0.046       | 0.015  |
| hip_addu   | R-L   | - hip_addu | R-R   | -0.03464   | 0.0139 | -2.49496  | 483 | 1.000       | 0.789  |
| hip_addu   | R-L   | - hip_flex | R-L   | -0.02603   | 0.0139 | -1.87501  | 483 | 1.000       | 1.000  |
| hip_addu   | R-L   | - hip_flex | R-R   | 0.01982    | 0.0139 | 1.42746   | 483 | 1.000       | 1.000  |

## Post Hoc Comparisons - angulo \* lados

| Comparison |       |            |       | Difference | SE     | t         | df  | Pbonferroni | Pholm  |
|------------|-------|------------|-------|------------|--------|-----------|-----|-------------|--------|
| angulo     | lados | angulo     | lados |            |        |           |     |             |        |
| hip_addu   | R-L   | - hip_rot  | R-L   | 0.12133    | 0.0139 | 8.73954   | 483 | < .001      | < .001 |
| hip_addu   | R-L   | - hip_rot  | R-R   | 0.11002    | 0.0139 | 7.92480   | 483 | < .001      | < .001 |
| hip_addu   | R-L   | - knee     | R-L   | 0.05922    | 0.0139 | 4.26554   | 483 | 0.007       | 0.003  |
| hip_addu   | R-L   | - knee     | R-R   | -0.20167   | 0.0139 | -14.52665 | 483 | < .001      | < .001 |
| hip_addu   | R-L   | - subt     | R-L   | 0.12285    | 0.0139 | 8.84901   | 483 | < .001      | < .001 |
| hip_addu   | R-L   | - subt     | R-R   | 0.09287    | 0.0139 | 6.68955   | 483 | < .001      | < .001 |
| hip_addu   | R-R   | - hip_flex | R-R   | 0.05445    | 0.0139 | 3.92242   | 483 | 0.028       | 0.010  |
| hip_addu   | R-R   | - hip_rot  | R-R   | 0.14465    | 0.0139 | 10.41976  | 483 | < .001      | < .001 |
| hip_addu   | R-R   | - knee     | R-R   | -0.16703   | 0.0139 | -12.03169 | 483 | < .001      | < .001 |
| hip_addu   | R-R   | - subt     | R-R   | 0.12750    | 0.0139 | 9.18451   | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - ankle    | L-R   | -0.08676   | 0.0139 | -6.24994  | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - ankle    | R-L   | -0.09814   | 0.0139 | -7.06925  | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - ankle    | R-R   | 0.03625    | 0.0139 | 2.61135   | 483 | 1.000       | 0.595  |
| hip_flex   | L-L   | - hip_addu | L-R   | -0.02093   | 0.0139 | -1.50782  | 483 | 1.000       | 1.000  |
| hip_flex   | L-L   | - hip_addu | R-L   | -0.01646   | 0.0139 | -1.18585  | 483 | 1.000       | 1.000  |
| hip_flex   | L-L   | - hip_addu | R-R   | -0.05110   | 0.0139 | -3.68081  | 483 | 0.071       | 0.023  |
| hip_flex   | L-L   | - hip_flex | L-R   | -0.02741   | 0.0139 | -1.97411  | 483 | 1.000       | 1.000  |
| hip_flex   | L-L   | - hip_flex | R-L   | -0.04249   | 0.0139 | -3.06086  | 483 | 0.643       | 0.172  |
| hip_flex   | L-L   | - hip_flex | R-R   | 0.00335    | 0.0139 | 0.24161   | 483 | 1.000       | 1.000  |
