

THE EFFECT OF A STUDENT'S NEUROTICISM LEVEL AND ANONYMITY OF PEERS' SUCCESS ON A STUDENT'S ACADEMIC PERFORMANCE

Austin Neely, Anum Bhamani, Daisha White, Kelsey Silbert, Yetunde Maria Ogunlusi

INTRODUCTION

Background: Many cultures around the world believe that measuring academic performance is important, but there are many factors that affect this, including self-esteem (Covin, Donovan & MacIntyre, 2003) and competition (Chen, 2017; Gächter & Thöni, 2010). What about a person's neuroticism level and knowledge of peers' success?

Our Goal: To study how knowledge of others' scores and amount of neuroticism impact a person's performance.

HYPOTHESIS 1

A student with higher levels of measured neuroticism will show less improvement in their scores than those with lower levels of neuroticism.

HYPOTHESIS 2

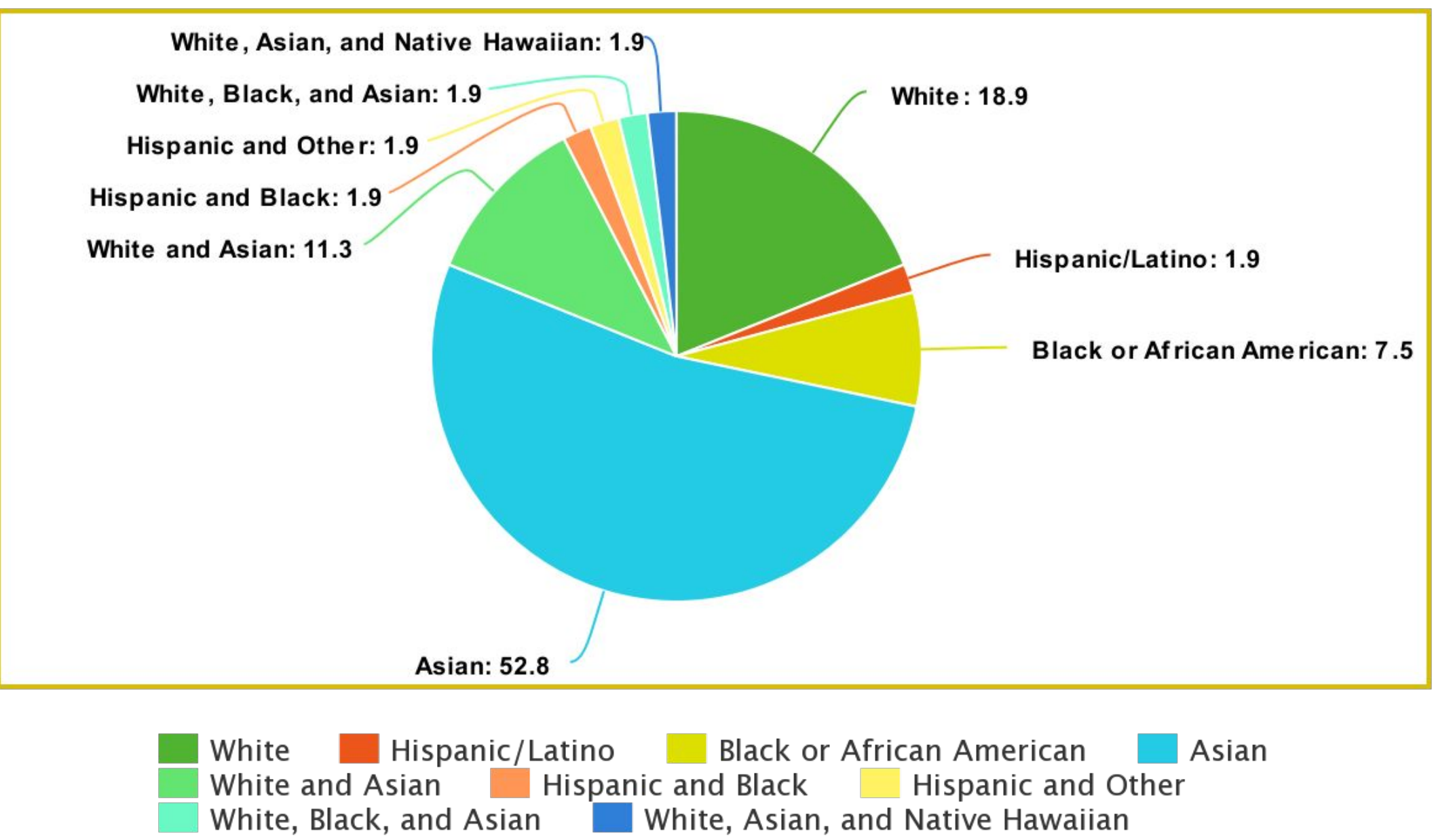
When given knowledge of peers' success on a performance assessment, the student will show less improvement in their scores than those who were not given access to that information.

