**Predicting Negative Affect from Sex, Conscientiousness, and Socially Prescribed Perfectionism: A Multiple Regression Analysis**

Tamar Gazit

Department of Psychiatry, Dalhousie University

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Dr. Sandra Meier

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This study examined whether sex, conscientiousness, and socially prescribed perfectionism (SPP) predicted negative affect. Based on previous research, it was hypothesized that (H1) women would report more negative affect than men, higher conscientiousness would be associated with lower negative affect, and higher SPP would be associated with higher negative affect. A second hypothesis (H2) proposed that SPP would account for unique variance in negative affect above and beyond the effects of sex and conscientiousness. These hypotheses were tested using multiple linear regression and model comparison within the General Linear Model (GLM) framework.

**Results**

**Data Preparation**

Prior to analysis, the ‘sex’ variable was recoded as a binary factor (0 = female, 1 = male). One participant who selected “Other (specify)” was removed due to the small number of responses in that category. Composite scores for SPP (SPP\_total), conscientiousness (CONS\_total), and negative affect (NA\_total) were computed by taking the mean of the relevant scale items. The item ‘tipm.CONS2.3y’ was reverse-coded (i.e., 8 – item score) before inclusion in the conscientiousness composite. Missing data were handled using pairwise deletion when computing subscale means. All data cleaning steps were verified by inspecting value ranges, summary statistics, and select participant responses.

**Descriptive Statistics**

Descriptive statistics and bivariate correlations for the continuous study variables are presented in Table 1. Negative affect scores ranged from 1.00 to 4.83 (M = 2.45, SD = 0.99; Mdn = 2.21), reflecting generally low to moderate levels of negative affect in the sample. The distribution was positively skewed, with a concentration of scores toward the lower end. Conscientiousness scores ranged from 1.00 to 7.00 (M = 5.05, SD = 1.27; Mdn = 5.00) and exhibited a modest negative skew, indicating that participants generally rated themselves as relatively conscientious. SPP scores also ranged from 1.00 to 7.00 (M = 4.42, SD = 1.44; Mdn = 4.50) and were roughly symmetrically distributed, though slightly skewed right, with many participants reporting moderate to high levels of socially prescribed perfectionism.

Sex was coded as a binary variable, with 116 participants identifying as female (coded 0) and 20 as male (coded 1), creating a notably imbalanced sample. This imbalance should be considered when interpreting group comparisons.

Bivariate Pearson correlations revealed significant associations among the continuous variables, all supported by 95% confidence intervals that did not cross zero, indicating that the effects were likely meaningful and not due to chance. Negative affect was significantly negatively correlated with conscientiousness, r = –.37, 95% CI [–.50, –.21], suggesting that individuals who rated themselves as more conscientious tended to report lower levels of negative affect. SPP was positively associated with negative affect, r = .39, 95% CI [.24, .52], indicating that participants who perceived stronger external expectations to be perfect also reported more negative affect. Finally, conscientiousness and SPP were modestly but significantly negatively correlated, r = –.20, 95% CI [–.36, –.04], reflecting some conceptual overlap but also distinctiveness between these personality traits.

**Table 1**

*Means, standard deviations, and correlations with confidence intervals*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | *M* | *SD* | 1 | 2 |
|  |  |  |  |  |
| 1. NA\_total | 2.45 | 0.99 |  |  |
|  |  |  |  |  |
| 2. CONS\_total | 5.05 | 1.27 | -.37\*\* |  |
|  |  |  | [-.50, -.21] |  |
|  |  |  |  |  |
| 3. SPP\_total | 4.42 | 1.44 | .39\*\* | -.20\* |
|  |  |  | [.24, .52] | [-.36, -.04] |
|  |  |  |  |  |

*Note.* *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). \* indicates *p* < .05. \*\* indicates *p* < .01.

**Univariate and Bivariate Visualizations**

Univariate visualizations were used to examine the distribution of each key variable prior to hypothesis testing. Univariate visualizations showed that NA\_total was positively skewed, with most participants reporting lower levels of negative affect. CONS\_total was negatively skewed, with scores clustering at the higher end, suggesting participants generally rated themselves as highly conscientious. SPP\_total was roughly symmetric, with a slight right skew and more participants endorsing mid-to-high levels of socially prescribed perfectionism. The distribution of sex was highly imbalanced, with most identifying as female (coded 0). Overall, these patterns supported the use of linear modeling but flagged minor non-normality in NA\_total and CONS\_total for further evaluation in assumption testing.

