

Writing Stats

Linear Modelling for Normalized Error (Word Count)

Our Linear Model:

$$\text{NormalizedError}_{\text{WordCount}} = 1 + \text{Group} + \text{Session} + 1|\text{Subject}$$

```
## Linear mixed-effects model fit by REML
## Data: full_nlp_df
##      AIC      BIC    logLik
## -152.4273 -139.2894 82.21364
##
## Random effects:
## Formula: ~1 | Subject
##      (Intercept)  Residual
## StdDev:  0.04057394 0.05240037
##
## Fixed effects: NormalizedErrorWC ~ 1 + Group + Session
##              Value Std.Error DF   t-value p-value
## (Intercept)  0.09486763 0.01771139 34   5.356307  0.0000
## GroupIN      0.01256807 0.02251021 32   0.558328  0.5805
## GroupBF     -0.01478782 0.02342937 32  -0.631166  0.5324
## SessionDT   -0.01522474 0.01252608 34  -1.215443  0.2326
## Correlation:
##      (Intr) GropIN GropBF
## GroupIN   -0.688
## GroupBF   -0.661  0.520
## SessionDT -0.354  0.000  0.000
##
## Standardized Within-Group Residuals:
##      Min      Q1      Med      Q3      Max
## -1.3956581 -0.5917229 -0.2636191  0.5016462  2.9588115
##
## Number of Observations: 70
## Number of Groups: 35
```

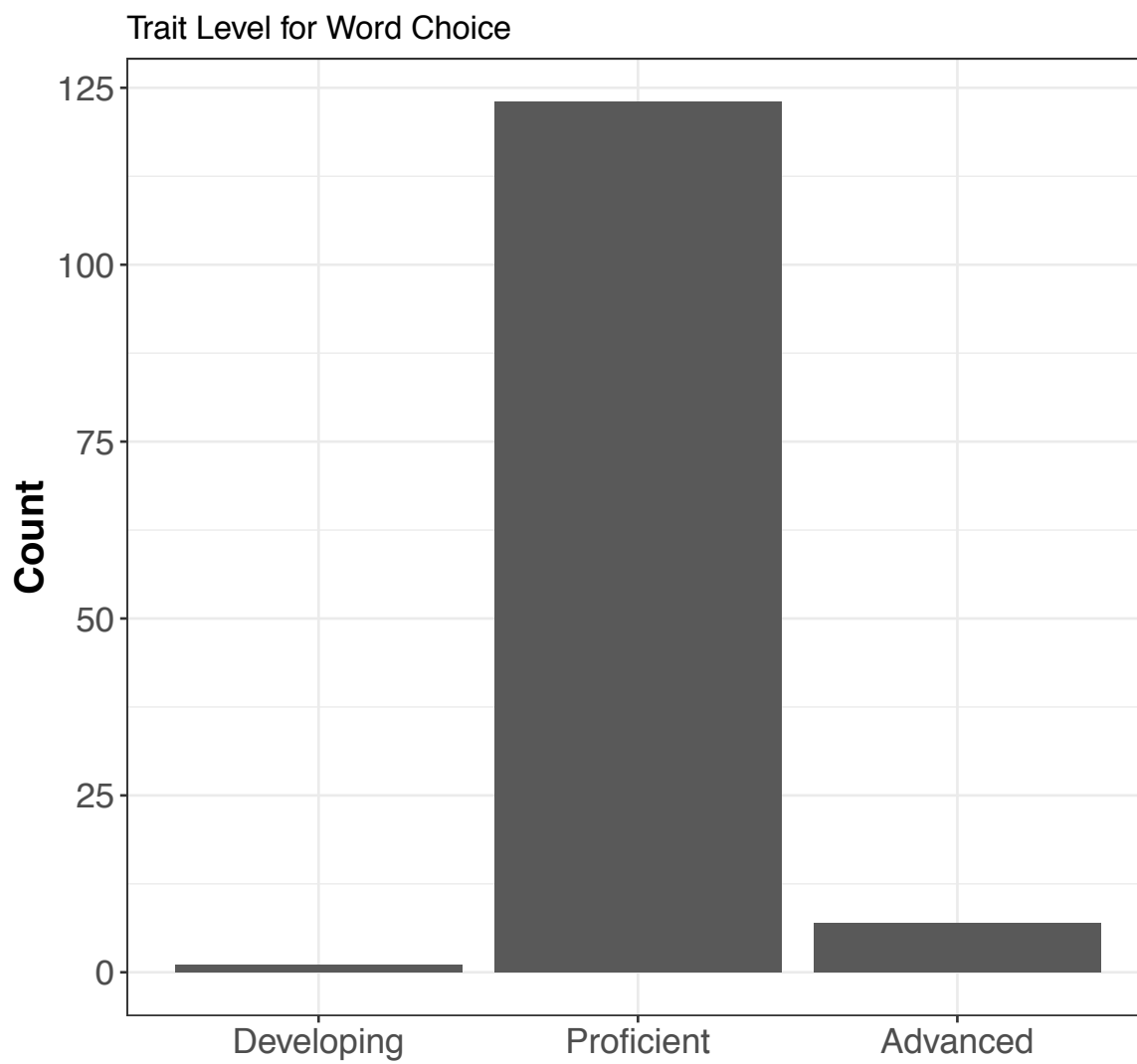
Linear Modelling for Normalized Error (Sentence Count)