| hip_flex   | L-L   | - hip_rot  | L-L   | 0.08109    | 0.0139 | 5.84136   | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - hip_rot  | L-R   | 0.09484    | 0.0139 | 6.83169   | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - hip_rot  | R-L   | 0.10486    | 0.0139 | 7.55370   | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - hip_rot  | R-R   | 0.09355    | 0.0139 | 6.73895   | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - knee     | L-L   | -0.19776   | 0.0139 | -14.24510 | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - knee     | L-R   | 0.04163    | 0.0139 | 2.99863   | 483 | 0.787       | 0.205  |
| hip_flex   | L-L   | - knee     | R-L   | 0.04275    | 0.0139 | 3.07970   | 483 | 0.604       | 0.164  |
| hip_flex   | L-L   | - knee     | R-R   | -0.21813   | 0.0139 | -15.71250 | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - subt     | L-L   | 0.08922    | 0.0139 | 6.42652   | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - subt     | L-R   | 0.08905    | 0.0139 | 6.41436   | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - subt     | R-L   | 0.10638    | 0.0139 | 7.66316   | 483 | < .001      | < .001 |
| hip_flex   | L-L   | - subt     | R-R   | 0.07641    | 0.0139 | 5.50370   | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - ankle    | R-L   | -0.07073   | 0.0139 | -5.09514  | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - ankle    | R-R   | 0.06366    | 0.0139 | 4.58546   | 483 | 0.002       | < .001 |
| hip_flex   | L-R   | - hip_addu | R-L   | 0.01094    | 0.0139 | 0.78826   | 483 | 1.000       | 1.000  |
| hip_flex   | L-R   | - hip_addu | R-R   | -0.02369   | 0.0139 | -1.70670  | 483 | 1.000       | 1.000  |
| hip_flex   | L-R   | - hip_flex | R-L   | -0.01509   | 0.0139 | -1.08675  | 483 | 1.000       | 1.000  |
| hip_flex   | L-R   | - hip_flex | R-R   | 0.03076    | 0.0139 | 2.21572   | 483 | 1.000       | 1.000  |
| hip_flex   | L-R   | - hip_rot  | L-R   | 0.12225    | 0.0139 | 8.80580   | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - hip_rot  | R-L   | 0.13227    | 0.0139 | 9.52780   | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - hip_rot  | R-R   | 0.12096    | 0.0139 | 8.71306   | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - knee     | L-R   | 0.06903    | 0.0139 | 4.97274   | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - knee     | R-L   | 0.07016    | 0.0139 | 5.05380   | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - knee     | R-R   | -0.19072   | 0.0139 | -13.73839 | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - subt     | L-R   | 0.11645    | 0.0139 | 8.38847   | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - subt     | R-L   | 0.13379    | 0.0139 | 9.63727   | 483 | < .001      | < .001 |
| hip_flex   | L-R   | - subt     | R-R   | 0.10381    | 0.0139 | 7.47781   | 483 | < .001      | < .001 |
| hip_flex   | R-L   | - ankle    | R-R   | 0.07874    | 0.0139 | 5.67221   | 483 | < .001      | < .001 |
| hip_flex   | R-L   | - hip_addu | R-R   | -0.00861   | 0.0139 | -0.61995  | 483 | 1.000       | 1.000  |
| hip_flex   | R-L   | - hip_flex | R-R   | 0.04585    | 0.0139 | 3.30247   | 483 | 0.284       | 0.083  |

