EDA

Ana Baciero

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Data sets:

Experiment 1

```
E1<- exp1_data_to_include%>%
  select(participant, TrialID, StimulusType, Condition, PrimeDuration, Prime, Target, corr, rt)%>%
  mutate(participant=factor(participant),
         TrialID = factor(TrialID))

head(E1)
```

```
## # A tibble: 6 x 9
##   participant    TrialID StimulusType Condition PrimeDuration Prime Target  corr
##   <fct>          <fct>   <fct>        <fct>     <fct>         <chr> <chr>  <int>
## 1 5755c957eb80c~ 229     Word         Unrelated 33 ms         frin~ MOTHER     1
## 2 5755c957eb80c~ 400     Nonword      Identical 50 ms         wear~ WEAROX     1
## 3 5755c957eb80c~ 103     Word         Identical 33 ms         boun~ BOUNCE     1
## 4 5755c957eb80c~ 324     Nonword      Identical 33 ms         stei~ STEIKH     1
## 5 5755c957eb80c~ 183     Word         Unrelated 33 ms         slea~ MILDEW     1
## 6 5755c957eb80c~ 66      Word         Identical 33 ms         gosp~ GOSPEL     1
## # ... with 1 more variable: rt <dbl>
```

Experiment 2

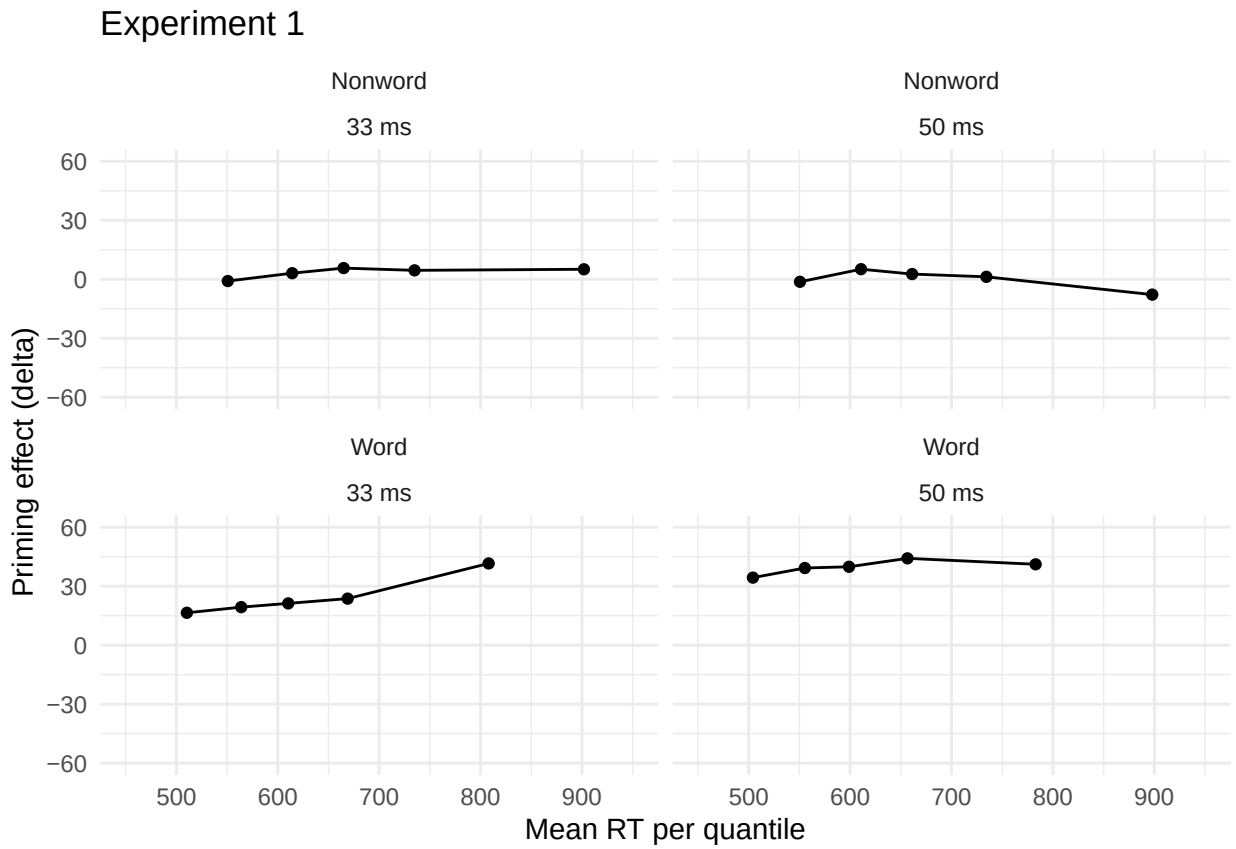
```
E2<- exp2_data_to_include%>%
  select(participant, TrialID, StimulusType, Condition, PrimeDuration, Prime, Target, corr, rt)%>%
  mutate(participant=factor(participant),
         TrialID = factor(TrialID))

head(E2)
```

```
## # A tibble: 6 x 9
##   participant    TrialID StimulusType Condition PrimeDuration Prime Target  corr
##   <fct>          <fct>   <fct>        <fct>     <fct>         <chr> <chr>  <int>
## 1 55b75944fdf99~ 454     Nonword      Unrelated 33 ms         tond~ SCOUGE     1
## 2 55b75944fdf99~ 277     Nonword      Unrelated 16 ms         unig~ PETAIN     1
## 3 55b75944fdf99~ 181     Word         Unrelated 33 ms         wint~ GLANCE     1
```

