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| Variable | Example | Type of Regression | R function / R function for mixed models | More Information |
| Continuous | Age, Quality of Life | linear | [`lm()`](https://www.rdocumentation.org/packages/stats/versions/3.6.2/topics/lm) |  |
| [`lmer()`](https://www.rdocumentation.org/packages/lme4/versions/1.1-21/topics/lmer), [`glmmTMB()`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |  |
| Binary | Success yes/no | binary logistic | [`glm(family=binomial)`](https://www.rdocumentation.org/packages/stats/versions/3.6.2/topics/glm) | https://stats.idre.ucla.edu/r/dae/logit-regression/ |
| [`glmer()`](https://www.rdocumentation.org/packages/lme4/versions/1.1-21/topics/glmer), [`glmmTMB()`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |
| Trials | 20 successes out of 30 trials | logistic | [`glm(cbind(trial,success), family=binomial)`](https://www.rdocumentation.org/packages/stats/versions/3.6.2/topics/glm) | http://had.co.nz/notes/modelling/logistic-regression.html |
| [`glmer()`](https://www.rdocumentation.org/packages/lme4/versions/1.1-21/topics/glmer), [`glmmTMB()`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |
| Count data | Number of usage, counts of events | Poisson | [`glm(family=poisson)`](https://www.rdocumentation.org/packages/stats/versions/3.6.2/topics/glm) | https://stats.idre.ucla.edu/r/dae/poisson-regression/ |
| [`glmer()`](https://www.rdocumentation.org/packages/lme4/versions/1.1-21/topics/glmer), [`glmmTMB()`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |
| Count data, with excess zeros or overdispersion | Number of usage, counts of events (with higher variance than mean of response) | negative binomial | [`glm.nb()`](https://www.rdocumentation.org/packages/MASS/versions/7.3-47/topics/glm.nb) | https://stats.idre.ucla.edu/r/dae/negative-binomial-regression/ |
| [`glmer.nb()`](https://www.rdocumentation.org/packages/lme4/versions/1.1-21/topics/glmer.nb), [`glmmTMB(family=nbinom)`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |
| Count data with very many zeros (inflation) | see count data, but response is modelled as mixture of Bernoulli Poisson distribution | zero-inflated | zeroinfl() | https://stats.idre.ucla.edu/r/dae/zip/ |
| [`glmmTMB(ziformula, family=poisson)`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |
| Count data, with very many zeros (inflation) and overdispersion | Number of usage, counts of events (with higher variance than mean of response) | zero-inflated negative binomial | zeroinfl(dist="negbin") | https://stats.idre.ucla.edu/r/dae/zinb/ |
| [`glmmTMB(ziformula, family=nbinom)`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |
| Count data with very many zeros | see count data, but Bernoulli probability governs whether response is zero or positive | hurdle | hurdle() | https://stats.idre.ucla.edu/r/dae/zero-truncated-poisson/ |
| [`glmmTMB(family=truncated\_\*)`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |
| Proportion / Ratio (without zero and one) | Percentages, proportions | Beta | betareg() |  |
| [`glmmTMB(family=beta)`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |  |
| Proportion / Ratio (including zero and one) | Percentages, proportions | Beta-Binomial | [`BBreg()`](https://www.rdocumentation.org/packages/HRQoL/versions/1.0/topics/BBreg), [`betabin()`](https://www.rdocumentation.org/packages/aod/versions/1.3.1/topics/betabin) |  |
| Ordinal | Likert scale, worse/ok/better | ordinal, proportional odds | [`polr()`](https://www.rdocumentation.org/packages/MASS/versions/7.3-47/topics/polr), clm() | https://stats.idre.ucla.edu/r/dae/ordinal-logistic-regression/ |
| clmm(), mixor(), MCMCglmm() |
| Cumulative, multinomial | No natural order of categories, like red/green/blue | cumulative link, multinomial | multinom(), clm(),bracl(), brmultinom() | https://stats.idre.ucla.edu/r/dae/multinomial-logistic-regression/ |
| clmm(), mixor(), MCMCglmm() |
| Continuous, right-skewed | Financial data, reaction times | Gamma | [`glm(family=Gamma)`](https://www.rdocumentation.org/packages/stats/versions/3.6.2/topics/glm) |  |
| [`glmer()`](https://www.rdocumentation.org/packages/lme4/versions/1.1-21/topics/glmer), [`glmmTMB()`](https://www.rdocumentation.org/packages/glmmTMB/versions/0.2.3/topics/glmmTMB) |  |
| Continuous, but truncated or outliers |  | truncated | censReg(), tobit(), vglm(tobit()) | https://stats.idre.ucla.edu/r/dae/tobit-models/, https://stats.idre.ucla.edu/r/dae/truncated-regression/ |
|  |  | Dirichlet |  |  |