

Correlational Analysis of Love Attitudes, Behaviors, and Age

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Introduction

This study examines the relationships among three variables measured in a class survey of 29 students: Luvag, the average score for attitudes toward love; Behavg, the average score for reported behavior; and age, rounded to the next year. The analysis uses Pearson product-moment correlations to determine whether students with higher love-attitude scores also tend to report more positive behavior and whether either construct varies with age. The original report correctly identifies one strong positive association and two weak negative associations, but correlation must be interpreted as a measure of linear relationship rather than proof that one variable causes another.

The study is exploratory. A sample of 29 students can reveal patterns within the class, but it is too small and narrowly selected to represent all adults, students, or age groups. The variables also appear to be self-reported averages, meaning that the same person supplied both attitude and behavior ratings. Shared response style, social desirability, and similarity between questionnaire items may therefore contribute to the observed relationship. The findings are useful as a classroom demonstration of bivariate correlation, provided that their statistical and design limitations are stated clearly.

Research Questions

The first research question asks whether average reported behavior is related to average love attitude. The null hypothesis is that the population correlation equals zero, while the alternative hypothesis is that a nonzero linear association exists. The second question asks whether age is related to love attitude. The third asks whether age is related to reported behavior. The analysis uses two-tailed significance tests, which allow for either positive or negative relationships.

A correlation coefficient ranges from -1 to $+1$. Positive values indicate that higher scores on one variable tend to accompany higher scores on the other. Negative values indicate that higher scores on one tend to accompany lower scores on the other. Values closer to zero represent weaker linear association. The magnitude must be interpreted in context, and a large coefficient does not establish a causal mechanism.

Variables and Measurement

Luvag is described as the average rating of love attitude, and Behavg as the average rating of conduct or behavior. The report should identify the questionnaire items used to create each average, the response scale, whether any items were reverse-coded, and the number of valid responses. Without that information, the constructs remain broad. “Love attitude” could refer to empathy, commitment, affection, beliefs about relationships, or a mixture, while “behavior” could include prosocial conduct, relationship behavior, or general self-evaluation.

Before averaging several items, researchers should assess whether the items measure a coherent construct. Internal-consistency evidence such as Cronbach’s alpha or omega would help determine whether combining them is defensible. A high correlation between Luvag and Behavg may partly reflect overlapping item wording. If both scales ask similar questions in slightly different language, the analysis may measure conceptual duplication rather than a relationship between distinct constructs.

Age was rounded to the next year. This unusual transformation can reduce precision and introduce systematic upward rounding. Ordinary age in completed years or a more precise continuous value would be easier to interpret. The class sample may also contain a narrow age range, limiting the ability to detect an age relationship even if one exists in a broader population.

Assumptions of Pearson Correlation

Pearson correlation measures linear association between approximately continuous variables. The relationship should be examined with scatterplots because a coefficient near zero can conceal a strong curved pattern. Severe outliers can inflate, reduce, or reverse a correlation. The analysis should therefore inspect each pair of variables visually and check whether one or two unusual students dominate the result.

Observations should be independent. Each participant should contribute one set of scores and should not be duplicated. If students completed the survey in close groups or discussed answers, responses may be socially dependent. The variables should also have adequate variation. Restricted age or attitude ranges reduce correlation and limit generalization.

For small-sample significance testing and confidence intervals, approximate bivariate normality is helpful, although Pearson’s coefficient itself can still be calculated when the distribution is imperfect. If variables are ordinal, strongly skewed, or affected by outliers, Spearman’s rank correlation may provide a useful sensitivity analysis.

Correlation Between Behavior and Love Attitude

The reported Pearson correlation between Behavg and Luvag is $r = .863$ with 29 observations. SPSS displays the significance value as .000, but a probability is not literally zero. It should be reported as $p < .001$. The coefficient indicates a strong positive linear association in this sample: students with higher reported love-attitude scores also tended to have higher reported behavior scores. (Field, 2018)

The squared correlation, approximately .745, indicates that the two variables share about 74.5 percent of their sample variance. This does not mean that love attitudes “explain” or cause 74.5 percent of behavior in a causal sense. Shared variance can arise from reciprocal influence, a third factor, overlapping measurement, response style, or common method. For example, participants who wish to present themselves positively may give high ratings across both scales.