HYPOTHESIS 3

There will be a significant interaction effect between the anonymity of peers' scores and level of neuroticism.

METHODS

DEMOGRAPHICS



57 participants
Data of 53 participants
included in the results
Participants between the ages
17 and 29

MEASURES

DEMOGRAPHICS

Age and Race

NEUROTICISM ASSESSMENT

Modified NEO-PI-R assessment focused on
neuroticism
(10 items, $\alpha = 0.82$)

MEMORY ASSESSMENT (N-BACK)

2-Back version

PROCEDURES

1. Neuroticism Pre-test
2. Four Sessions, one level of the IV per session
3. Preliminary Survey Questions
4. Completion of initial N-back Assessment
5. Three Minute Break
 - a. Session 1 - Knowledge of Peer's scores, pointing out two individuals
 - b. Session 2 - Knowledge of Peer's scores, without indication of individuals
 - c. Sessions 3 & 4 - No knowledge of peer's scores
6. Completion of the N-Back again
7. Follow up survey questions
8. Debriefing and completion

RESULTS

To discover the effects of our data, we conducted a **Factorial ANOVA** for our **2 x 3 Between Subjects Factorial Design**.

FIGURE 1: MAIN EFFECT #1

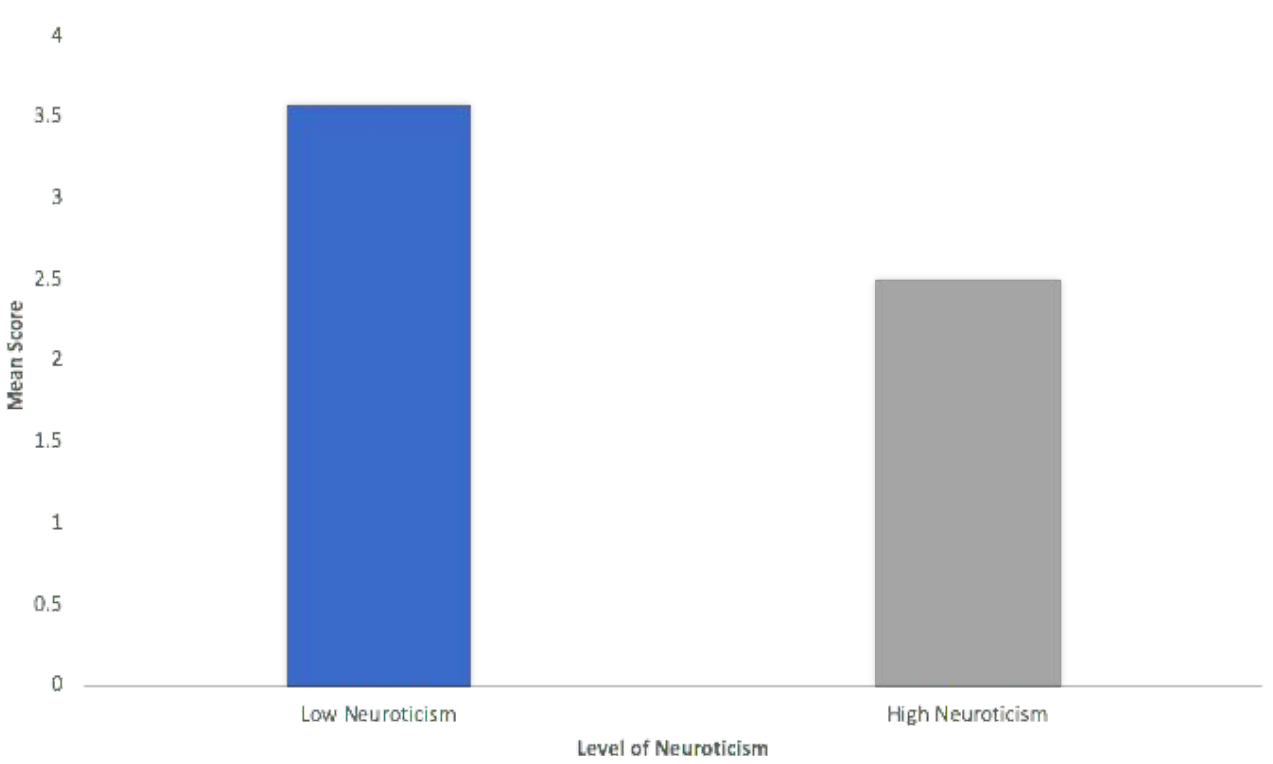


FIGURE 1. $F(1, 44) = 0.67, p = .42, \eta_p^2 = .02$. Mean Score for high and low neuroticism measures.

