

**posterior\_epred()** gives the draws from the expected value of the posterior predictive distribution, or the average of each draw from `posterior_predict()`.

In logistic regression, this is  **$\pi$  on the probability scale** (or inverse logit).

**posterior\_linpred(transform = TRUE)** also gives the posterior draws of  **$\pi$  on the probability scale**.

$$y_i \sim \text{Binomial}(1, \pi_i)$$
$$\text{logit}(\pi_i) = \alpha + \beta x_i$$

**posterior\_linpred()** gives the posterior draws of  **$\pi$  on the logit or log odds scale**.

**posterior\_predict()** gives the draws from a random binomial distribution with draws from the posterior distribution of  $\pi$ .

**These are 0s and 1s.**

**posterior\_epred()** gives the draws from the expected value of the posterior predictive distribution, or the average of each draw from `posterior_predict()`.

In Gaussian regression, this is the **same as the linear predictor  $\mu$** .

$$E(y_i)$$

$$y_i \sim \text{Normal}(\mu_i, \sigma)$$

$$\mu_i = \alpha + \beta x_i$$

**posterior\_linpred()** gives the posterior draws of the linear model.

**posterior\_predict()** gives the draws from a random normal distribution with draws from the posterior distributions of  $\mu$  and  $\sigma$ .

$$E(y_i)$$

$$y_i \sim \text{Beta}(\mu_i, \phi_i)$$

$$\text{logit}(\mu_i) = \alpha_\mu + \beta_\mu x_i$$

$$\log(\phi_i) = \alpha_\phi + \beta_\phi x_i$$

`posterior_epred()` gives the draws from the expected value of the posterior predictive distribution, or the average of each draw from `posterior_predict()`.

In beta regression, this is  **$\mu$  on the proportion or probability scale** (or inverse logit).

`posterior_linpred(transform = TRUE)` also gives the posterior draws of  **$\mu$  on the proportion or probability scale**.

`posterior_linpred(dpar = "phi", transform = TRUE)` also gives the posterior draws of  **$\phi$  on the unlogged scale**.

`posterior_predict()` gives the draws from a random beta distribution with draws from the posterior distribution of  $\pi$ .

**These are proportions or probabilities between 0–1.**

`posterior_linpred()` gives the posterior draws of  **$\mu$  on the logit or log odds scale**.

`posterior_linpred(dpar = "phi")` gives the posterior draws of  **$\phi$  on the log scale**.