

Psychology Data Analysis Report

Correlation Matrix

| | participant_id | age | stress_1 | stress_2 | stress_3 | stress_4 | stress_5 | wellbeing_1 | wellbeing_2 | wellbeing_3 | wellbeing_4 | sleep_hours | performance_score |
|-------------------|----------------|-------|----------|----------|----------|----------|----------|-------------|-------------|-------------|-------------|-------------|-------------------|
| participant_id | 1.00 | 0.06 | 0.09 | 0.09 | 0.03 | 0.11 | 0.10 | -0.08 | -0.07 | -0.07 | -0.03 | -0.12 | -0.10 |
| age | 0.06 | 1.00 | 0.02 | 0.07 | 0.06 | 0.04 | 0.01 | -0.07 | -0.10 | -0.10 | -0.06 | -0.05 | -0.10 |
| stress_1 | 0.09 | 0.02 | 1.00 | 0.83 | 0.80 | 0.83 | 0.82 | -0.70 | -0.70 | -0.74 | -0.73 | -0.00 | -0.34 |
| stress_2 | 0.09 | 0.07 | 0.83 | 1.00 | 0.79 | 0.78 | 0.84 | -0.71 | -0.69 | -0.72 | -0.69 | -0.02 | -0.37 |
| stress_3 | 0.03 | 0.06 | 0.80 | 0.79 | 1.00 | 0.82 | 0.83 | -0.69 | -0.71 | -0.69 | -0.70 | -0.04 | -0.35 |
| stress_4 | 0.11 | 0.04 | 0.83 | 0.78 | 0.82 | 1.00 | 0.80 | -0.74 | -0.73 | -0.76 | -0.70 | -0.04 | -0.35 |
| stress_5 | 0.10 | 0.01 | 0.82 | 0.84 | 0.83 | 0.80 | 1.00 | -0.72 | -0.70 | -0.74 | -0.70 | 0.02 | -0.35 |
| wellbeing_1 | -0.08 | -0.07 | -0.70 | -0.71 | -0.69 | -0.74 | -0.72 | 1.00 | 0.83 | 0.85 | 0.84 | 0.02 | 0.31 |
| wellbeing_2 | -0.07 | -0.10 | -0.70 | -0.69 | -0.71 | -0.73 | -0.70 | 0.83 | 1.00 | 0.84 | 0.81 | 0.05 | 0.30 |
| wellbeing_3 | -0.07 | -0.10 | -0.74 | -0.72 | -0.69 | -0.76 | -0.74 | 0.85 | 0.84 | 1.00 | 0.83 | 0.09 | 0.35 |
| wellbeing_4 | -0.03 | -0.06 | -0.73 | -0.69 | -0.70 | -0.70 | -0.70 | 0.84 | 0.81 | 0.83 | 1.00 | 0.00 | 0.31 |
| sleep_hours | -0.12 | -0.05 | -0.00 | -0.02 | -0.04 | -0.04 | 0.02 | 0.02 | 0.05 | 0.09 | 0.00 | 1.00 | 0.54 |
| performance_score | -0.10 | -0.10 | -0.34 | -0.37 | -0.35 | -0.35 | -0.35 | 0.31 | 0.30 | 0.35 | 0.31 | 0.54 | 1.00 |

Regression Analysis

OLS Regression Results

Dep. Variable: performance_score R-squared: 0.447
Model: OLS Adj. R-squared: 0.399
Method: Least Squares F-statistic: 9.256
Date: Thu, 28 Aug 2025 Prob (F-statistic): 1.55e-16
Time: 23:58:16 Log-Likelihood: -604.17
No. Observations: 200 AIC: 1242.
Df Residuals: 183 BIC: 1298.
Df Model: 16
Covariance Type: nonrobust

coef std err t P>|t| [0.025 0.975]

const 50.1546 5.087 9.860 0.000 40.118 60.191
age -0.0782 0.087 -0.903 0.368 -0.249 0.093
stress_1 -0.1777 0.638 -0.279 0.781 -1.436 1.080
stress_2 -0.6336 0.608 -1.042 0.299 -1.833 0.566
stress_3 -0.2250 0.607 -0.371 0.711 -1.422 0.972
stress_4 -0.0335 0.596 -0.056 0.955 -1.209 1.142
stress_5 -0.8635 0.632 -1.367 0.173 -2.110 0.383
wellbeing_1 0.1273 0.543 0.235 0.815 -0.943 1.198
wellbeing_2 -0.4408 0.514 -0.857 0.392 -1.455 0.574

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wellbeing_3 -0.0279 0.572 -0.049 0.961 -1.157 1.101
sleep_hours 2.9065 0.310 9.363 0.000 2.294 3.519
wellbeing_4 0.4840 0.515 0.939 0.349 -0.533 1.501
gender_Male -0.6452 0.773 -0.835 0.405 -2.170 0.880
gender_Other -1.1056 1.857 -0.595 0.552 -4.770 2.559
education_High School -1.1532 0.891 -1.295 0.197 -2.911 0.604
education_Master -1.0486 1.018 -1.030 0.304 -3.056 0.959
education_PhD -0.1523 1.502 -0.101 0.919 -3.117 2.812

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Omnibus: 1.739 Durbin-Watson: 2.090
Prob(Omnibus): 0.419 Jarque-Bera (JB): 1.814
Skew: -0.194 Prob(JB): 0.404
Kurtosis: 2.742 Cond. No. 397.

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Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

Correlation Heatmap