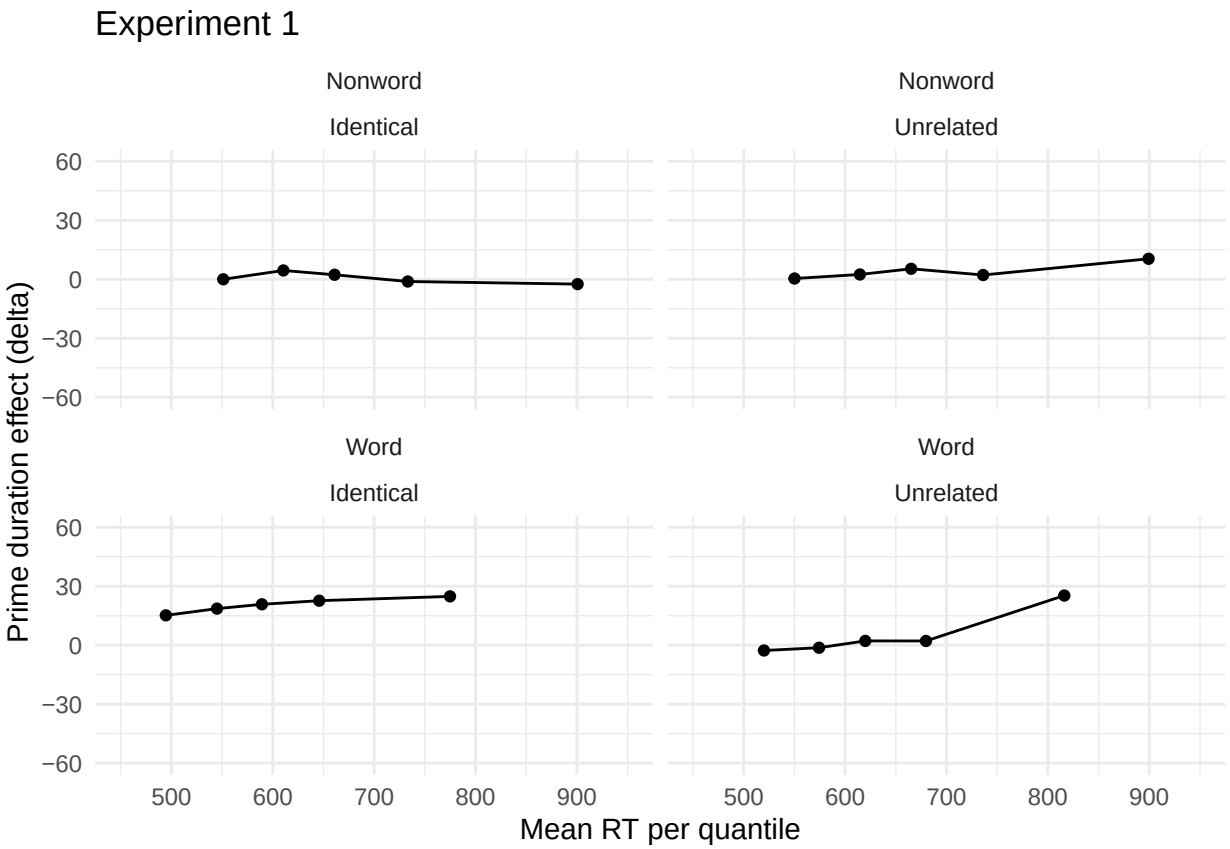
```
## 4 55b75944fdf99~ 35      Word         Unrelated 16 ms         vani~ SOCKET     0
## 5 55b75944fdf99~ 263     Nonword      Unrelated 16 ms         vack~ DOLICA    -1
## 6 55b75944fdf99~ 200     Word         Unrelated 33 ms         admi~ BEACON     1
## # ... with 1 more variable: rt <dbl>
```

