artes_llms

```
dialect_LLMs_tidy <- read_delim("dialect_LLMs_tidy.csv",
                                delim = ";", escape_double = FALSE, trim_ws = TRUE)
```

```
Rows: 48 Columns: 10
-- Column specification --------------------------------------------------------
Delimiter: ";"
chr (9): variety, feature, model, text, prompt, output, thought_process, cor...
dbl (1): ID

i Use `spec()` to retrieve the full column specification for this data.
i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

Preprocessing, cleaning etc.

```
dialect_LLMs_tidy_corr <- dialect_LLMs_tidy |>
  group_by(variety) |>
  count(correction) |>
  mutate(percentage = proportions(n) * 100)

dialect_LLMs_tidy_corr <- dialect_LLMs_tidy_corr |>
  mutate(
    correction = case_when(
      correction == "y" ~ "yes",
      correction == "n" ~ "no"))

#dialect_LLMs_tidy_corr <- dialect_LLMs_tidy_corr |>
  #mutate(variety = recode(variety,
                          #"WME" = "White Mainstream English",
                          #"AAE" = "African American English",
```

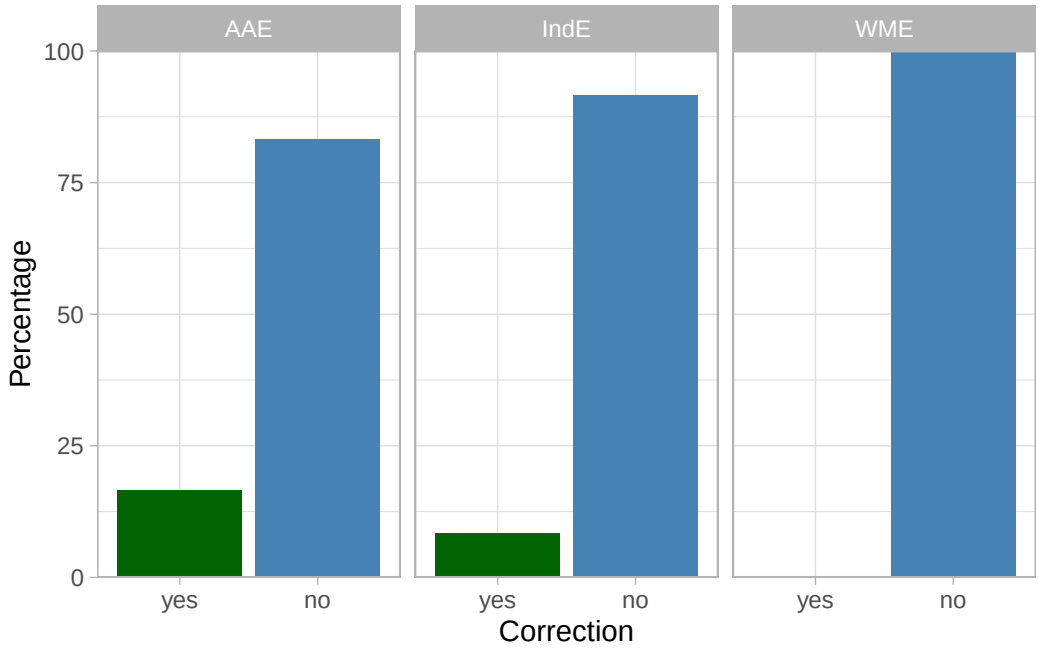
```
                          #"IndE" = "Indian English"))

dialect_LLMs_tidy_corr$correction<- factor(
  dialect_LLMs_tidy_corr$correction,
  levels = c("yes", "no")
)
```

```
dialect_LLMs_tidy_model <- dialect_LLMs_tidy |>
  group_by(model, variety) |>
  count(correction) |>
  mutate(percentage = proportions(n) * 100)

dialect_LLMs_tidy_model <- dialect_LLMs_tidy_model |>
  mutate(
    correction = case_when(
      correction == "y" ~ "yes",
      correction == "n" ~ "no"))

dialect_LLMs_tidy_model$correction<- factor(
  dialect_LLMs_tidy_model$correction,
  levels = c("yes", "no")
)

dialect_LLMs_tidy_model$model<- factor(
  dialect_LLMs_tidy_model$model,
  levels = c("GPT", "Meta Llama", "DeepSeek")
)
```

Plots

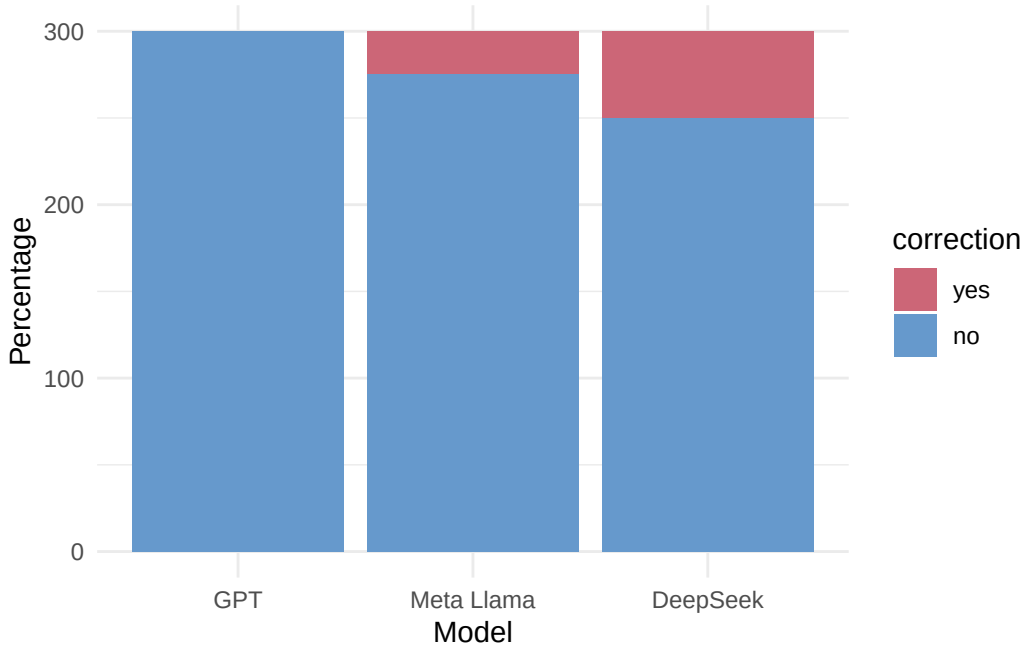
```
gg_correction1 <- ggplot(dialect_LLMs_tidy_corr,
       aes(x = correction,
           y = percentage,
           fill = correction)) +
  facet_wrap(~ variety) +
  geom_col()+
  labs(x = "Correction",
       y = "Percentage") +
  scale_y_continuous(expand = c(0,0)) +
```