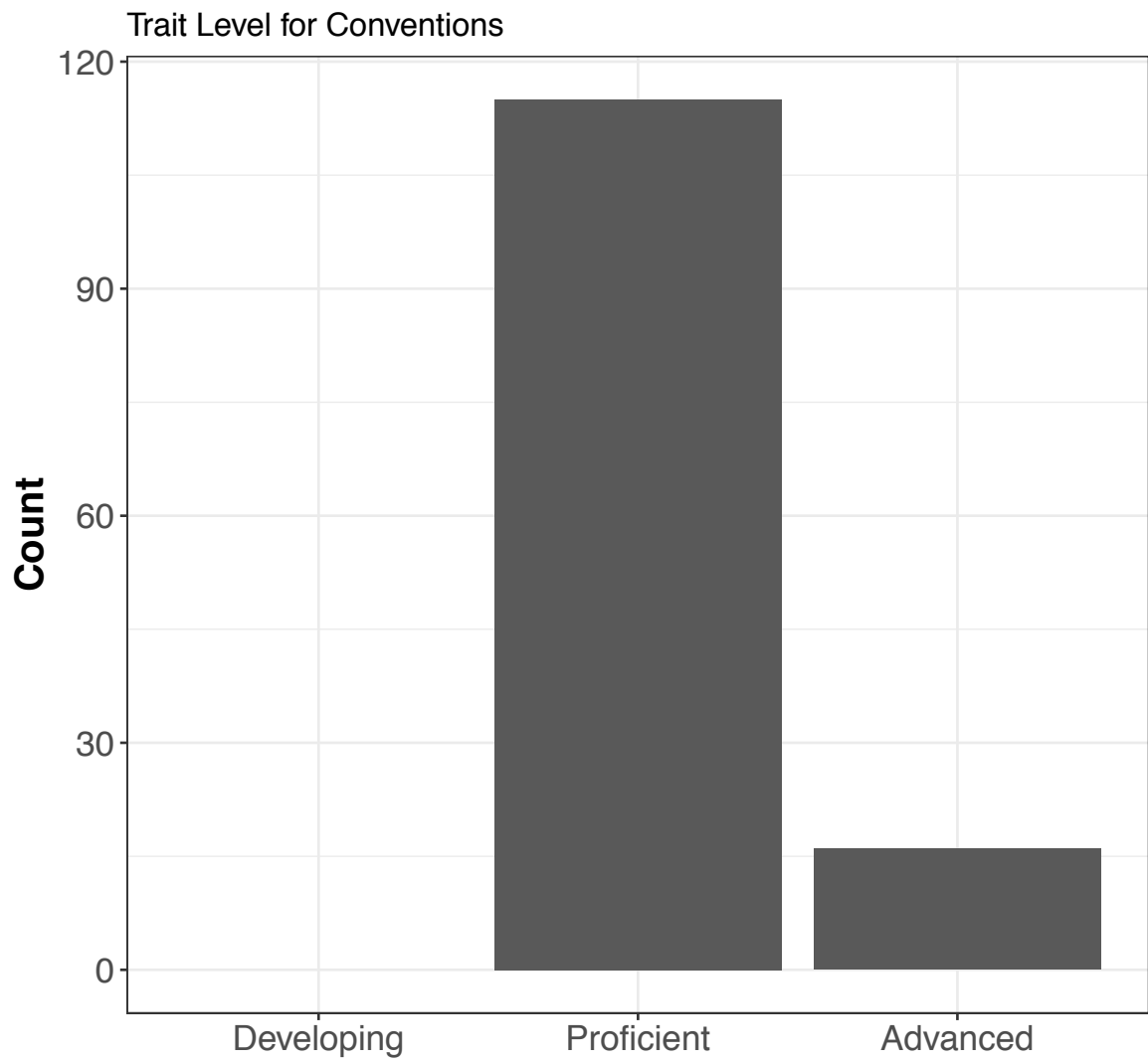
Our Linear Model:

