

Variable	Example	Type of Regression	R function / R function for mixed models
Continuous	Age, Quality of Life	linear	lm
			<pre>lmer(), glmmTMB()</pre>
Binary	Success yes/no	binary logistic	<pre>glm(family=binomial)</pre>
			<pre>glmer(), glmmTMB()</pre>
Trials (or proportion of counts)	20 successes out of 30 trials	logistic	<pre>glm(cbind(trial, success), family=binomial)</pre>
			<pre>glmer(), glmmTMB()</pre>
Count data	Number of usage, counts of events	Poisson	glm(family=poisson)
			<pre>glmer(), glmmTMB()</pre>
Count data, with excess zeros or overdispersion	Number of usage, counts of events (with higher variance than mean of response)	negative binomial	glm.nb()
			<pre>glmer.nb(), glmmTMB(family=nbinom)</pre>
Count data with very many zeros (inflation)	see count data, but response is modelled as mixture of Bernoulli Poisson distribution	zero-inflated	zeroinfl()
			glmmTMB(ziformula, family=poisson)
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")
			glmmTMB(ziformula, family=nbinom)
Count data with very many zeros	see count data, but Bernoulli probability governs whether response is zero or positive	hurdle	hurdle()
			<pre>glmmTMB(family=truncated_*)</pre>
Proportion / Ratio (without zero and one)	Percentages, proportions of continuous data	Beta (see note below)	betareg()
			glmmTMB(family=beta)
Proportion / Ratio (including zero and one)	Percentages, proportions of continuous data	Beta-Binomial	BBreg(), betabin()
Ordinal	Likert scale, worse/ok/better	ordinal, proportional odds	polr(), clm()
			<pre>clmm(), mixor(), MCMCglmm()</pre>
Cumulative, multinomial	No natural order of categories, like red/green/blue	cumulative link, multinomial	<pre>multinom(), clm(),bracl(), brmultinom()</pre>
			<pre>clmm(), mixor(), MCMCglmm()</pre>
Continuous, right- skewed	Financial data, reaction times	Gamma	glm(family=Gamma)
			<pre>glmer(), glmmTMB()</pre>
Continuous, but truncated or outliers		truncated	<pre>censReg(), tobit(), vglm(tobit())</pre>
		Dirichlet	

Note that ratios or proportions from count data, like cbind(trials, success), are modelled as logistic regression with glm(cbind(trials, success), family=binomial()), while ratios from continuous data where the response ranges from 0 to 1 are modelled using beta-regression.