The result is statistically significant because a coefficient this large would be unusual under the null model of zero population correlation, assuming the test conditions are satisfied. Statistical significance does not establish measurement validity. The strongest next step would be to inspect the scales and scatterplot, calculate a confidence interval, and examine whether the relationship remains strong after controlling for potential common factors.

Possible Interpretations of the Strong Association

One interpretation is that people who value loving, caring, or compassionate attitudes are more likely to engage in positive behavior. Attitudes may guide decisions, communication, and treatment of others. A second possibility is that behaving positively reinforces a person’s self-concept and attitudes. A third is that a broader trait, such as empathy, agreeableness, religiosity, social desirability, or relationship satisfaction, influences both scores.

The direction cannot be resolved through a cross-sectional correlation. A longitudinal design could measure attitudes at one time and behavior later. An experiment could test a specific intervention, though broad love attitudes cannot be manipulated ethically or simply. Qualitative interviews could clarify what participants meant by the survey items. The present result supports association, not a directional conclusion.

Correlation Between Love Attitude and Age

The correlation between Luvag and age is $r = -.099$, $p = .609$, with 29 observations. This is a negligible negative linear association. Within the sample, older participants tended to have very slightly lower love-attitude scores, but the difference is small and statistically nonsignificant. The data do not provide evidence of a meaningful linear relationship between age and love attitude in this

class.

A nonsignificant result does not prove that age has no relationship in the population. The sample may lack statistical power, contain a narrow age range, or use a measure insensitive to developmental differences. The confidence interval around the correlation would likely be wide enough to include moderate negative and positive associations. Reporting that interval would communicate uncertainty more effectively than a simple “significant or not significant” label.

Age effects may also be nonlinear or moderated by experience. Attitudes could differ between adolescence, early adulthood, midlife, and later life without forming one straight line. Relationship history, culture, gender, and social conditions may matter more than chronological age. A larger and more diverse sample would be required to examine these possibilities.

Correlation Between Behavior and Age

The correlation between Behav_g and age is $r = -.247$, $p = .196$, with 29 observations. This coefficient represents a small negative association. The original report incorrectly states that older participants showed slightly more positive behavior. A negative coefficient means the opposite direction under the assumed scoring: as age increased, Behav_g tended to decrease slightly. The relationship was not statistically significant at the .05 level.

The magnitude is larger than the age-love correlation but remains uncertain in a sample of 29. It would be inappropriate to conclude that older people behave less positively. The result may reflect sampling variation, a few observations, cohort differences, or the meaning of the behavior scale. A scatterplot and confidence interval are essential before attaching substantive meaning.

If higher Behav_g scores do not in fact represent more positive behavior, the substantive direction would need to be revised. The coding scheme must therefore be documented. Statistical software cannot determine whether a high score is desirable; interpretation depends on how items were scored.

Statistical Significance and Practical Meaning

The study uses a conventional .05 significance level. The behavior-love relationship is clearly significant, while the two age relationships are not. P-values should not be interpreted as the probability that the null hypothesis is true or that a finding occurred “by chance.” They describe the compatibility of the observed statistic with a specified null model under assumptions.

Practical importance depends on the construct and effect size. The .863 coefficient is large, but its usefulness may be limited if the two scales overlap or are not reliable. The age coefficients are small in this sample, yet a small population association could matter in a large social context. Statistical and

substantive evaluation should occur together.

Multiple Testing

Three correlations were tested. Conducting several tests increases the chance of at least one false-positive result. The behavior-love p-value is so small that it would remain significant under common corrections such as Bonferroni adjustment, where .05 is divided by three. The two age correlations would remain nonsignificant.

Because this is a small exploratory study, the most informative approach is to report all tests transparently, emphasize effect sizes and confidence intervals, and avoid selecting only significant results. The hypotheses should ideally be stated before analysis.

Sample Size and Statistical Power

A sample of 29 provides reasonable ability to detect a very large correlation but limited power for small or moderate relationships. The strong .863 association is unlikely to be overlooked, while the age correlations are estimated imprecisely. A nonsignificant result in a small sample may represent absence of evidence rather than evidence of absence.

A future study should perform an a priori power analysis based on the smallest effect considered meaningful. It should recruit participants across a broader age range and from more than one class. Larger samples also allow regression models that control for other variables, but adding many predictors to a sample of 29 would overfit the data.

Sampling and Generalizability

The participants were students in one class, apparently a convenience sample rather than a random sample. Their attitudes and behavior may be shaped by shared institution, course, location, age range, and social environment. Findings should therefore be described as applying to the surveyed class rather than generalized to all students or society.

Participation conditions should be reported. If the survey was mandatory, identifiable, or completed in front of peers, responses may differ from confidential voluntary responses. Nonresponse can also bias results if students who declined had different experiences.

Self-Report Bias

Both central variables appear to be self-reported. Participants may answer according to how they wish

to be seen rather than how they behave. Memory, mood, interpretation, and acquiescence can affect averages. A person who generally chooses high scale points may inflate the correlation between two questionnaires.

Future work could use behavioral observations, peer reports, scenario-based measures, or records where ethically appropriate. Multiple methods reduce common-method bias, although each brings its own limitations. Confidentiality and respectful language are important because questions about love and conduct can feel personal. (Hendrick & Hendrick, 1986)

Reliability and Validity

Reliability concerns consistency, while validity concerns whether the scale measures the intended construct. The report should provide scale development, example items, response options, scoring, and reliability estimates. Factor analysis could examine whether items separate into love attitude and behavior as proposed, but a sample of 29 is too small for robust factor analysis.

Content validity requires that the items cover the domain. A narrow set of romantic statements may not represent love broadly, and self-described intentions may not represent actual behavior. Strong correlation cannot compensate for weak construct validity.

Potential Confounding Variables

Variables such as gender, relationship status, cultural background, personality, religious belief, mental health, and social desirability may relate to both attitudes and behavior. The current bivariate analysis does not control for them. With a sufficiently large sample, multiple regression or partial correlation could examine whether the behavior-love relationship remains after selected confounders are considered. (Cohen et al., 2003)

Control should be theoretically justified rather than adding every available variable. Some variables may be mediators rather than confounders, and controlling them can distort interpretation. A clear conceptual model should precede statistical adjustment.

Ethical Considerations

Participants should know the purpose of the survey, how responses will be used, whether participation is voluntary, and how privacy is protected. Scores about love and behavior should not be used to label individual students as caring or uncaring. Class research requires particular care because instructors hold authority.

Only aggregate results should be presented unless explicit consent and appropriate safeguards exist.

Small demographic groups can sometimes be identifiable even without names. Data retention and access should be limited.

Recommendations for Improved Analysis

The researcher should replace the SPSS tables with concise statistical reporting and scatterplots. Each result should include r , sample size, exact or bounded p -value, and a 95 percent confidence interval. The report should verify coding, inspect outliers, and test Spearman correlations as sensitivity analyses if assumptions are questionable.

The scales should be described and their reliability assessed. Age should be recorded consistently rather than rounded upward. Future data collection should use a larger, more diverse sample and preregister hypotheses where feasible. A longitudinal design would provide stronger evidence concerning direction, while qualitative work could clarify how students understand love and behavior.

Conclusion

The analysis found a strong positive correlation between love-attitude scores and behavior scores, $r = .863$, $p < .001$, among 29 students. Students who reported stronger loving attitudes also tended to report more positive behavior. The finding is statistically strong within the sample but does not establish that attitudes cause behavior. Overlapping measures, social desirability, and other variables may contribute.

Love attitude had a negligible, nonsignificant negative correlation with age, $r = -.099$, $p = .609$. Behavior had a small, nonsignificant negative correlation with age, $r = -.247$, $p = .196$. The negative sign means older students tended to score slightly lower on Behavg, not higher, although the evidence is too weak for a substantive age conclusion.

The study is a useful demonstration of correlation, but its results should remain limited to the class sample. Stronger research would define and validate the scales, report confidence intervals and scatterplots, protect participant privacy, and collect a larger and more diverse sample. Correlation describes how variables move together; it does not by itself explain why.

References

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