```
In [1]: import pandas as pd
import numpy as np
import scipy.stats as stats

df=pd.read_csv('./Metadata.csv')
df
```

## Out[1]:

	Mean	SD	Chart- Category	Chart-type	Domain	Source	Topic	Sentiment	Purpose
0	-1.65	2.272163	Grid	Heatmap	Infographics	Information is Beautiful	Health	2	2
1	5.74	2.086820	Point	Scatter	Blog	Multiple Views	Demographics	3	3
2	3.08	2.018346	Map + Area	Choropleth + Stacked	Government	Washington Census	Demographics	3	3
3	6.21	2.668193	Bar	Bar	Blog	Flowing Data	Demographics	3	3
4	3.06	2.045362	Area	Proportional	News	Wall Street Journal	Sports	3	3
•••									
495	-6.35	2.378954	Мар	Plotted	Blog	Nightingale	History	2	2
496	-3.98	2.533647	Area + Diagram	Area + Isotype	Blog	Nightingale	Resources	2	2
497	-5.92	2.056095	Diagram	Isotype	Infographics	Information is Beautiful	Environment	2	2
498	-2.23	2.229485	Bar	Bar	Infographics	Information is Beautiful	Environment	3	2
499	-4.21	2.357637	Мар	Plotted	News	New York Times	Weather	3	2

