

Data analysis

This data analysis is conducted using the R language and the data is stored in a .csv file.

Dataset

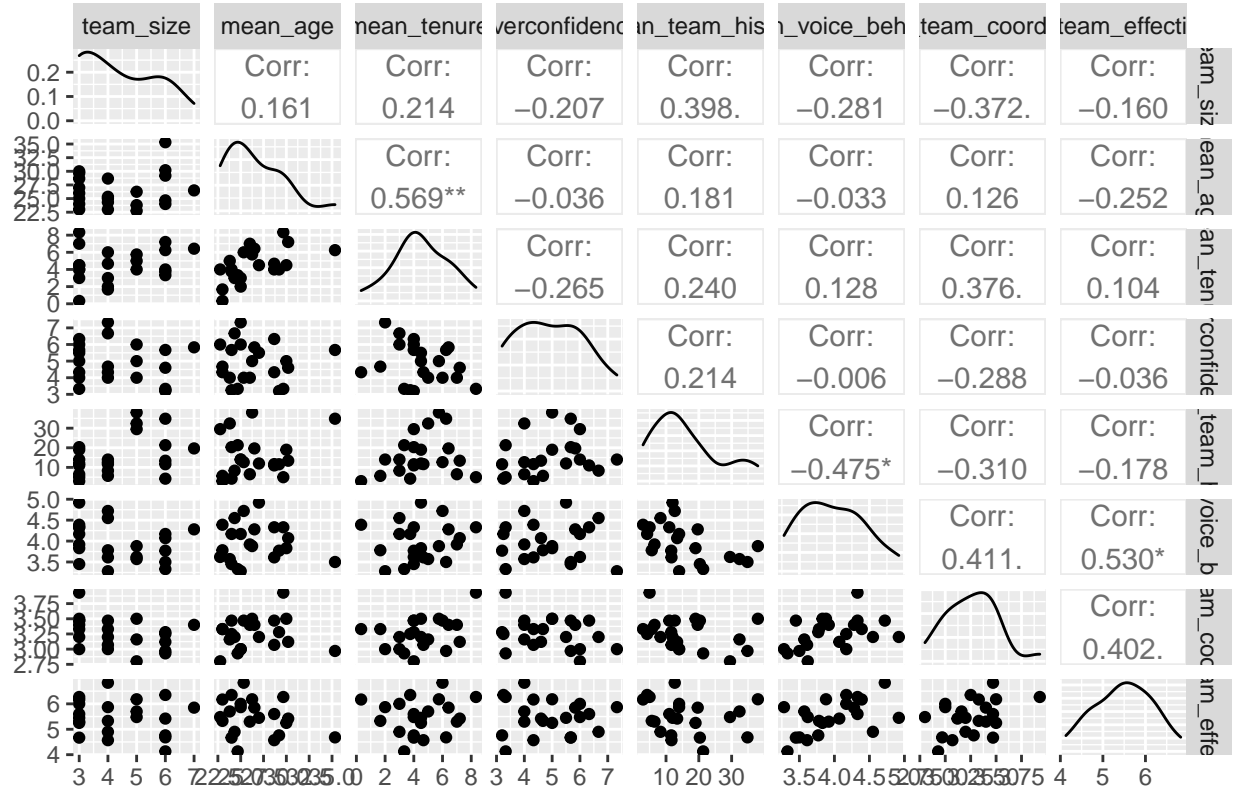
##	team	org	team_size	response_rate	response_count	mean_age	mean_tenure
## 1	VxWVZXy	qX0d3XD	3	0.67	2	26.00	7.00
## 2	Olva1P1	ml4MwXj	4	0.75	3	25.33	6.00
## 3	5x0nMXW	oXoqeP0	3	1.00	3	24.00	4.00
## 4	JlBq3PN	Kl3zeP6	4	0.75	3	25.00	2.00
## 5	rX1wnPb	ylrepPL	6	0.83	5	29.20	4.00
## 6	KPjegx7	VxWvAXy	4	0.75	3	24.33	3.00
## 7	WXz0pPm	0xAoGlQ	4	0.75	3	28.67	4.67
## 8	zP7KKP8	5x02qXW	6	0.67	4	24.00	3.75
## 9	5P88oP9	5x02qXW	7	0.86	6	26.50	6.42
## 10	4xdmYPE	5P8oox9	3	1.00	3	29.67	8.33
## 11	YXmyDXN	k7lkqxD	3	0.67	2	25.00	3.00
## 12	DPpkGx8	k7lkqxD	4	0.75	3	23.00	1.67
## 13	8xNAJXm	yEXnYlg	5	1.00	5	23.80	5.00
## 14	ml4MwXj	GVX26X9	5	0.80	4	22.75	4.00
## 15	gxwyalv	M8xNJxm	3	1.00	3	28.67	4.00
## 16	ylrepPL	M8xNJxm	3	0.67	2	30.00	4.50
## 17	2PJKkl0	M8xNJxm	3	1.00	3	23.00	0.33
## 18	VxWvAXy	M8xNJxm	6	0.83	5	30.20	7.20
## 19	0xAoGlQ	3B16N1b	3	0.67	2	27.00	4.50
## 20	rX1dn1b	3B16N1b	5	0.80	4	26.25	5.75
## 21	5x02qXW	3B16N1b	6	0.50	3	24.67	3.33
## 22	JlBJY1N	3B16N1b	6	1.00	6	35.33	6.25
##	mean_overconfidence_score		mean_team_history		mean_voice_behavior		
## 1			4.00	6.50		3.92	
## 2			4.00	12.67		4.72	
## 3			5.67	20.33		3.45	
## 4			7.33	14.00		3.28	
## 5			3.20	11.60		3.77	
## 6			6.67	8.33		4.55	
## 7			4.33	11.67		3.61	
## 8			3.25	4.25		4.17	
## 9			5.83	19.67		4.28	
## 10			3.33	5.00		4.33	
## 11			6.00	14.00		4.17	
## 12			4.67	5.67		3.78	
## 13			4.00	32.40		3.57	
## 14			6.00	29.50		3.62	
## 15			6.33	11.00		4.33	
## 16			5.00	19.00		3.83	
## 17			4.33	3.00		4.39	
## 18			4.60	13.40		4.07	