Delta Plots

```
quibble <- function(x, q = seq(.1, .9, .2)) {
  tibble(x = quantile(x, q), q = q)
}


E1 %>%
  group_by(participant, StimulusType, Condition, PrimeDuration,corr) %>%
  summarise(RT = list(quibble(rt, seq(.1, .9, .2)))) %>%
  tidyr::unnest(RT) -> data.E1.quantiles

data.E1.quantiles %>%
  filter(corr==1) %>%
  select(-corr) %>%
  group_by(StimulusType,PrimeDuration,Condition,q) %>%
  summarize(RT=mean(x))%>%
  ungroup()-> vincentiles.E1


#Priming Effect (related vs. unrelated):

vincentiles.E1 %>%
  arrange(desc(Condition))%>%
  group_by(StimulusType,PrimeDuration,q) %>%
  summarize(MRT=mean(RT),
            Delta=diff(rev(RT)))%>%
  ungroup()%>%
ggplot(aes(y=Delta, x=MRT)) +
  geom_line()+
  geom_point()+
  ylim(-60, +60)+
  xlim(450, 950)+
  xlab("Mean RT per quantile")+
  ylab("Priming effect (delta)")+
  ggtitle("Experiment 1")+
  facet_wrap(~StimulusType + PrimeDuration)+
  theme_minimal()-> DeltaE1.PrimingEffect

DeltaE1.PrimingEffect
```

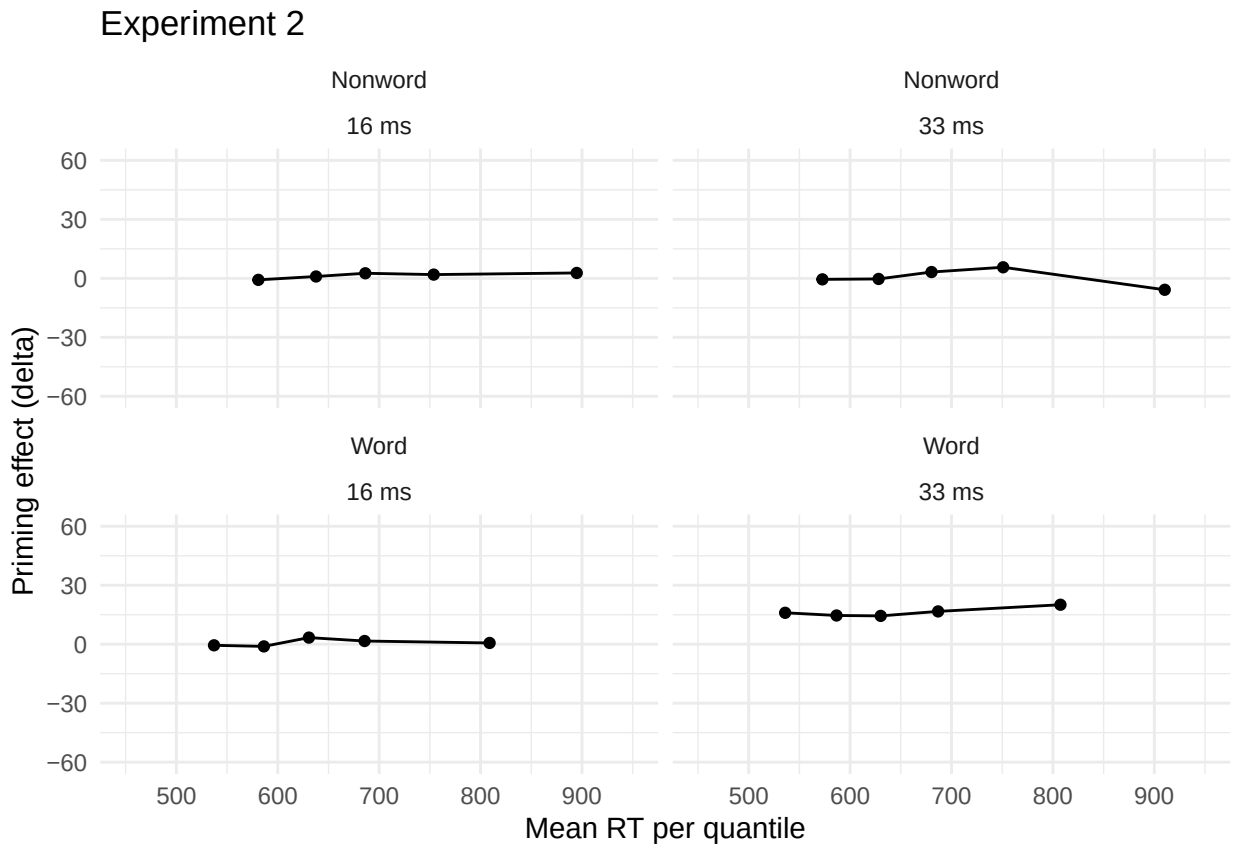



```
#Prime Duration Effect (33ms vs 50 ms):

vincentiles.E1 %>%
  group_by(StimulusType,Condition,q) %>%
 summarize(MRT=mean(RT),
           Delta=diff(rev(RT)))%>%
ggplot(aes(y=Delta, x=MRT)) +
  geom_line()+
  geom_point()+
  ylim(-60, +60)+
  xlim(450, 950)+
  xlab("Mean RT per quantile")+
  ylab("Prime duration effect (delta)")+
  ggtitle("Experiment 1")+
  facet_wrap(~StimulusType + Condition)+
  theme_minimal()-> DeltaE1.PrimeDurationEffect

DeltaE1.PrimeDurationEffect
```



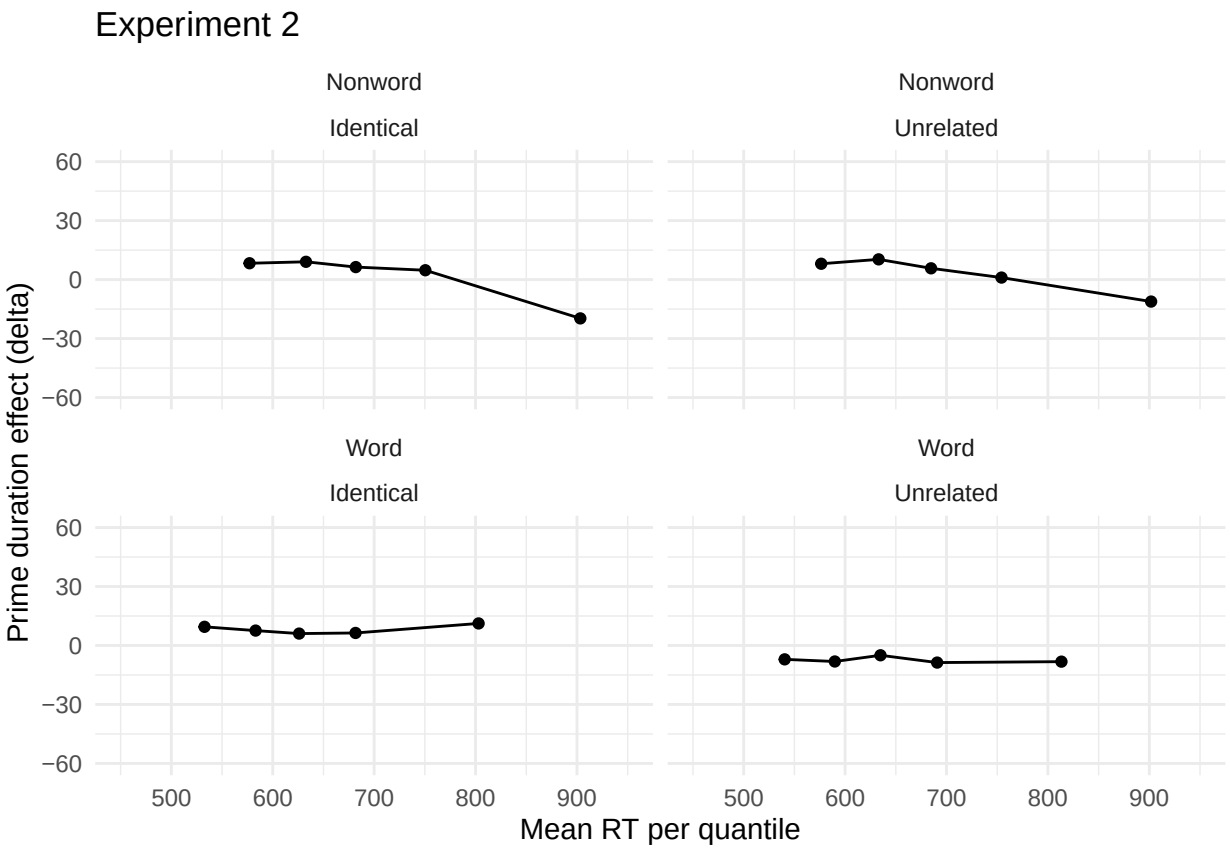

```
E2 %>%
  group_by(participant, StimulusType, Condition, PrimeDuration,corr) %>%
  summarise(RT = list(quibble(rt, seq(.1, .9, .2)))) %>%
  tidyr::unnest(RT) -> data.E2.quantiles

data.E2.quantiles %>%
  filter(corr==1) %>%
  select(-corr) %>%
  group_by(StimulusType,PrimeDuration,Condition,q) %>%
  summarize(RT=mean(x))%>%
  ungroup()-> vincentiles.E2


#Priming Effect (related vs. unrelated):

vincentiles.E2 %>%
  arrange(desc(Condition))%>%
  group_by(StimulusType,PrimeDuration,q) %>%
  summarize(MRT=mean(RT),
            Delta=diff(rev(RT)))%>%
  ungroup()%>%
ggplot(aes(y=Delta, x=MRT)) +
  geom_line()+
  geom_point()+
  ylim(-60, +60)+
  xlim(450, 950)+
```

```
  xlab("Mean RT per quantile")+
  ylab("Priming effect (delta)")+
  ggtitle("Experiment 2")+
  facet_wrap(~StimulusType + PrimeDuration)+
  theme_minimal() -> DeltaE2.PrimingEffect

DeltaE2.PrimingEffect
```



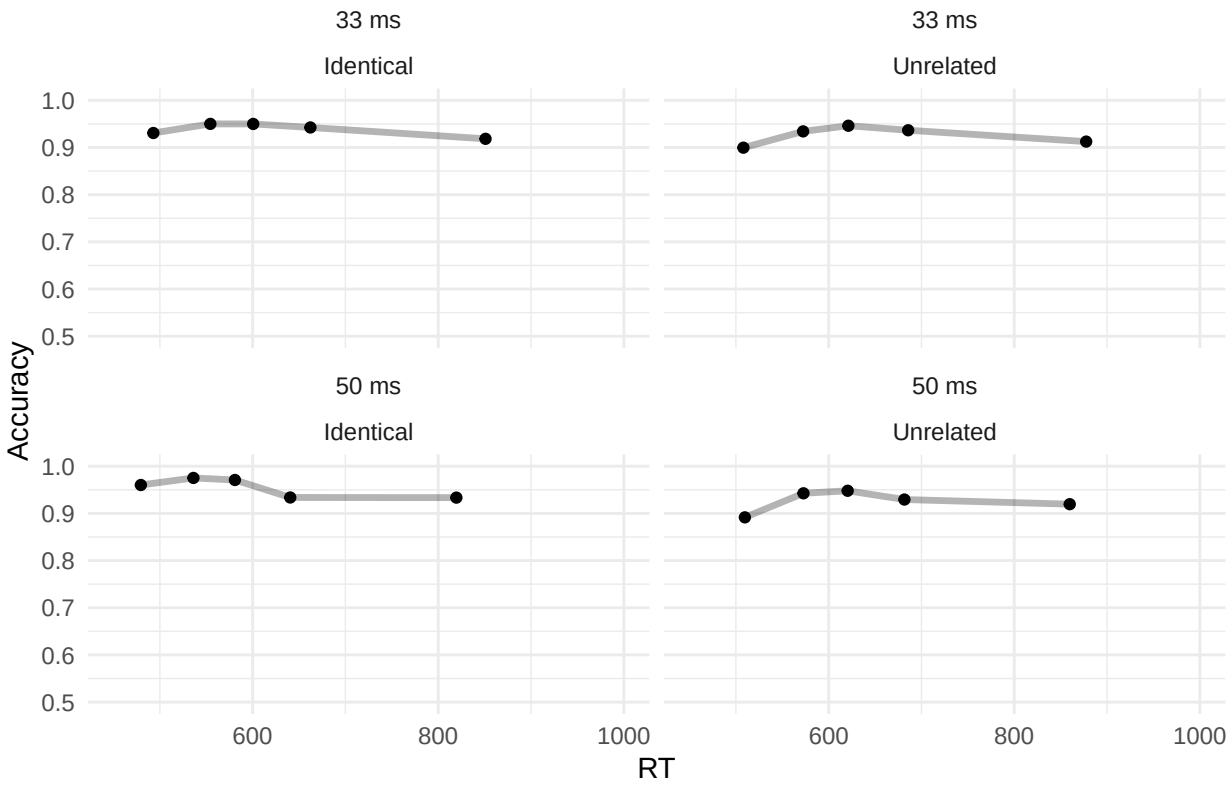

```
#Prime Duration Effect (33ms vs 50 ms):

vincentiles.E2 %>%
  group_by(StimulusType,Condition,q) %>%
 summarize(MRT=mean(RT),
            Delta=diff(rev(RT)))%>%
ggplot(aes(y=Delta, x=MRT)) +
  geom_line()+
  geom_point()+
  ylim(-60, +60)+
  xlim(450, 950)+
  xlab("Mean RT per quantile")+
  ylab("Prime duration effect (delta)")+
  ggtitle("Experiment 2")+
  facet_wrap(~StimulusType + Condition)+
  theme_minimal() -> DeltaE2.PrimeDurationEffect
```

```
DeltaE2.PrimeDurationEffect
```

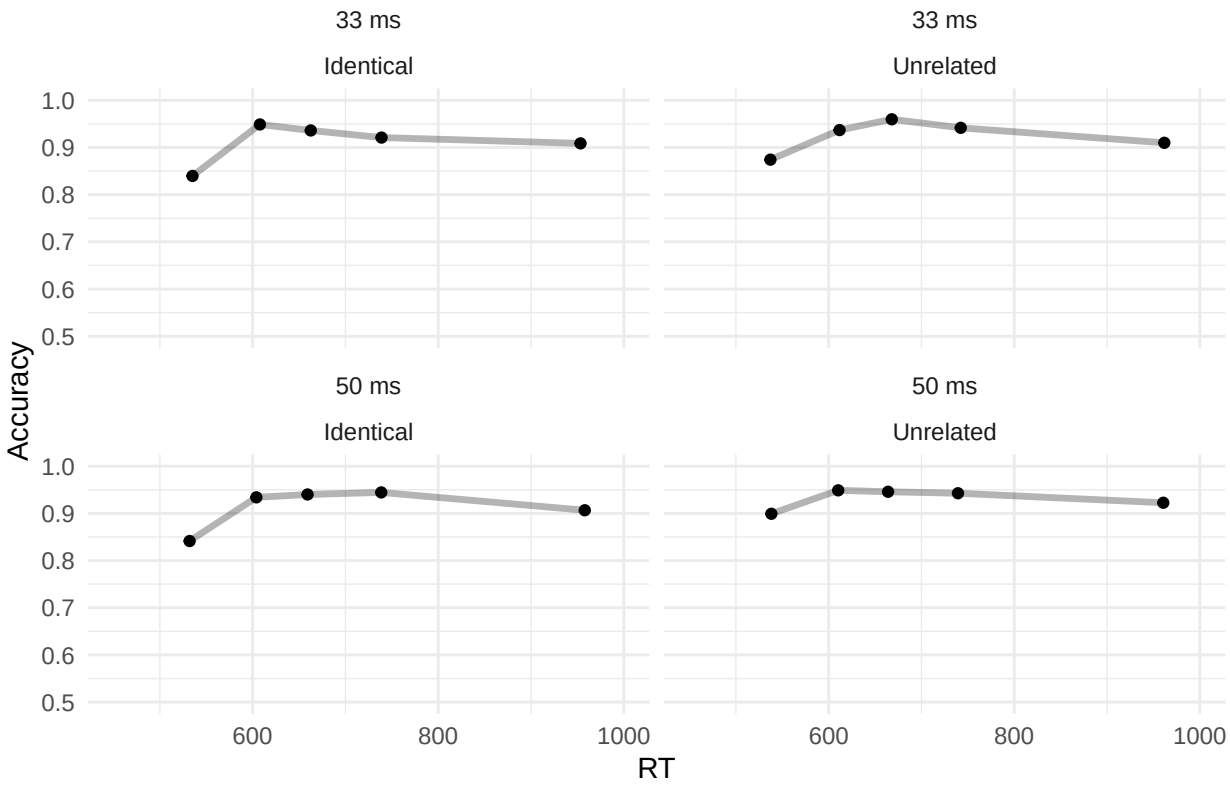


CAF

```
E1 %>%
  group_by(participant, StimulusType, Condition, PrimeDuration) %>%
  mutate(Quantile = cut_number(rt, n = 10, labels = c(1,1,2,2,3,3,4,4,5,5))) %>%
  ungroup() %>%
  group_by(participant, StimulusType, Condition, PrimeDuration, Quantile) %>%
  summarize(Macc=mean(corr),
            Mrt=mean(rt)) %>%
  ungroup() -> data.caf.E1


data.caf.E1 %>%
  filter(StimulusType=="Word")%>%
  group_by(Condition, PrimeDuration, Quantile) %>%
    summarize(Macc2=mean(Macc),
            Mrt2=mean(Mrt)) %>%
  ggplot(aes(x=Mrt2, y=Macc2, )) +
geom_line(alpha=.3, size=1.2) +
  geom_point()+
  ylim(0.5, 1)+
  xlim(450, 1000)+
  facet_wrap(~PrimeDuration+Condition)+
  ggtitle("Accuracy as a function of RT in Experiment 1. Word data")+
  theme_minimal()+
  xlab("RT")+
  ylab("Accuracy") -> CAF.E1.W

CAF.E1.W
```

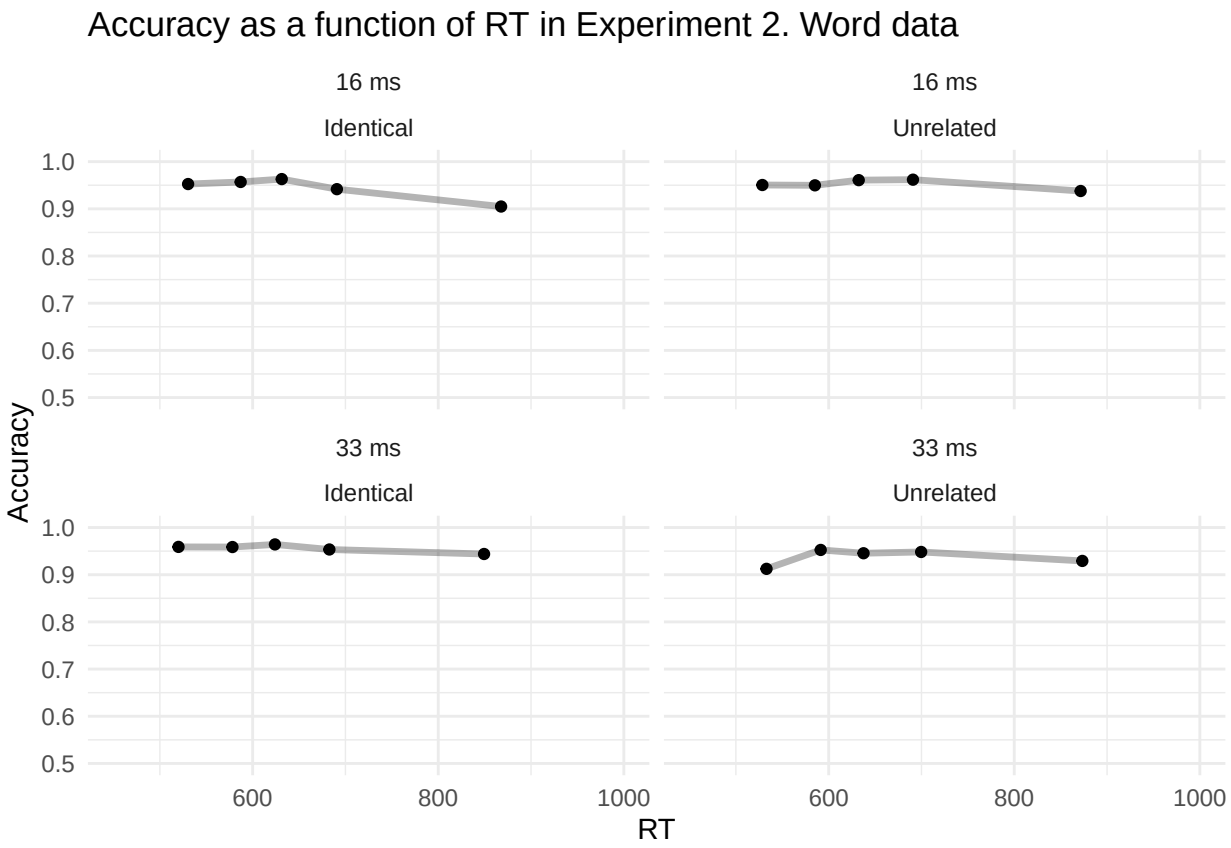



```
data.caf.E1 %>%
  filter(StimulusType=="Nonword")%>%
  group_by(Condition, PrimeDuration, Quantile) %>%
    summarize(Macc2=mean(Macc),
              Mrt2=mean(Mrt)) %>%
  ggplot(aes(x=Mrt2, y=Macc2, )) +
  geom_line(alpha=.3, size=1.2) +
  geom_point()+
  ylim(0.5, 1)+
  xlim(450, 1000)+
  facet_wrap(~PrimeDuration+Condition)+
  ggtitle("Accuracy as a function of RT in Experiment 1. Nonword data")+
  theme_minimal()+
  xlab("RT")+
  ylab("Accuracy") -> CAF.E1.NW

CAF.E1.NW
```