500 rows × 41 columns

```
In [2]: # Regression Results for Ratings Scores in Expt 1
        import scipy.stats as stats
        import csv
        from matplotlib import pyplot as plt
        import numpy as np
        import statistics
        import pandas as pd
        import sklearn
        from sklearn.model selection import train test split
        from sklearn.linear model import LinearRegression
        import statsmodels.api as sm
        from statsmodels.sandbox.regression.predstd import wls prediction std
        from sklearn.decomposition import FactorAnalysis, PCA
        from sklearn.preprocessing import StandardScaler
        from sklearn.model selection import KFold
        from sklearn.linear model import BayesianRidge
```

```
from numpy import mean
from numpy import var
from math import sqrt

def cohend(d1, d2):
    n1, n2 = len(d1), len(d2)
    s1, s2 = var(d1, ddof=1), var(d2, ddof=1)
    s = sqrt(((n1 - 1) * s1 + (n2 - 1) * s2) / (n1 + n2 - 2))
    u1, u2 = mean(d1), mean(d2)
    return (u1 - u2) / s
```

```
In [3]: # Chart-type
        # Isotype, Chernoff, Illustrations
        y val=[]
        for i in range(len(df)):
            if('Isotype' in df.iloc[i]['Chart-type'] or 'Chernoff' in df.iloc[i]['Chart-type'] o
               y val.append(1)
            else:
               y val.append(0)
        X=df['Mean']
        Y=y val
        d=cohend(Y,X)
        X=sm.add constant(X)
        model = sm.OLS(Y, X)
        results = model.fit()
        print('Isotype, Chernoff, Illustration : ')
        print("p-value : %.2f"%results.pvalues[0])
        print("R2: %.2f"%results.rsquared)
        print("Cohen's d : %.2f"%d)
        print("**************
        # Area
        y val=[]
        for i in range(len(df)):
            if('Area' in df.iloc[i]['Chart-Category']):
               y val.append(1)
            else:
               y val.append(0)
        X=df['Mean']
        Y=y val
        d=cohend(Y,X)
        X=sm.add constant(X)
        model = sm.OLS(Y, X)
        results = model.fit()
        print('Area : ')
        print("p-value : %.2f"%results.pvalues[0])
        print("R2 : %.2f"%results.rsquared)
        print("Cohen's d : %.2f"%d)
        ****************
        # Map
        y val=[]
        for i in range(len(df)):
            if('Map' in df.iloc[i]['Chart-Category']):
               y val.append(1)
            else:
               y val.append(0)
        X=df['Mean']
        Y=y val
        d=cohend(Y,X)
        X=sm.add constant(X)
        model = sm.OLS(Y, X)
        results = model.fit()
        print('Map : ')
```

```
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Map with low annotation
y val=[]
for i in range(len(df)):
   if('Map' in df.iloc[i]['Chart-Category'] and df.iloc[i]['Text-Vol']==1):
      y val.append(1)
   else:
       y_val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Map, Low Annotation : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("******
# Radial Charts (chord diagrams, donut charts, timelines, radial bar charts, etc.)
y val=[]
for i in range(len(df)):
   if('Circle' in df.iloc[i]['Chart-Category'] or 'Radial' in df.iloc[i]['Chart-type'])
       y val.append(1)
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('Radial Charts : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Bar
y val=[]
for i in range(len(df)):
   if('Bar' in df.iloc[i]['Chart-Category']):
       y val.append(1)
   else:
       y_val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Bar : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("************
                     *******************
# Point
y val=[]
for i in range(len(df)):
   if('Point' in df.iloc[i]['Chart-Category']):
```

```
y_val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('Point : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("**************
                          ****************
# Line
y val=[]
for i in range(len(df)):
   if('Line' in df.iloc[i]['Chart-Category']):
      y val.append(1)
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Line : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Distribution
y val=[]
for i in range(len(df)):
   if('Distribution' in df.iloc[i]['Chart-Category']):
      y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Distribution : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Grid
y val=[]
for i in range(len(df)):
   if('Grid' in df.iloc[i]['Chart-Category']):
      y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
```

```
print('Grid : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("*****************
# Network
y_val=[]
for i in range(len(df)):
   if('Network' in df.iloc[i]['Chart-Category']):
       y val.append(1)
   else:
       y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Network : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("************
                                ****************
# Table
y val=[]
for i in range(len(df)):
   if('Table' in df.iloc[i]['Chart-Category']):
       y val.append(1)
   else:
       y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Table : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("***************
                               *************
# Tree
y val=[]
for i in range(len(df)):
    if('Tree' in df.iloc[i]['Chart-Category']):
       y val.append(1)
   else:
       y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Tree : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("***********
Isotype, Chernoff, Illustration:
```

```
p-value: 0.00
R2: 0.78
```

```
Cohen's d : 0.86
*******************
******
p-value : 0.00
R2 : 0.75
Cohen's d : 0.72
******************
*****
Map:
p-value : 0.00
R2 : 0.71
Cohen's d : 0.76
*******************
Map, Low Annotation:
p-value : 0.00
R2: 0.83
Cohen's d : 0.74
*******************
*****
Radial Charts:
p-value : 0.00
R2 : 0.79
Cohen's d : 0.80
*************************
*****
Bar :
p-value : 0.00
R2: 0.62
Cohen's d : 0.68
******************************
*****
Point :
p-value : 0.00
R2 : 0.67
Cohen's d : 0.64
*******************
*****
Line :
p-value : 0.00
R2: 0.62
Cohen's d : 0.55
********************
Distribution :
p-value : 0.00
R2 : 0.69
Cohen's d : 0.51
****************************
*****
Grid :
p-value : 0.00
R2 : 0.66
Cohen's d : 0.67
*****
Network:
p-value : 0.00
R2 : 0.71
Cohen's d : 0.69
******************
*****
Table :
p-value : 0.00
R2 : 0.53
```