```
  #                     limits = c(0,60)) +
  scale_fill_manual(values = c("yes" = "darkgreen",
                               "no" = "steelblue")) +
  theme_light() +
  theme(legend.position = "none")

gg_correction1
```



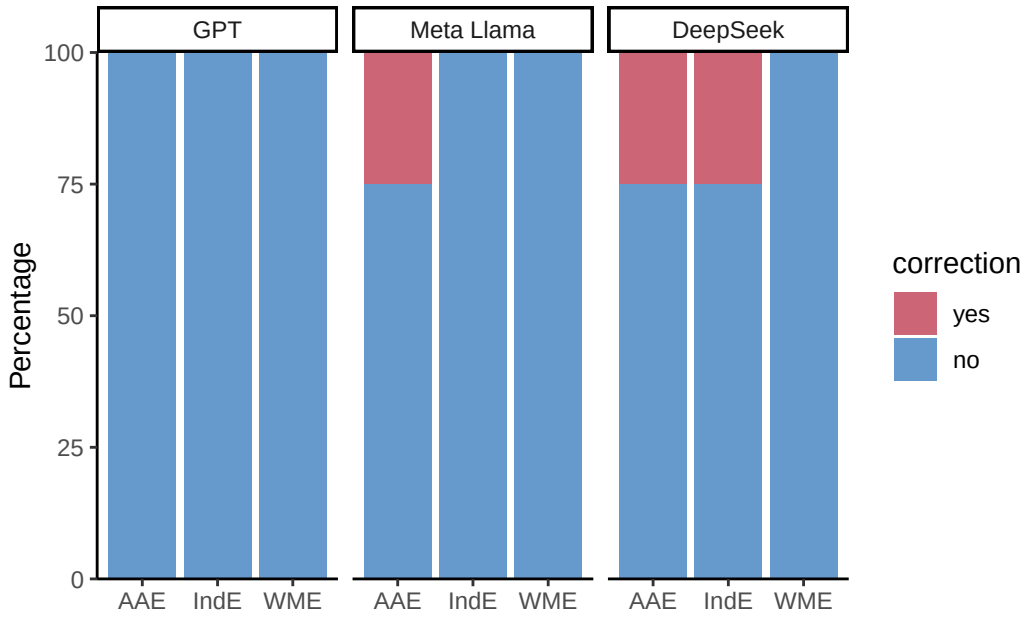

```
# correction across varieties, divided into models

gg_correction2 <- ggplot(dialect_LLMs_tidy_model,
                         aes(x = model,
                             y = percentage,
                             fill = correction)) +
  #facet_wrap(~ variety) +
  geom_bar(stat="identity")+
  labs(x = "Model",
       y = "Percentage") +
  #scale_y_continuous(expand = c(0,0)) +
  #                   limits = c(0,60)) +
  scale_fill_manual(values = c("#CC6677","#6699CC")) +
  theme_minimal()
```

```
gg_correction2
```



Plotting for model

```
gg_model <- ggplot(dialect_LLMs_tidy_model,
                         aes(x = variety,
                             y = percentage,
                             fill = correction)) +
  facet_wrap(~ model) +
  geom_col()+
  labs(x = "",
       y = "Percentage") +
  scale_y_continuous(expand = c(0,0)) +
  #                   limits = c(0,60)) +
  scale_fill_manual(values = c("#CC6677","#6699CC")) +
  theme_classic()

gg_model
```



Table

```
corr_table <- table(dialect_LLMs_tidy$variety, dialect_LLMs_tidy$correction, dialect_LLMs_tid

kbl(corr_table, col.names = c("Variety", "Correction", "Model", "Frequency"), booktabs = T)
  kable_styling(latex_options = "striped")
```

```
#table(dialect_LLMs_tidy_corr$variety, dialect_LLMs_tidy_corr$n)
```

Variety	Correction	Model	Frequency
AAE	n	DeepSeek	3
IndE	n	DeepSeek	3
WME	n	DeepSeek	8
AAE	y	DeepSeek	1
IndE	y	DeepSeek	1
WME	y	DeepSeek	0
AAE	n	GPT	4
IndE	n	GPT	4
WME	n	GPT	8
AAE	y	GPT	0
IndE	y	GPT	0
WME	y	GPT	0
AAE	n	Meta Llama	3
IndE	n	Meta Llama	4
WME	n	Meta Llama	8
AAE	y	Meta Llama	1
IndE	y	Meta Llama	0
WME	y	Meta Llama	0