## Post Hoc Comparisons - angulo \* lados

| Comparison |       |            |       | Difference | SE     | t         | df  | Pbonferroni | Pholm  |
|------------|-------|------------|-------|------------|--------|-----------|-----|-------------|--------|
| angulo     | lados | angulo     | lados |            |        |           |     |             |        |
| hip_flex   | R-L   | - hip_rot  | R-L   | 0.14736    | 0.0139 | 10.61455  | 483 | < .001      | < .001 |
| hip_flex   | R-L   | - hip_rot  | R-R   | 0.13605    | 0.0139 | 9.79981   | 483 | < .001      | < .001 |
| hip_flex   | R-L   | - knee     | R-L   | 0.08525    | 0.0139 | 6.14056   | 483 | < .001      | < .001 |
| hip_flex   | R-L   | - knee     | R-R   | -0.17564   | 0.0139 | -12.65164 | 483 | < .001      | < .001 |
| hip_flex   | R-L   | - subt     | R-L   | 0.14888    | 0.0139 | 10.72402  | 483 | < .001      | < .001 |
| hip_flex   | R-L   | - subt     | R-R   | 0.11890    | 0.0139 | 8.56456   | 483 | < .001      | < .001 |
| hip_flex   | R-R   | - hip_rot  | R-R   | 0.09020    | 0.0139 | 6.49734   | 483 | < .001      | < .001 |
| hip_flex   | R-R   | - knee     | R-R   | -0.22148   | 0.0139 | -15.95411 | 483 | < .001      | < .001 |
| hip_flex   | R-R   | - subt     | R-R   | 0.07305    | 0.0139 | 5.26209   | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - ankle    | L-R   | -0.16786   | 0.0139 | -12.09130 | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - ankle    | R-L   | -0.17923   | 0.0139 | -12.91061 | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - ankle    | R-R   | -0.04484   | 0.0139 | -3.23001  | 483 | 0.365       | 0.104  |
| hip_rot    | L-L   | - hip_addu | L-R   | -0.10203   | 0.0139 | -7.34919  | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - hip_addu | R-L   | -0.09756   | 0.0139 | -7.02721  | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - hip_addu | R-R   | -0.13219   | 0.0139 | -9.52217  | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - hip_flex | L-R   | -0.10850   | 0.0139 | -7.81547  | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - hip_flex | R-L   | -0.12359   | 0.0139 | -8.90222  | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - hip_flex | R-R   | -0.07774   | 0.0139 | -5.59975  | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - hip_rot  | L-R   | 0.01375    | 0.0139 | 0.99033   | 483 | 1.000       | 1.000  |
| hip_rot    | L-L   | - hip_rot  | R-L   | 0.02377    | 0.0139 | 1.71233   | 483 | 1.000       | 1.000  |
| hip_rot    | L-L   | - hip_rot  | R-R   | 0.01246    | 0.0139 | 0.89759   | 483 | 1.000       | 1.000  |
| hip_rot    | L-L   | - knee     | L-L   | -0.27885   | 0.0139 | -20.08646 | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - knee     | L-R   | -0.03946   | 0.0139 | -2.84273  | 483 | 1.000       | 0.326  |