Cohen's d : 0.41

```
p-value : 0.00
       R2 : 0.51
       Cohen's d : 0.38
       *************************
       *****
In [4]: # Photorealistic
       y val=[]
       for i in range(len(df)):
          if('y' in df.iloc[i]['Photorealistic']):
             y val.append(1)
          else:
             y val.append(0)
       X=df['Mean']
       Y=y val
       d=cohend(Y,X)
       X=sm.add constant(X)
       model = sm.OLS(Y, X)
       results = model.fit()
       print('Photorealistic : ')
       print("p-value : %.2f"%results.pvalues[0])
       print("R2: %.2f"%results.rsquared)
       print("Cohen's d : %.2f"%d)
       # Human Recognizable Objects
       y val=[]
       for i in range(len(df)):
          if('y' in df.iloc[i]['HRO']):
             y val.append(1)
          else:
             y val.append(0)
       X=df['Mean']
       Y=y val
       d=cohend(Y,X)
       X=sm.add constant(X)
       model = sm.OLS(Y, X)
       results = model.fit()
       print('Human Recognizable Objects : ')
       print("p-value : %.2f"%results.pvalues[0])
       print("R2: %.2f"%results.rsquared)
       print("Cohen's d : %.2f"%d)
       # Human Depiction
       y val=[]
       for i in range(len(df)):
          if('y' in df.iloc[i]['HD']):
             y val.append(1)
          else:
             y val.append(0)
       X=df['Mean']
       Y=y val
       d=cohend(Y,X)
       X=sm.add constant(X)
       model = sm.OLS(Y, X)
       results = model.fit()
       print('Human Depiction : ')
       print("p-value : %.2f"%results.pvalues[0])
```

\*\*\*\*\*\*\*
Tree :

```
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("******
# Skeuomorphism
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Skeumorphic']):
      y val.append(1)
   else:
      y_val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Skeuomorphism : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("*****
                               ****************
# Title
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Title']):
       y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Title : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Axis
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Axes']):
      y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Axis : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Key
y_val=[]
```

```
for i in range(len(df)):
   if('y' in df.iloc[i]['Key']):
      y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('Key : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Title and Key
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Title'] and 'y' in df.iloc[i]['Key']):
      y_val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('Title and Key: ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Text Volume
X=df['Mean']
Y=df['Text-Vol']
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Text Volume : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Data Labels
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Labels']):
      y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('Data Labels : ')
print("p-value : %.2f"%results.pvalues[0])
```

```
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("*******
# Data Ink Ratio
X=df['Mean']
Y=df['DIR']
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Data Ink Ratio : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Visual Density
X=df['Mean']
Y=df['Density']
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Visual Density : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("***********
                           **************
# Data Scale
X=df['Mean']
Y=df['Data-Vol']
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Data Scale : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Message Redundancy
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Msg-Red']):
      y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Message Redundancy : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("**********
                           *************
```

```
# Data Redundancy
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Data-Red']):
       y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('Data Redundancy : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Highlights
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Highlights']):
      y val.append(1)
   else:
       y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Highlights : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Arrows
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Arrows']):
      y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('Arrows : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
                     ********************
# Color
y val=[]
for i in range(len(df)):
   if('low' in df.iloc[i]['Color']):
```

```
y_val.append(1)
   elif('medium' in df.iloc[i]['Color']):
       y val.append(2)
   else:
       y val.append(3)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('Color : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Background Color
X=df['Mean']
Y=df['BGC']
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Background Color : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# 3D
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['3D']):
       y val.append(1)
   else:
       y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y,X)
results = model.fit()
print('3D : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("****************
# Gridlines
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Gridlines']):
       y val.append(1)
   else:
       y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Gridlines : ')
print("p-value : %.2f"%results.pvalues[0])
```

```
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("*******
# Caption
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Caption']):
      y val.append(1)
   else:
      y_val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Gridlines : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("*****
                                ***************
# Data Source
y val=[]
for i in range(len(df)):
   if('y' in df.iloc[i]['Source.1']):
       y val.append(1)
   else:
      y val.append(0)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Data Source : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Dimensionality
y val=[]
for i in range(len(df)):
   if('low' in df.iloc[i]['Dim']):
      y val.append(1)
   elif('medium' in df.iloc[i]['Dim']):
       y val.append(2)
   else:
      y val.append(3)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Dimensionality : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
# Pictorial Units
```

```
for i in range(len(df)):
   if('y' in df.iloc[i]['Pictorial-Units']):
       y val.append(1)
   else:
       y val.append(0)
X=df['Mean']
Y=y_val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Pictorial Units : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2 : %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
print("*******************
                            *****************
# Domain
y val=[]
for i in range(len(df)):
   if('Infographics' in df.iloc[i]['Domain']):
       y val.append(1)
   elif('Blog' in df.iloc[i]['Domain']):
       y val.append(2)
   elif('Government' in df.iloc[i]['Domain']):
       y val.append(3)
   elif('News' in df.iloc[i]['Domain']):
       y val.append(4)
   elif('Media' in df.iloc[i]['Domain']):
       y val.append(5)
   elif('Scientific' in df.iloc[i]['Domain']):
       y val.append(6)
   else:
       y val.append(7)
X=df['Mean']
Y=y val
d=cohend(Y,X)
X=sm.add constant(X)
model = sm.OLS(Y, X)
results = model.fit()
print('Domain : ')
print("p-value : %.2f"%results.pvalues[0])
print("R2: %.2f"%results.rsquared)
print("Cohen's d : %.2f"%d)
Photorealistic :
p-value : 0.00
R2: 0.84
Cohen's d : 0.86
******************************
Human Recognizable Objects:
p-value : 0.00
R2: 0.85
Cohen's d : 0.83
******************************
*****
Human Depiction :
p-value : 0.00
R2: 0.83
Cohen's d : 0.83
******************************
*****
Skeuomorphism:
p-value : 0.00
```