FIGURE 2: MAIN EFFECT #2

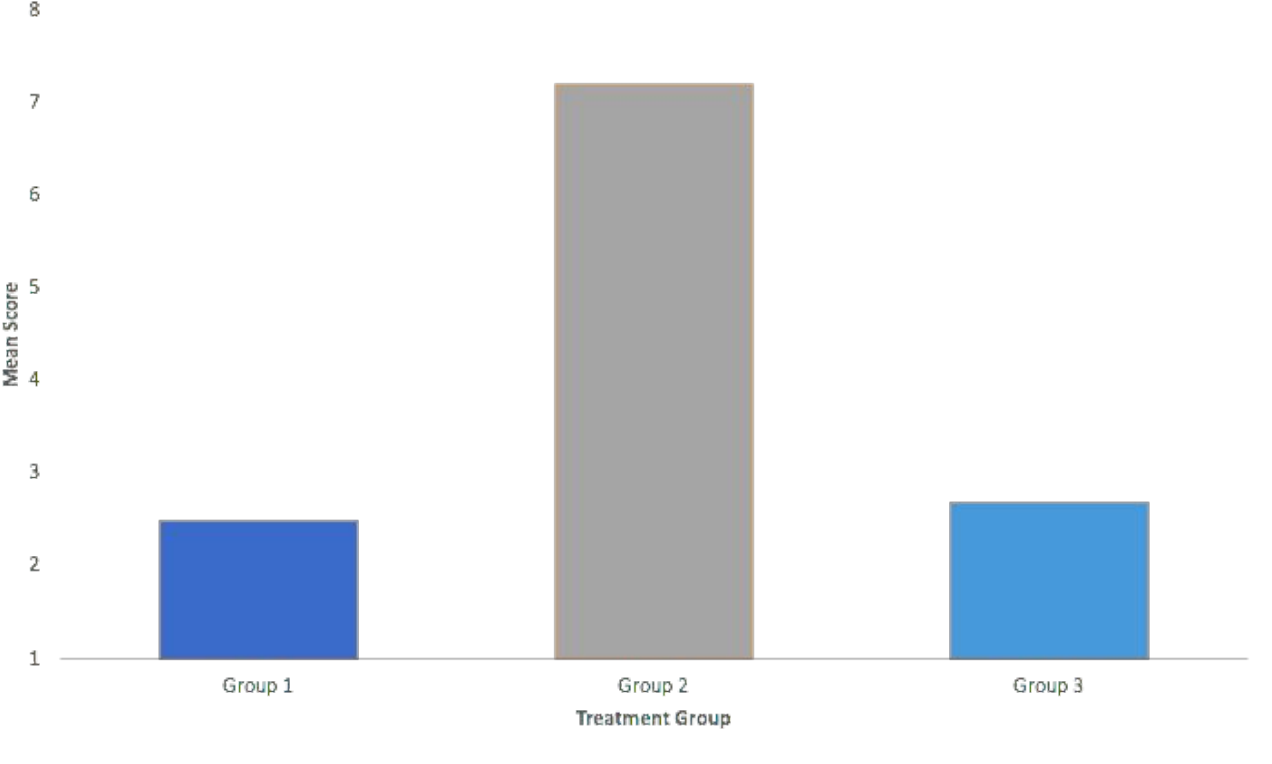


FIGURE 2. $F(2, 44) = 2.20, p = .12, \eta_p^2 = .09$. Mean Score for group 1 (feedback including confederates), group 2 (general feedback), and group 3 (no feedback received).