Bivariate visualizations were then used to assess the form and strength of relationships between each predictor and negative affect. Bivariate plots revealed a strong curvilinear negative relationship between conscientiousness and negative affect: lower conscientiousness was associated with higher negative affect, but this association weakened at higher levels of conscientiousness. In other words, increases in conscientiousness predicted notable reductions in negative affect at the low end of the scale, but had less impact as scores became higher. In contrast, SPP showed a curvilinear positive association, with negative affect remaining stable at low-to-moderate SPP levels but increasing sharply beyond a threshold of about 4.5. A group mean difference also emerged for sex, with females (coded 0) reporting higher negative affect than males (coded 1). These patterns aligned with theoretical expectations and provided visual support for H1, justifying formal hypothesis testing using multiple linear regression.

**Assumption Testing**

Before interpreting the multiple linear regression model predicting negative affect from sex, conscientiousness, and SPP, the key assumptions of the GLM were evaluated using diagnostic plots. **Linearity** was assessed using the residual dependence plot. The loess line displayed a slight curve, suggesting a minor deviation from perfect linearity; however, the pattern remained sufficiently linear to justify model interpretation. **Normality of residuals** was examined using a histogram, which showed an approximately normal distribution with a slight negative skew. This mild departure was not considered problematic given the sample size (N = 136), as regression is robust to minor violations of normality in larger samples. **Homoscedasticity** was assessed with a spread-location (S-L) plot. Although residuals showed somewhat greater spread at higher fitted values—indicating mild heteroskedasticity—this pattern was limited and unlikely to meaningfully bias parameter estimates. **Multicollinearity** was tested using variance inflation factors (VIFs). All VIFs were below 1.10, well under the conventional threshold of 5, indicating no evidence of problematic multicollinearity. **Independence of observations** was assumed to be met based on the study’s cross-sectional design, which involved one-time survey responses from independent participants.

In sum, minor deviations from linearity, normality, and homoscedasticity were noted, but none were severe. The regression model was retained without transformation and deemed appropriate for interpretation. Although not implemented in the current analysis, potential remedies could include applying log or square root transformations to address skew or heteroskedasticity, or using robust regression techniques to reduce the influence of non-normal residuals.

**Hypothesis Testing**

To test H1, a multiple linear regression was conducted to examine whether sex, conscientiousness, and socially prescribed perfectionism (SPP) significantly predicted negative affect. The overall model was statistically significant, F(3, 132) = 17.62, p < .001, and accounted for 28.6% of the variance in negative affect, R² = .29, 95% CI [.16, .41], indicating a moderate effect size and good model fit.

All three predictors contributed significantly to the model in the hypothesized directions. Sex significantly predicted negative affect, b = –0.61, SE = 0.21, t = –2.96, p = .004, such that males (coded 1) reported lower negative affect than females (coded 0). This means that, on average, males scored 0.61 points lower on negative affect than females, controlling for the other predictors in the model.

Conscientiousness was a significant negative predictor, b = –0.26, SE = 0.06, t = –4.35, p < .001, indicating that participants who rated themselves as more conscientious tended to report lower levels of negative affect. Specifically, for every one-point increase in conscientiousness, negative affect decreased by approximately 0.26 points, holding other variables constant.

In contrast, SPP significantly positively predicted negative affect, b = 0.22, SE = 0.05, t = 4.23, p < .001, suggesting that participants who perceived greater external expectations for perfection reported higher levels of negative affect. This means that for every one-point increase in SPP, negative affect increased by about 0.22 points, controlling for sex and conscientiousness.

Semi-partial R² values indicated that conscientiousness accounted for the largest proportion of unique variance in negative affect (sr² = .16), followed by SPP (sr² = .10) and sex (sr² = .04). These effect sizes suggest that personality traits, particularly conscientiousness and SPP, play an important role in explaining individual differences in negative affect, above and beyond sex differences. Taken together, these results provide strong support for H1, confirming that sex, conscientiousness, and SPP each significantly and uniquely contribute to the prediction of negative affect in theoretically consistent directions.

To test H2, a model comparison was conducted to determine whether SPP explained unique variance in negative affect beyond the contributions of sex and conscientiousness. The reduced model, which included only sex and conscientiousness as predictors, accounted for 18.9% of the variance in negative affect, R² = .189, 95% CI [.07, .31], F(2, 133) = 15.54, p < .001. In contrast, the full model, which added SPP, explained 28.6% of the variance, R² = .286, 95% CI [.16, .41], F(3, 132) = 17.62, p < .001. This represents an increase of approximately 9.7% in explained variance (ΔR² = .097), indicating that SPP accounted for meaningful incremental variance in negative affect.

This conclusion was further supported by model fit indices. The full model yielded lower Akaike Information Criterion (AIC = 345.97) and Bayesian Information Criterion (BIC = 360.53) values compared to the reduced model (AIC = 361.22; BIC = 372.87), indicating improved model fit. The Bayes Factor (BF = 478.88) provided strong evidence in favor of the full model relative to the reduced model (BF = 0.002), suggesting that the data were approximately 479 times more likely under the model that included SPP.

In the full model, SPP remained a statistically significant positive predictor of negative affect, b = 0.22, SE = 0.05, p < .001, after controlling for sex and conscientiousness. The semi-partial R² for SPP was .097, meaning it uniquely explained approximately 9.7% of the variance in negative affect, which is considered a moderate effect in psychological research. These findings provide strong support for H2 and demonstrate that SPP contributes uniquely and meaningfully to the prediction of negative affect. That is, even after accounting for sex and conscientiousness, each one-point increase in SPP still predicted a 0.22-point increase in negative affect.

**Table 2**

*Regression results using NA\_total as the criterion*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Predictor | *b* | *b*  95% CI  [LL, UL] | *sr2* | *sr2*  95% CI  [LL, UL] | Fit |
| (Intercept) | 2.87\*\* | [2.04, 3.71] |  |  |  |
| sex1 | -0.61\*\* | [-1.02, -0.20] | .05 | [-.01, .11] |  |
| CONS\_total | -0.26\*\* | [-0.37, -0.14] | .10 | [.02, .19] |  |
| SPP\_total | 0.22\*\* | [0.12, 0.32] | .10 | [.01, .18] |  |
|  |  |  |  |  | *R2*  = .286\*\* |
|  |  |  |  |  | 95% CI[.15,.39] |
|  |  |  |  |  |  |

*Note.* A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr2* represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively.  
\* indicates p < .05. \*\* indicates p < .01.

**Limitations**

Several limitations of the current analysis should be noted. First, minor violations of linearity, normality, and homoscedasticity were observed in diagnostic plots, which could introduce some bias into parameter estimates. Though these violations were judged to be minimal and not severe enough to invalidate the model, researchers could consider using robust regression techniques or transforming variables (e.g., log or square root transformations) to better meet model assumptions in future studies. Second, the sample had a large imbalance in sex, with most participants identifying as female. This could reduce the reliability of comparisons between males and females. A more balanced sample or statistical methods like bootstrapping could improve group comparisons in future analyses.Third,Third, the regression model used unstandardized coefficients, which reflect raw units of measurement. While these are useful for interpretation, they make it difficult to compare which predictors have the strongest effect when variables are measured on different scales. Including standardized coefficients could help address this.

**Conclusion**

The findings of this study provide strong support for both hypotheses. Consistent with **H1**, sex, conscientiousness, and SPP each significantly and uniquely predicted negative affect. As expected, women reported higher negative affect than men, higher conscientiousness was associated with lower negative affect, and higher SPP was linked to greater negative affect. **H2** was also supported: SPP accounted for a significant amount of unique variance in negative affect beyond the effects of sex and conscientiousness, and its inclusion improved model fit based on both variance explained and information-theoretic indices (AIC, BIC, Bayes Factor). Together, these results suggest that both personality traits and socially imposed perfectionistic standards are important predictors of emotional well-being.