Correlations

The correlation tells you the magnitude and direction of the association between two variables.

```
PROC CORR;
VAR happy sexfreq age;
RUN;
```

This cell represents the correlation (and significance and sample size) between age and general happiness. The top value (-.045) is the correlation coefficient. The middle value (.094) is the significance level. The bottom value (1362) is the number of cases. In this example, the correlation is not significant, at the p < .05 level.

Pearson Correlation Coefficients
Prob > |r| under H0: Rho=0
Number of Observations

	HAPPY	SEXFREQ	AGE
HAPPY **GENERAL HAPPINESS**	1.00000 1369	-0.10525 0.0006 1060	-0.04534 0.0944 1362
SEXFREQ **FREQUENCY OF SEX DURING LAST YEAR**	-0.10525 0.0006 1060	1.00000 2151	-0.43701 <.0001 2143
AGE **AGE OF RESPONDENT**	-0.04534 0.0944 1362	-0.43701 <.0001 2143	1.00000 2751

Here is the correlation between age of respondent and frequency of sex. The correlation coefficient is -.437 (and is significant). This suggests a negative correlation with moderate magnitude. As age increases, the frequency of sex decreases. The correlation between age and frequency of sex is -.437. If we square this value, we get .190969, or 19.1 out of 100, or 19.1 percent. From this we can claim that 19.1% of the variation in frequency of sex is attributed to respondent's age.

Note
The following general categories indicate a quick way of interpreting correlations.

0.0 – 0.2	Very weak correlation
0.2 – 0.4	Weak correlation
0.4 – 0.7	Moderate correlation
0.7 – 0.9	Strong correlation
0.9 – 1.0	Very strong correlation