## 19	5.50	12.00	4.92
## 20	5.00	38.00	3.88
## 21	3.33	21.33	3.33
## 22	5.67	34.83	3.50
##	mean_team_coordination	mean_team_effectiveness	
## 1	3.40	5.30	
## 2	3.47	6.83	
## 3	3.47	4.67	
## 4	3.00	5.87	
## 5	3.28	4.76	
## 6	3.20	4.90	
## 7	3.07	4.57	
## 8	3.25	6.35	
## 9	3.40	5.85	
## 10	3.93	6.27	
## 11	3.00	6.00	
## 12	3.33	5.33	
## 13	3.16	5.70	
## 14	2.80	5.48	
## 15	3.47	5.60	
## 16	3.50	5.25	
## 17	3.33	6.17	
## 18	3.12	5.42	
## 19	3.20	5.45	
## 20	3.50	6.18	
## 21	2.93	4.13	
## 22	2.97	4.68	

General Analysis

Correlogram of core variables

Pairwise Correlation Matrix



Multiple Linear Regression of all variables against team effectiveness

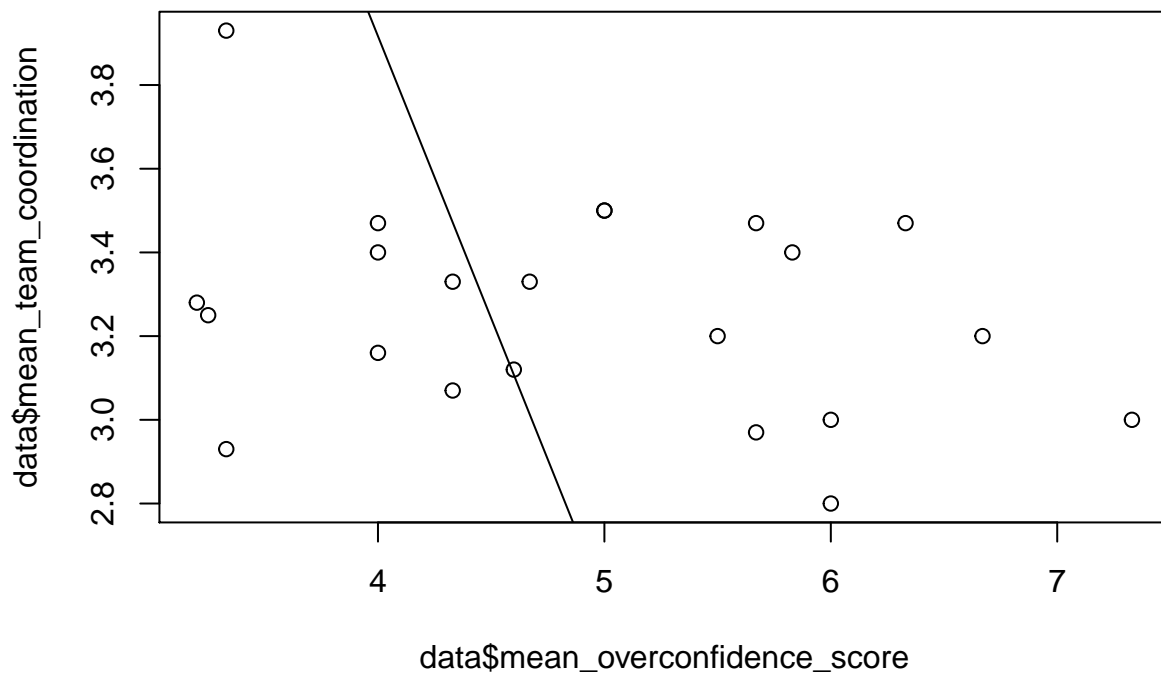
```
##
## Call:
## lm(formula = mean_team_effectiveness ~ ., data = core_data)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.03124 -0.25415  0.06252  0.29934  1.00788
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)      1.54565     3.25897   0.474  0.6426
## team_size         0.04067     0.13321   0.305  0.7646
## mean_age        -0.08096     0.05469  -1.480  0.1610
## mean_tenure       0.03772     0.10823   0.349  0.7326
## mean_overconfidence_score 0.03276     0.14083   0.233  0.8194
## mean_team_history  0.00907     0.01878   0.483  0.6367
## mean_voice_behavior  0.69866     0.38103   1.834  0.0881 .
## mean_team_coordination 0.81453     0.74870   1.088  0.2950
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.6257 on 14 degrees of freedom
## Multiple R-squared:  0.4352, Adjusted R-squared:  0.1529
## F-statistic: 1.541 on 7 and 14 DF,  p-value: 0.2322
```

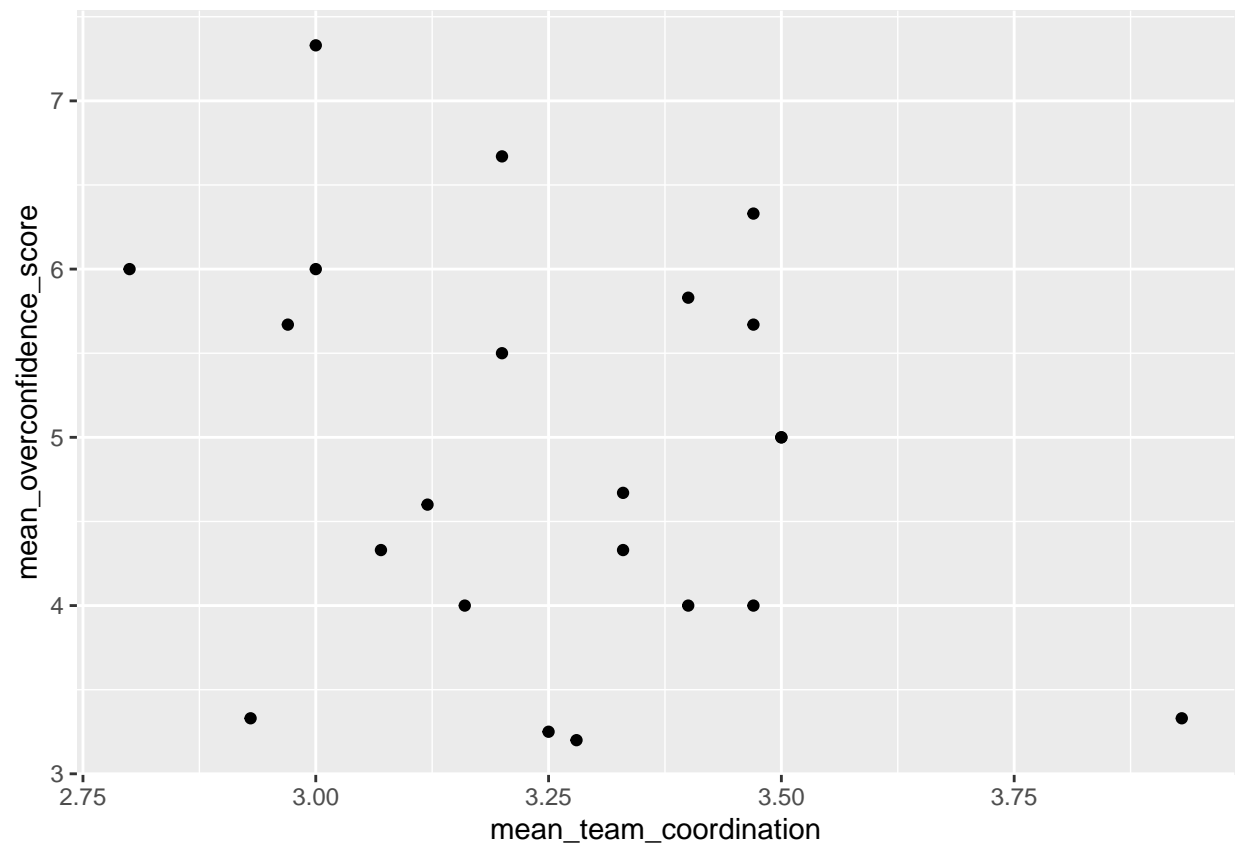
Hypothesis testing

Hypothesis No. 1

H1: Team Overconfidence has a negative effect on team coordination

```
##
## Call:
## lm(formula = mean_overconfidence_score ~ mean_team_coordination,
##     data = data)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.0296 -0.7146  0.1071  0.6772  2.0648
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)       9.310      3.276   2.842  0.0101 *
## mean_team_coordination -1.348      1.001  -1.347  0.1930
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.167 on 20 degrees of freedom
## Multiple R-squared:  0.08318,    Adjusted R-squared:  0.03734
## F-statistic: 1.814 on 1 and 20 DF,  p-value: 0.193
```

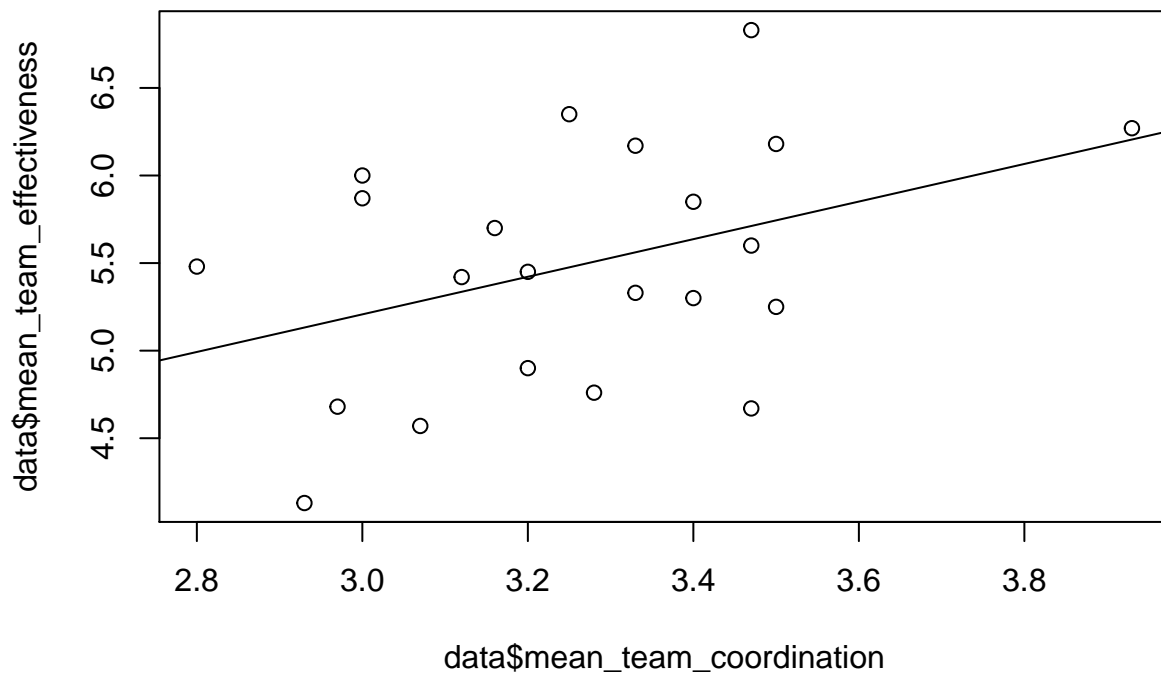


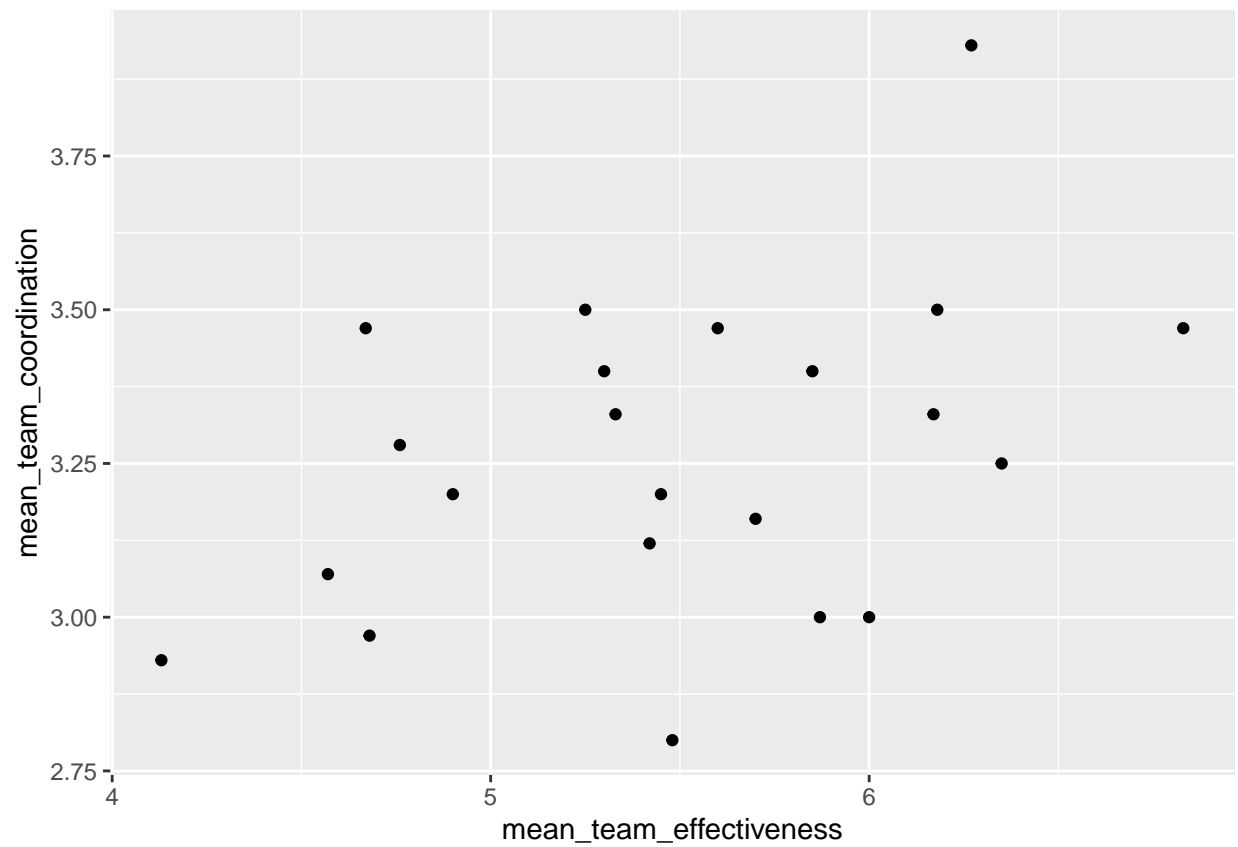


Hypothesis No. 2

H2: Team Overconfidence has a positive effect on team effectiveness

```
##
## Call:
## lm(formula = mean_team_effectiveness ~ mean_team_coordination,
##     data = data)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.04159 -0.49459  0.04643  0.47478  1.11841
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)      1.9866     1.7909   1.109   0.2805
## mean_team_coordination  1.0735     0.5473   1.961   0.0639 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.6379 on 20 degrees of freedom
## Multiple R-squared:  0.1613, Adjusted R-squared:  0.1194
## F-statistic: 3.847 on 1 and 20 DF,  p-value: 0.06391
```





Hypothesis No. 3

H3: Team Overconfidence has a positive effect on team response rate

```
##
## Call:
## lm(formula = mean_team_coordination ~ mean_overconfidence_score +
##     mean_voice_behavior + inter, data = data)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.33578 -0.16106 -0.05734  0.14110  0.40472
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)      0.45259    1.85472   0.244   0.810
## mean_overconfidence_score 0.36093    0.34614   1.043   0.311
## mean_voice_behavior    0.79258    0.47149   1.681   0.110
## inter            -0.10827    0.08813  -1.228   0.235
##
## Residual standard error: 0.2285 on 18 degrees of freedom
## Multiple R-squared:  0.3084, Adjusted R-squared:  0.1931
## F-statistic: 2.675 on 3 and 18 DF,  p-value: 0.07818
##
## Warning in abline(lm_voice_coordination): only using the first two of 4
## regression coefficients
```