| hip_rot    | L-L   | - knee     | R-L   | -0.03834   | 0.0139 | -2.76167  | 483 | 1.000       | 0.400  |
| hip_rot    | L-L   | - knee     | R-R   | -0.29922   | 0.0139 | -21.55386 | 483 | < .001      | < .001 |
| hip_rot    | L-L   | - subt     | L-L   | 0.00812    | 0.0139 | 0.58516   | 483 | 1.000       | 1.000  |
| hip_rot    | L-L   | - subt     | L-R   | 0.00795    | 0.0139 | 0.57300   | 483 | 1.000       | 1.000  |
| hip_rot    | L-L   | - subt     | R-L   | 0.02529    | 0.0139 | 1.82180   | 483 | 1.000       | 1.000  |
| hip_rot    | L-L   | - subt     | R-R   | -0.00469   | 0.0139 | -0.33766  | 483 | 1.000       | 1.000  |
| hip_rot    | L-R   | - ankle    | R-L   | -0.19298   | 0.0139 | -13.90094 | 483 | < .001      | < .001 |
| hip_rot    | L-R   | - ankle    | R-R   | -0.05859   | 0.0139 | -4.22034  | 483 | 0.008       | 0.003  |
| hip_rot    | L-R   | - hip_addu | R-L   | -0.11130   | 0.0139 | -8.01754  | 483 | < .001      | < .001 |
| hip_rot    | L-R   | - hip_addu | R-R   | -0.14594   | 0.0139 | -10.51250 | 483 | < .001      | < .001 |
| hip_rot    | L-R   | - hip_flex | R-L   | -0.13733   | 0.0139 | -9.89255  | 483 | < .001      | < .001 |
| hip_rot    | L-R   | - hip_flex | R-R   | -0.09149   | 0.0139 | -6.59008  | 483 | < .001      | < .001 |
| hip_rot    | L-R   | - hip_rot  | R-L   | 0.01002    | 0.0139 | 0.72200   | 483 | 1.000       | 1.000  |
| hip_rot    | L-R   | - hip_rot  | R-R   | -0.00129   | 0.0139 | -0.09274  | 483 | 1.000       | 1.000  |
| hip_rot    | L-R   | - knee     | L-R   | -0.05321   | 0.0139 | -3.83306  | 483 | 0.040       | 0.014  |
| hip_rot    | L-R   | - knee     | R-L   | -0.05209   | 0.0139 | -3.75200  | 483 | 0.054       | 0.018  |
| hip_rot    | L-R   | - knee     | R-R   | -0.31297   | 0.0139 | -22.54419 | 483 | < .001      | < .001 |
| hip_rot    | L-R   | - subt     | L-R   | -0.00579   | 0.0139 | -0.41733  | 483 | 1.000       | 1.000  |
| hip_rot    | L-R   | - subt     | R-L   | 0.01154    | 0.0139 | 0.83147   | 483 | 1.000       | 1.000  |
| hip_rot    | L-R   | - subt     | R-R   | -0.01844   | 0.0139 | -1.32799  | 483 | 1.000       | 1.000  |
| hip_rot    | R-L   | - ankle    | R-R   | -0.06861   | 0.0139 | -4.94235  | 483 | < .001      | < .001 |
| hip_rot    | R-L   | - hip_addu | R-R   | -0.15596   | 0.0139 | -11.23450 | 483 | < .001      | < .001 |
| hip_rot    | R-L   | - hip_flex | R-R   | -0.10151   | 0.0139 | -7.31208  | 483 | < .001      | < .001 |
| hip_rot    | R-L   | - hip_rot  | R-R   | -0.01131   | 0.0139 | -0.81475  | 483 | 1.000       | 1.000  |
| hip_rot    | R-L   | - knee     | R-L   | -0.06211   | 0.0139 | -4.47400  | 483 | 0.003       | 0.001  |
| hip_rot    | R-L   | - knee     | R-R   | -0.32299   | 0.0139 | -23.26620 | 483 | < .001      | < .001 |