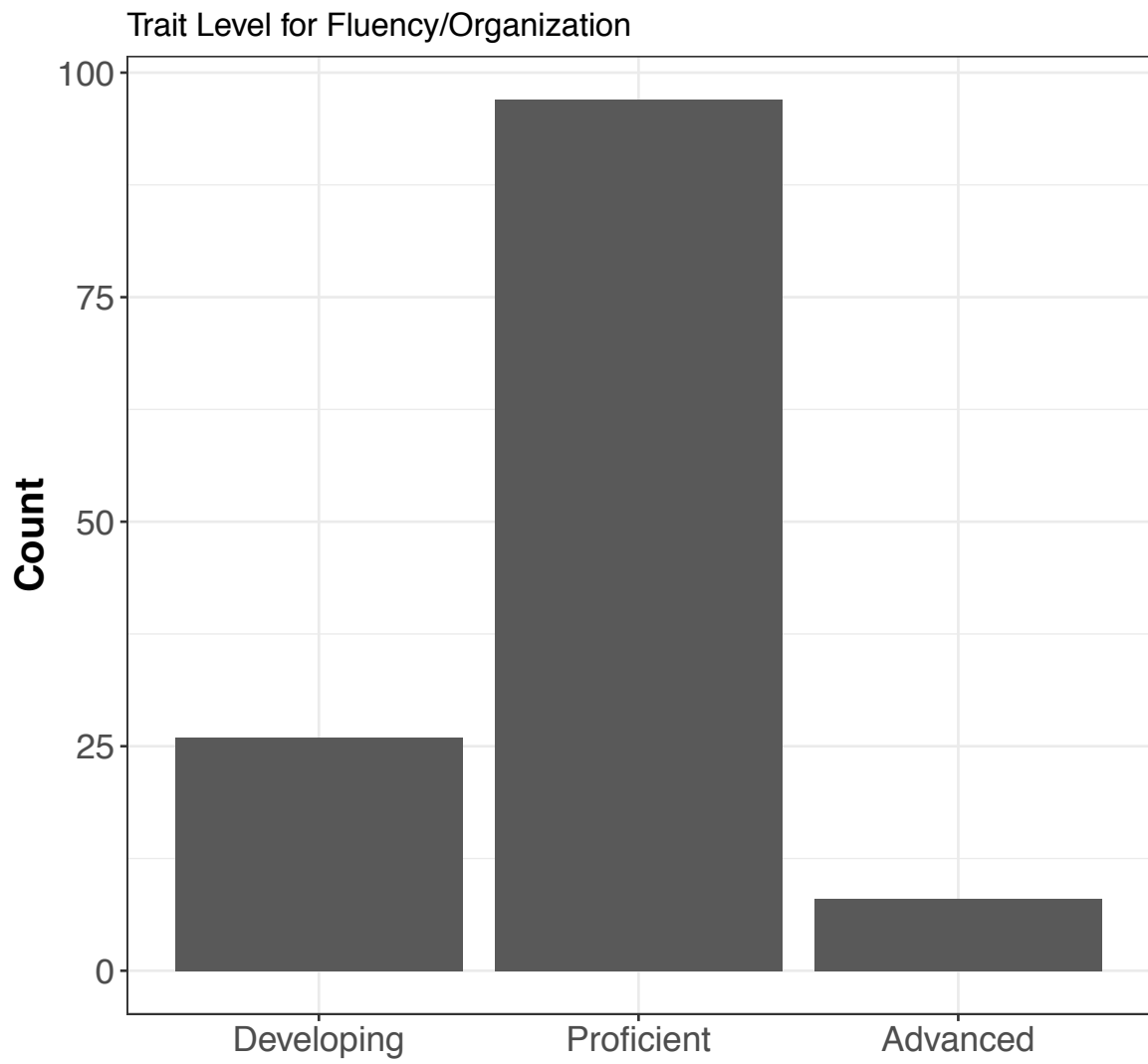
$$WritingQuality_{SentenceCount} = 1 + Group + Session + 1|Subject$$

```
## Linear mixed-effects model fit by REML
## Data: full_nlp_df
##      AIC      BIC    logLik
##  222.0547 235.1926 -105.0273
##
## Random effects:
## Formula: ~1 | Subject
##      (Intercept) Residual
## StdDev:    0.5990317 0.9363135
##
## Fixed effects: NormalizedErrorSC ~ 1 + Group + Session
##              Value Std.Error DF   t-value p-value
## (Intercept)  1.7182379 0.2915390 34   5.893681  0.0000
## GroupIN      0.1326920 0.3657766 32   0.362768  0.7192
## GroupBF     -0.2069830 0.3807124 32  -0.543673  0.5904
## SessionDT   -0.1697017 0.2238217 34  -0.758200  0.4536
## Correlation:
##      (Intr) GropIN GropBF
## GroupIN   -0.680
## GroupBF   -0.653  0.520
## SessionDT -0.384  0.000  0.000
##
## Standardized Within-Group Residuals:
##      Min      Q1      Med      Q3      Max
## -1.6761378 -0.6136652 -0.1705602  0.4622141  2.3204444
##
## Number of Observations: 70
## Number of Groups: 35
```

Plotting Trait Levels







Batch Nothing (BN) Writing Times