FIGURE 3: INTERACTION EFFECT

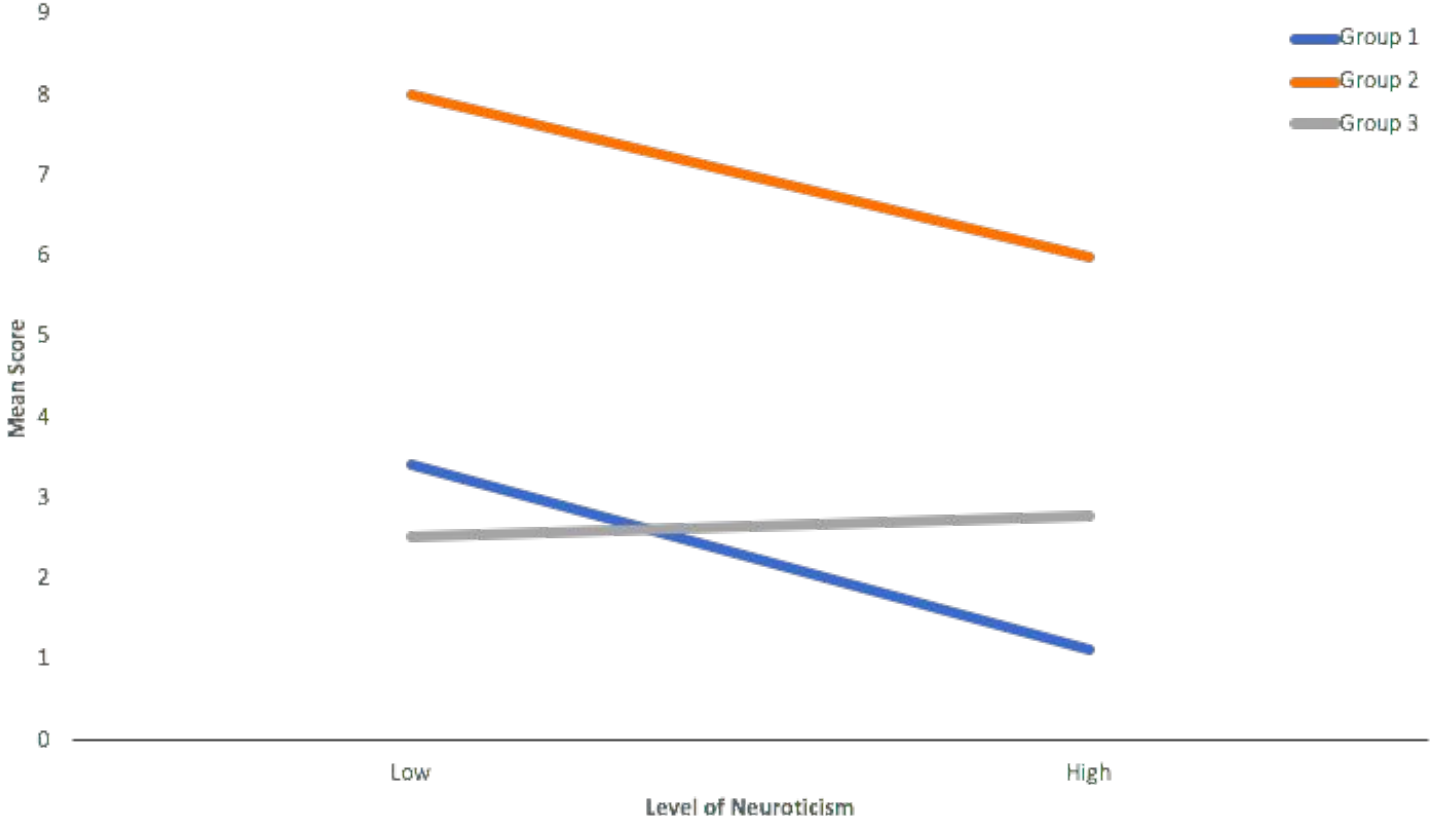


FIGURE 3. $F(2, 44) = 0.46, p = .64, \eta_p^2 = .02$. Scores consisting of average mean differences, for between groups' anonymity and neuroticism measures interaction effect on N-Back test performance.

Our results showed **No Significant** effects present in our study

DISCUSSION

- The result shows **NO SIGNIFICANT** effect of level of anonymity of peer's scores and of level of neuroticism on student's performance.
1. Strength
 - a. Sample size was not too small
 - b. N-back is one of the good ways to measure the student's performance level and it is only used twice to avoid learnability and other possible confounds.
 - c. This study can be replicated
 2. Limitations/ Weaknesses
 - a. Limited to GT students only
 - b. Limited time to conduct the study
 - c. Lack of realism
 - d. Weak manipulation of IV (Level of anonymity)
 3. Improvements
 - a. Strong manipulation of IV(Level of anonymity)
 - b. Study with larger sample size, non-GT students, and different age group.
 4. Conclusion:
 - a. Though our results were not significant but we still see student with higher levels of measured neuroticism show less improvement in their scores than those with lower levels of neuroticism

REFERENCES

Chen, C.-H., Law, V., & Chen, W.-Y. (2017). The effects of peer competition-based science learning game on secondary students' performance, achievement goals, and perceived ability. *Interactive Learning Environments*, 26(2), 235–244.

Covin, R., Donovan, L. A., & MacIntyre, P. D. (2003). The Relationship Between Self-Esteem and Performance When Information Regarding Others' Performance Is Available. *The Journal of Social Psychology*, 143(4), 541–544.

Gächter, S., & Thöni, C. (2010). Social comparison and performance: Experimental evidence on the fair wage–effort hypothesis. *Journal of Economic Behavior & Organization*, 76(3), 531–543. doi: 10.1016/j.jebo.2010.08.008