## Post Hoc Comparisons - angulo \* lados

| Comparison |       |            |       | Difference | SE     | t         | df  | Pbonferroni | Pholm  |
|------------|-------|------------|-------|------------|--------|-----------|-----|-------------|--------|
| angulo     | lados | angulo     | lados |            |        |           |     |             |        |
| hip_rot    | R-L   | - subt     | R-L   | 0.00152    | 0.0139 | 0.10946   | 483 | 1.000       | 1.000  |
| hip_rot    | R-L   | - subt     | R-R   | -0.02846   | 0.0139 | -2.05000  | 483 | 1.000       | 1.000  |
| hip_rot    | R-R   | - knee     | R-R   | -0.31168   | 0.0139 | -22.45145 | 483 | < .001      | < .001 |
| hip_rot    | R-R   | - subt     | R-R   | -0.01715   | 0.0139 | -1.23525  | 483 | 1.000       | 1.000  |
| knee       | L-L   | - ankle    | L-R   | 0.11099    | 0.0139 | 7.99517   | 483 | < .001      | < .001 |
| knee       | L-L   | - ankle    | R-L   | 0.09962    | 0.0139 | 7.17585   | 483 | < .001      | < .001 |
| knee       | L-L   | - ankle    | R-R   | 0.23401    | 0.0139 | 16.85645  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_addu | L-R   | 0.17683    | 0.0139 | 12.73728  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_addu | R-L   | 0.18130    | 0.0139 | 13.05925  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_addu | R-R   | 0.14666    | 0.0139 | 10.56429  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_flex | L-R   | 0.17035    | 0.0139 | 12.27099  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_flex | R-L   | 0.15527    | 0.0139 | 11.18424  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_flex | R-R   | 0.20111    | 0.0139 | 14.48671  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_rot  | L-R   | 0.29260    | 0.0139 | 21.07679  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_rot  | R-L   | 0.30262    | 0.0139 | 21.79880  | 483 | < .001      | < .001 |
| knee       | L-L   | - hip_rot  | R-R   | 0.29131    | 0.0139 | 20.98405  | 483 | < .001      | < .001 |
| knee       | L-L   | - knee     | L-R   | 0.23939    | 0.0139 | 17.24373  | 483 | < .001      | < .001 |
| knee       | L-L   | - knee     | R-L   | 0.24051    | 0.0139 | 17.32480  | 483 | < .001      | < .001 |
| knee       | L-L   | - knee     | R-R   | -0.02037   | 0.0139 | -1.46740  | 483 | 1.000       | 1.000  |
| knee       | L-L   | - subt     | L-L   | 0.28697    | 0.0139 | 20.67163  | 483 | < .001      | < .001 |
| knee       | L-L   | - subt     | L-R   | 0.28680    | 0.0139 | 20.65947  | 483 | < .001      | < .001 |
| knee       | L-L   | - subt     | R-L   | 0.30414    | 0.0139 | 21.90826  | 483 | < .001      | < .001 |
| knee       | L-L   | - subt     | R-R   | 0.27416    | 0.0139 | 19.74880  | 483 | < .001      | < .001 |
| knee       | L-R   | - ankle    | R-L   | -0.13977   | 0.0139 | -10.06788 | 483 | < .001      | < .001 |
| knee       | L-R   | - ankle    | R-R   | -0.00538   | 0.0139 | -0.38728  | 483 | 1.000       | 1.000  |
| knee       | L-R   | - hip_addu | R-L   | -0.05809   | 0.0139 | -4.18448  | 483 | 0.009       | 0.004  |
| knee       | L-R   | - hip_addu | R-R   | -0.09273   | 0.0139 | -6.67944  | 483 | < .001      | < .001 |
| knee       | L-R   | - hip_flex | R-L   | -0.08412   | 0.0139 | -6.05949  | 483 | < .001      | < .001 |
| knee       | L-R   | - hip_flex | R-R   | -0.03827   | 0.0139 | -2.75702  | 483 | 1.000       | 0.400  |
| knee       | L-R   | - hip_rot  | R-L   | 0.06324    | 0.0139 | 4.55507   | 483 | 0.002       | < .001 |
| knee       | L-R   | - hip_rot  | R-R   | 0.05192    | 0.0139 | 3.74032   | 483 | 0.057       | 0.018  |
| knee       | L-R   | - knee     | R-L   | 0.00113    | 0.0139 | 0.08107   | 483 | 1.000       | 1.000  |
| knee       | L-R   | - knee     | R-R   | -0.25976   | 0.0139 | -18.71113 | 483 | < .001      | < .001 |
| knee       | L-R   | - subt     | L-R   | 0.04742    | 0.0139 | 3.41573   | 483 | 0.190       | 0.059  |
| knee       | L-R   | - subt     | R-L   | 0.06476    | 0.0139 | 4.66453   | 483 | 0.001       | < .001 |
| knee       | L-R   | - subt     | R-R   | 0.03478    | 0.0139 | 2.50507   | 483 | 1.000       | 0.779  |
| knee       | R-L   | - ankle    | R-R   | -0.00650   | 0.0139 | -0.46835  | 483 | 1.000       | 1.000  |
| knee       | R-L   | - hip_addu | R-R   | -0.09385   | 0.0139 | -6.76050  | 483 | < .001      | < .001 |
| knee       | R-L   | - hip_flex | R-R   | -0.03940   | 0.0139 | -2.83808  | 483 | 1.000       | 0.326  |
| knee       | R-L   | - hip_rot  | R-R   | 0.05080    | 0.0139 | 3.65925   | 483 | 0.078       | 0.024  |
| knee       | R-L   | - knee     | R-R   | -0.26088   | 0.0139 | -18.79220 | 483 | < .001      | < .001 |
| knee       | R-L   | - subt     | R-L   | 0.06363    | 0.0139 | 4.58346   | 483 | 0.002       | < .001 |
| knee       | R-L   | - subt     | R-R   | 0.03365    | 0.0139 | 2.42400   | 483 | 1.000       | 0.943  |
| knee       | R-R   | - subt     | R-R   | 0.29453    | 0.0139 | 21.21620  | 483 | < .001      | < .001 |
| subt       | L-L   | - ankle    | L-R   | -0.17598   | 0.0139 | -12.67646 | 483 | < .001      | < .001 |
| subt       | L-L   | - ankle    | R-L   | -0.18736   | 0.0139 | -13.49578 | 483 | < .001      | < .001 |
| subt       | L-L   | - ankle    | R-R   | -0.05296   | 0.0139 | -3.81517  | 483 | 0.042       | 0.015  |
| subt       | L-L   | - hip_addu | L-R   | -0.11015   | 0.0139 | -7.93435  | 483 | < .001      | < .001 |
| subt       | L-L   | - hip_addu | R-L   | -0.10568   | 0.0139 | -7.61237  | 483 | < .001      | < .001 |

| Comparison |       |            |       | Difference | SE     | t         | df  | Pbonferroni | Pholm  |
|------------|-------|------------|-------|------------|--------|-----------|-----|-------------|--------|
| angulo     | lados | angulo     | lados |            |        |           |     |             |        |
| subt       | L-L   | - hip_addu | R-R   | -0.14031   | 0.0139 | -10.10733 | 483 | < .001      | < .001 |
| subt       | L-L   | - hip_flex | L-R   | -0.11662   | 0.0139 | -8.40063  | 483 | < .001      | < .001 |
| subt       | L-L   | - hip_flex | R-L   | -0.13171   | 0.0139 | -9.48738  | 483 | < .001      | < .001 |
| subt       | L-L   | - hip_flex | R-R   | -0.08586   | 0.0139 | -6.18491  | 483 | < .001      | < .001 |
| subt       | L-L   | - hip_rot  | L-R   | 0.00562    | 0.0139 | 0.40517   | 483 | 1.000       | 1.000  |
| subt       | L-L   | - hip_rot  | R-L   | 0.01565    | 0.0139 | 1.12717   | 483 | 1.000       | 1.000  |
| subt       | L-L   | - hip_rot  | R-R   | 0.00434    | 0.0139 | 0.31242   | 483 | 1.000       | 1.000  |
| subt       | L-L   | - knee     | L-R   | -0.04759   | 0.0139 | -3.42789  | 483 | 0.182       | 0.057  |
| subt       | L-L   | - knee     | R-L   | -0.04646   | 0.0139 | -3.34683  | 483 | 0.243       | 0.073  |
| subt       | L-L   | - knee     | R-R   | -0.30734   | 0.0139 | -22.13903 | 483 | < .001      | < .001 |
| subt       | L-L   | - subt     | L-R   | -1.69e-4   | 0.0139 | -0.01216  | 483 | 1.000       | 1.000  |
| subt       | L-L   | - subt     | R-L   | 0.01717    | 0.0139 | 1.23664   | 483 | 1.000       | 1.000  |
| subt       | L-L   | - subt     | R-R   | -0.01281   | 0.0139 | -0.92283  | 483 | 1.000       | 1.000  |
| subt       | L-R   | - ankle    | R-L   | -0.18719   | 0.0139 | -13.48362 | 483 | < .001      | < .001 |
| subt       | L-R   | - ankle    | R-R   | -0.05280   | 0.0139 | -3.80301  | 483 | 0.045       | 0.015  |
| subt       | L-R   | - hip_addu | R-L   | -0.10551   | 0.0139 | -7.60021  | 483 | < .001      | < .001 |
| subt       | L-R   | - hip_addu | R-R   | -0.14015   | 0.0139 | -10.09517 | 483 | < .001      | < .001 |
| subt       | L-R   | - hip_flex | R-L   | -0.13154   | 0.0139 | -9.47522  | 483 | < .001      | < .001 |
| subt       | L-R   | - hip_flex | R-R   | -0.08569   | 0.0139 | -6.17275  | 483 | < .001      | < .001 |
| subt       | L-R   | - hip_rot  | R-L   | 0.01582    | 0.0139 | 1.13933   | 483 | 1.000       | 1.000  |
| subt       | L-R   | - hip_rot  | R-R   | 0.00451    | 0.0139 | 0.32458   | 483 | 1.000       | 1.000  |
| subt       | L-R   | - knee     | R-L   | -0.04629   | 0.0139 | -3.33467  | 483 | 0.254       | 0.075  |
| subt       | L-R   | - knee     | R-R   | -0.30718   | 0.0139 | -22.12686 | 483 | < .001      | < .001 |
| subt       | L-R   | - subt     | R-L   | 0.01734    | 0.0139 | 1.24880   | 483 | 1.000       | 1.000  |
| subt       | L-R   | - subt     | R-R   | -0.01264   | 0.0139 | -0.91066  | 483 | 1.000       | 1.000  |
| subt       | R-L   | - ankle    | R-R   | -0.07013   | 0.0139 | -5.05181  | 483 | < .001      | < .001 |
| subt       | R-L   | - hip_addu | R-R   | -0.15748   | 0.0139 | -11.34397 | 483 | < .001      | < .001 |
| subt       | R-L   | - hip_flex | R-R   | -0.10303   | 0.0139 | -7.42155  | 483 | < .001      | < .001 |
| subt       | R-L   | - hip_rot  | R-R   | -0.01283   | 0.0139 | -0.92421  | 483 | 1.000       | 1.000  |
| subt       | R-L   | - knee     | R-R   | -0.32451   | 0.0139 | -23.37566 | 483 | < .001      | < .001 |
| subt       | R-L   | - subt     | R-R   | -0.02998   | 0.0139 | -2.15946  | 483 | 1.000       | 1.000  |