y val=[]

```
R2: 0.81
Cohen's d : 0.79
*****
Title:
p-value : 0.00
R2 : 0.85
Cohen's d : 0.89
*******************
*****
Axis :
p-value : 0.00
R2 : 0.89
Cohen's d : 0.90
*******************
Key:
p-value : 0.00
R2 : 0.75
Cohen's d : 0.81
******************
*****
Title and Key:
p-value : 0.00
R2 : 0.79
Cohen's d : 0.82
*************************
*****
Text Volume :
p-value : 0.00
R2: 0.89
Cohen's d : 0.92
******
Data Labels :
p-value : 0.00
R2: 0.78
Cohen's d : 0.79
*************************
*****
Data Ink Ratio :
p-value : 0.00
R2:0.59
Cohen's d : 0.43
*************************
*****
Visual Density:
p-value : 0.00
R2: 0.66
Cohen's d : 0.56
*******************
*****
Data Scale :
p-value : 0.00
R2 : 0.07
Cohen's d : 0.12
*******************
Message Redundancy:
p-value : 0.00
R2 : 0.81
Cohen's d : 0.77
******************
*****
Data Redundancy:
```

p-value : 0.00

```
R2: 0.09
Cohen's d : 0.28
*****
Highlights:
p-value : 0.00
R2 : 0.75
Cohen's d : 0.71
*******************
*****
Arrows:
p-value : 0.00
R2 : 0.68
Cohen's d : 0.70
Color :
p-value : 0.00
R2 : 0.71
Cohen's d : 0.73
*******************
*****
Background Color :
p-value : 0.00
R2 : 0.81
Cohen's d : 0.77
*************************
*****
3D:
p-value : 0.00
R2 : 0.53
Cohen's d : 0.33
******
Gridlines :
p-value : 0.00
R2: 0.48
Cohen's d : 0.29
*************************
*****
Caption :
p-value : 0.00
R2 : 0.72
Cohen's d : 0.78
********************
*****
Data Source :
p-value : 0.00
R2: 0.05
Cohen's d : 0.17
*******************
*****
Dimensionality:
p-value : 0.00
R2 : 0.05
Cohen's d : 0.11
*******************
*****
Pictorial Units:
p-value : 0.00
R2: 0.85
Cohen's d : 0.86
******************
*****
Domain :
```

p-value : 0.00

R2 : 0.01

Cohen's d : 0.08

In [ ]: