Confirmatory 1A Analysis Markdown

# PREPARATION

## Load Packages

## Read in data

## First factor: Subfield

## Second factor: Time

## Select relevant data

# DATA ANOVA Analysis

## Coefficient covariances computed by hccm()

## ANOVA Table (type II tests)  
##   
## Effect DFn DFd F p p<.05 ges  
## 1 subfield\_groups 3 310 2.230 0.0850000 0.021  
## 2 time\_period 2 310 11.295 0.0000184 \* 0.068  
## 3 subfield\_groups:time\_period 6 310 1.566 0.1570000 0.029

Our two-way between-subjects ANOVA generated a significant main effect of time period, F(2, 310) = 2.23, p = 0.0000184, ges = 0.068. However, the main effect of subfield, F(3, 310) = 2.23, p = 0.085, ges = 0.021, and the interaction between subfield and time period, F(6, 310) = 1.566, ges = 0.029, were not statistically significant.

## Contrasts set to contr.sum for the following variables: time\_period, subfield\_groups

## Anova Table (Type 2 tests)  
##   
## Response: total\_data\_score  
## num Df den Df MSE F ges Pr(>F)  
## time\_period 2 310 41.512 11.2946 0.067919 0.00001842  
## subfield\_groups 3 310 41.512 2.2299 0.021123 0.08471  
## time\_period:subfield\_groups 6 310 41.512 1.5659 0.029417 0.15660  
##   
## time\_period \*\*\*  
## subfield\_groups .   
## time\_period:subfield\_groups   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

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*Between-subjects ANOVA for Open Data Scores*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Effect |  |  |  |  |  |  |
| Time period | 11.29 | 2 | 310 | 41.51 | < .001 | .068 |
| Subfield groups | 2.23 | 3 | 310 | 41.51 | .085 | .021 |
| Time period Subfield groups | 1.57 | 6 | 310 | 41.51 | .157 | .029 |

*Note.* This table was created with apa\_table().

Our two-way between-subjects ANOVA generated a significant main effect of time period, , , , . However, the main effect of subfield, , , , , and the interaction between time period and subfield, , , , , were not statistically significant.

# MATERIALS ANOVA Analysis

## Coefficient covariances computed by hccm()

## ANOVA Table (type II tests)  
##   
## Effect DFn DFd F p p<.05 ges  
## 1 subfield\_groups 3 310 4.033 0.008 \* 0.038  
## 2 time\_period 2 310 4.737 0.009 \* 0.030  
## 3 subfield\_groups:time\_period 6 310 0.853 0.530 0.016

Our two-way between-subjects ANOVA generated a significant main effect of subfield, F(3, 310) = 4.033, p = 0.008, ges = 0.038, and a significant main effect of time period, F(2, 310) = 4.737, p = 0.009, ges = 0.03. However, the interaction between subfield and time period, F(6, 310) = 0.853, ges = 0.016, was not statistically significant.

## Contrasts set to contr.sum for the following variables: time\_period, subfield\_groups

## Anova Table (Type 2 tests)  
##   
## Response: total\_materials\_score  
## num Df den Df MSE F ges Pr(>F)   
## time\_period 2 310 32.158 4.7375 0.029658 0.009405 \*\*  
## subfield\_groups 3 310 32.158 4.0326 0.037559 0.007781 \*\*  
## time\_period:subfield\_groups 6 310 32.158 0.8526 0.016235 0.530212   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

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*Between-subjects ANOVA for Open Materials Scores*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Effect |  |  |  |  |  |  |
| Time period | 4.74 | 2 | 310 | 32.16 | .009 | .030 |
| Subfield groups | 4.03 | 3 | 310 | 32.16 | .008 | .038 |
| Time period Subfield groups | 0.85 | 6 | 310 | 32.16 | .530 | .016 |

*Note.* This table was created with apa\_table().

Our two-way between-subjects ANOVA generated a significant main effect of subfield, , , , , and a significant main effect of time period, , , , . However the interaction between time period and subfield, , , , , was not statistically significant.

# PLOTS

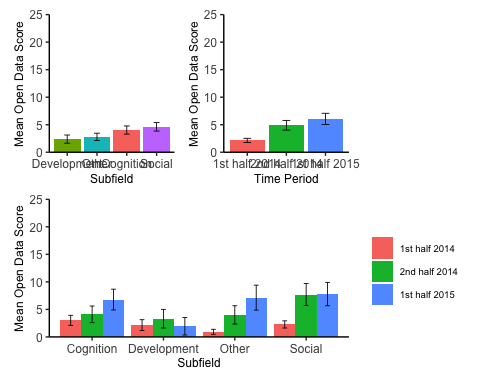
## DATA

### Subfield x Data Score

### Time Period x Data Score

### Interaction between time and subfield - Data scores

## `summarise()` has grouped output by 'subfield\_groups'. You can override using the `.groups` argument.



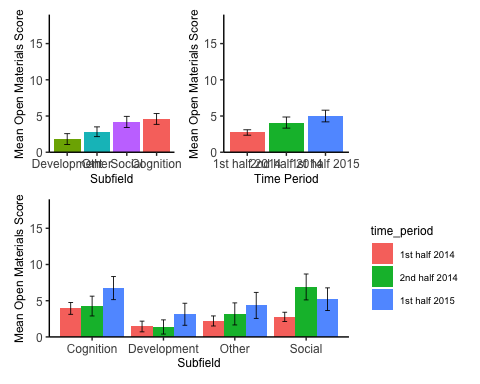
## MATERIALS

### Subfield x Materials Score

### Time Period x Materials Score

### Interaction between time and subfield - Materials Score

## `summarise()` has grouped output by 'subfield\_groups'. You can override using the `.groups` argument.

 # SUBFIELD T-TESTS

## DATA

Subfield main effect for Open Data Scores was not significant, so no t-tests to run here

## MATERIALS

### Developmental vs. Cognition

## var[stud] name[stud] stat[stud] df[stud]  
## "total\_materials\_score" total\_materials\_score Student's t 3.052037 154  
## p[stud]  
## "total\_materials\_score" 0.002677857

<https://www.jamovi.org/jmv/ttestis.html>

### Developmental vs. Social

## var[stud] name[stud] stat[stud] df[stud]  
## "total\_materials\_score" total\_materials\_score Student's t -2.620586 154  
## p[stud]  
## "total\_materials\_score" 0.009657232

### Developmental vs. Other

## var[stud] name[stud] stat[stud] df[stud]  
## "total\_materials\_score" total\_materials\_score Student's t -1.177154 138  
## p[stud]  
## "total\_materials\_score" 0.2411604

# TIME T-TESTS

## DATA

### First half 2014 vs. Second half 2014

## Rows: 255  
## Columns: 3  
## $ time\_period <fct> 2nd half 2014, 1st half 2014, 1st half 2014, 1st…  
## $ total\_data\_score <dbl> 0, 12, 1, 1, 1, 0, 1, 20, 0, 0, 1, 1, 0, 0, 0, 1…  
## $ total\_materials\_score <dbl> 0, 8, 0, 0, 8, 0, 0, 14, 0, 0, 0, 0, 0, 0, 0, 0,…

## var[stud] name[stud] stat[stud] df[stud] p[stud]  
## "total\_data\_score" total\_data\_score Student's t -3.333024 253 0.000987596

### Second half 2014 vs. First half 2015

## var[stud] name[stud] stat[stud] df[stud] p[stud]  
## "total\_data\_score" total\_data\_score Student's t -0.8637433 137 0.3892386

## MATERIALS

### First half 2014 vs. Second half 2014

## var[stud] name[stud] stat[stud] df[stud]  
## "total\_materials\_score" total\_materials\_score Student's t -1.793754 253  
## p[stud]  
## "total\_materials\_score" 0.07404647

### Second half 2014 vs. First half 2015

## var[stud] name[stud] stat[stud] df[stud]  
## "total\_materials\_score" total\_materials\_score Student's t -0.8105378 137  
## p[stud]  
## "total\_materials\_score" 0.4190369