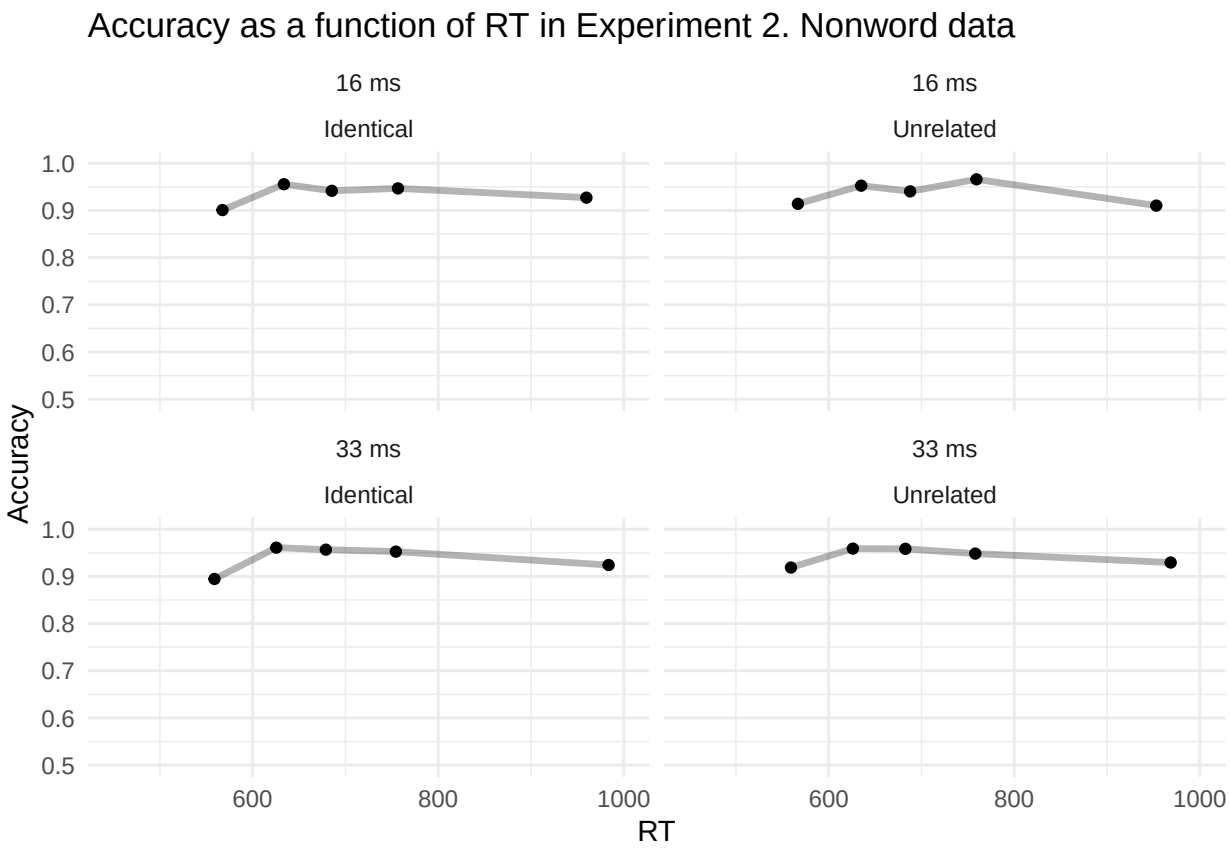



```
E2 %>%
  group_by(participant, StimulusType, Condition, PrimeDuration) %>%
  mutate(Quantile = cut_number(rt, n = 10, labels = c(1,1,2,2,3,3,4,4,5,5))) %>%
  ungroup() %>%
  group_by(participant, StimulusType, Condition, PrimeDuration, Quantile) %>%
  summarize(Macc=mean(corr),
            Mrt=mean(rt)) %>%
  ungroup() -> data.caf.E2


data.caf.E2 %>%
  filter(StimulusType=="Word")%>%
  group_by(Condition, PrimeDuration, Quantile) %>%
    summarize(Macc2=mean(Macc),
            Mrt2=mean(Mrt)) %>%
  ggplot(aes(x=Mrt2, y=Macc2, )) +
geom_line(alpha=.3, size=1.2) +
  geom_point()+
  ylim(0.5, 1)+
  xlim(450, 1000)+
  facet_wrap(~PrimeDuration+Condition)+
  ggtitle("Accuracy as a function of RT in Experiment 2. Word data")+
  theme_minimal()+
  xlab("RT")+
  ylab("Accuracy") -> CAF.E2.W
```

```
CAF.E2.W
```




```
data.caf.E2 %>%
  filter(StimulusType=="Nonword")%>%
  group_by(Condition, PrimeDuration, Quantile) %>%
    summarize(Macc2=mean(Macc),
              Mrt2=mean(Mrt)) %>%
  ggplot(aes(x=Mrt2, y=Macc2, )) +
  geom_line(alpha=.3, size=1.2) +
  geom_point()+
  ylim(0.5, 1)+
  xlim(450, 1000)+
  facet_wrap(~PrimeDuration+Condition)+
  ggtitle("Accuracy as a function of RT in Experiment 2. Nonword data")+
  theme_minimal()+
  xlab("RT")+
  ylab("Accuracy") -> CAF.E2.NW

CAF.E2.NW
```


Accuracy as a function of RT in Experiment 2. Nonword data
16 ms
Identical
16 ms
Unrelated
33 ms
Identical
33 ms
Unrelated
Accuracy
1.0
0.9
0.8
0.7
0.6
0.5
600
800
1000
RT