Note: Residuals plotted by sujeto

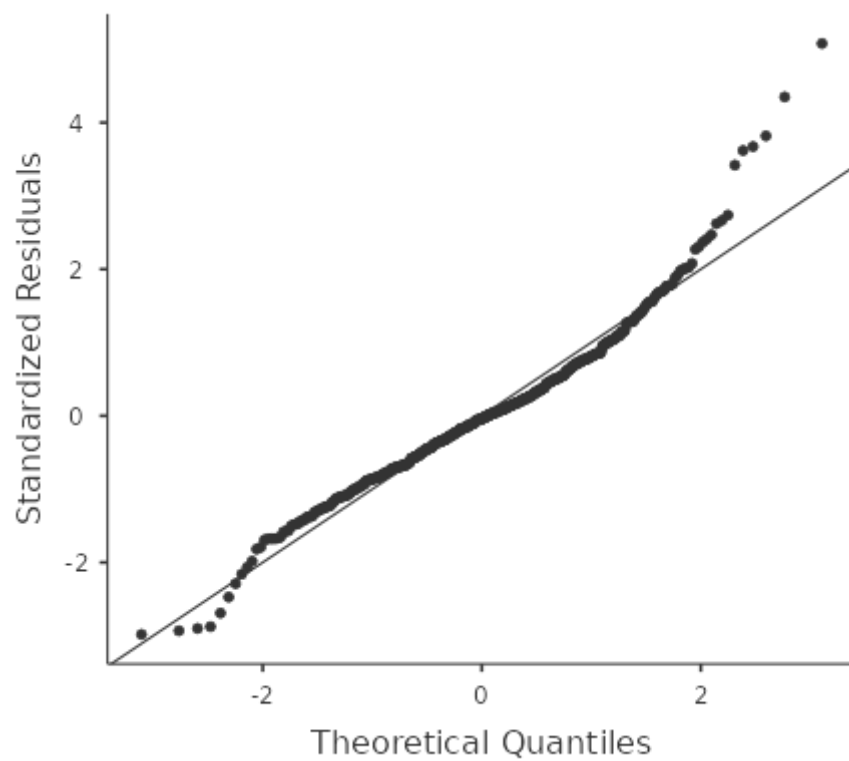
## Assumption Checks

Test for Normality of residuals

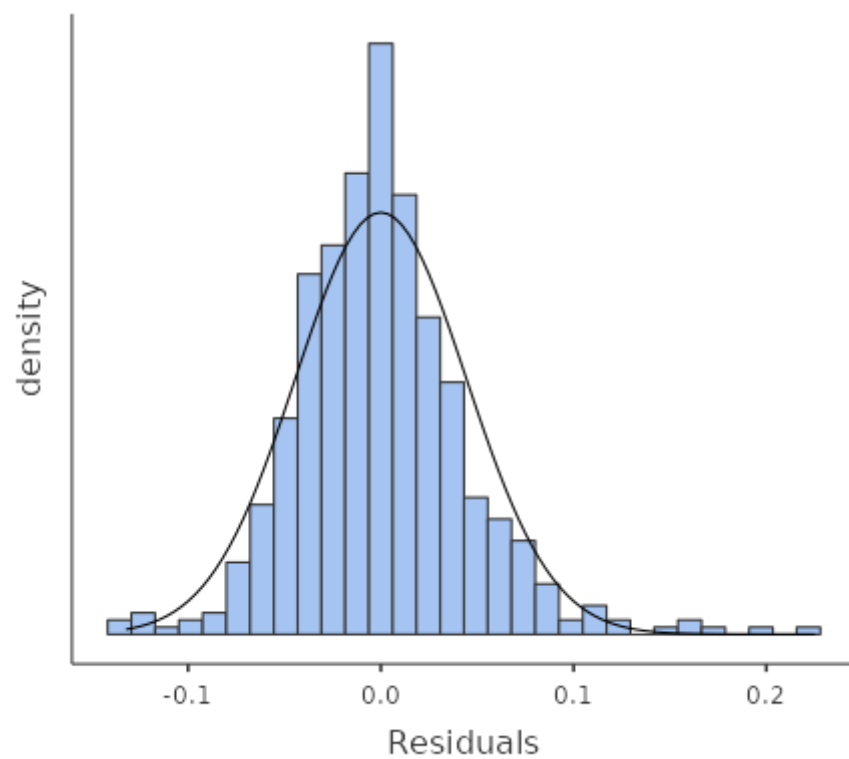
| Test               | Statistics | p      |
|--------------------|------------|--------|
| Kolmogorov-Smirnov | 0.0684     | 0.014  |
| Shapiro-Wilk       | 0.9597     | < .001 |

## Q-Q Plot



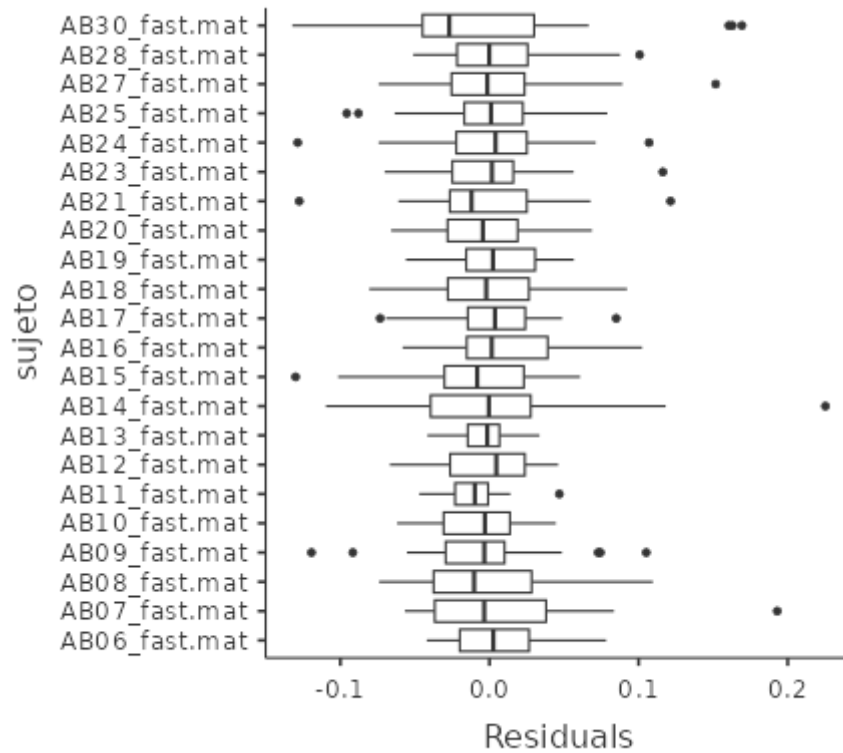


Residual histogram



Residuals by cluster boxplot

Clustering variable: sujeto



## Referencias

- [1] The jamovi project (2023). *jamovi*. (Version 2.4) [Computer Software]. Retrieved from <https://www.jamovi.org>.
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- [3] Gallucci, M. (2019). *GAMLj: General analyses for linear models*. [jamovi module]. Retrieved from <https://gamlj.github.io/>.