

Plotting Logistic Regression estimates

The Dataset

BDHS 2017 (<https://dhsprogram.com/publications/publication-FR344-DHS-Final-Reports.cfm>)

Convert the character columns to factors

```
library(purrr)
df <- df %>% modify_if(is.character, as.character)
```

OR

```
df <- df %>% mutate_if(is.character, as.factor)
```

Select numeric variables if appropriate

```
df <- select_if(df, is.numeric)
```

Running the model

```
lr <- glm(wst ~ place + edu + wealth,  
          family="binomial",  
          data=df1)  
  
summary(lr)
```

Model summary

```
summary(lr)
```

Call:

```
glm(formula = wst ~ place + edu + wealth, family = "binomial",  
     data = df)
```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-1.5976	-1.1662	0.8596	1.0440	1.5793

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-0.19995	0.10321	-1.937	0.05272	.
placeurban	-0.03280	0.06324	-0.519	0.60400	
eduno education	0.80923	0.11596	6.978	0.000000000029839	***
eduprimary	0.66567	0.10368	6.420	0.0000000001358994	***
edusecondary	0.44123	0.09291	4.749	0.0000020447635205	***
wealthpoorer	0.08082	0.08491	0.952	0.34119	
wealthpoorest	0.33954	0.08664	3.919	0.0000889544455359	***
wealthricher	-0.26769	0.08221	-3.256	0.00113	**
wealthrichest	-0.67557	0.09063	-7.454	0.000000000000905	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Making the plot

```
visreg(lr, "edu",  
       gg = TRUE) +  
  labs(title = "Relationship between wasting and mother's education among  
under-5 children in Bangladesh",  
       y = "Wasting(weight-for-height)",  
       x = "Mother's education ") + theme_classic() +  
  theme(text = element_text(size=18))
```

The final Plot

Relationship between wasting and mother's education among under-5 children in Bangladesh

