

Abstract

The present research examined the effect of grit on performance and goal setting by analyzing examination scores and data of high school students (N=127). Simple regression analysis showed that there was no significant relationship between grit and performance, whereas there were significant relationships between grit and both pre-exam and post-exam goal setting. Specifically, gritty students expected higher performance before and after examination even when actual outcome was generally lower than their expectation. This suggests that gritty tends to set goals optimistically even in the face of negative feedback.

Introduction

“Learn from your mistakes, build your success,”

- The mission statement of FailCon

• Grit and Long-term Goal Achievement

- Grit is defined as *perseverance* and *passion* for long-term goals (Duckworth et al., 2007).
- Most existing studies have been limited to investigating the effect of grit on final outcome which is the *last* stage of goal pursuit (e.g., Final round of National Spelling Bee, Cumulative GPA and Summer Retention, Duckworth et al., 2007; Duckworth & Gross 2014).

• Grit and Short-term Goal Setting

- Whereas the importance of grit to long-term goal achievement in various domains is well established, less is known about the mechanism of grit in *middle* stages of goal pursuit.
- In present study, we would discuss what characteristics of grit enable goal achievements despite failures by exploring the effect of grit on *short-term performance* and *goal setting* in the process of goal pursuit.

• Grit Buffers Negative Feedback

- In our previous study, we found that people high in grit effectively regulated their emotional responses to negative feedback as time elapses by reducing negative emotion and increasing positive emotion (Lee et al., 2016).
- Then, how grit affects subsequent goal setting behavior after negative feedback as a result of short-term performance?

• Negative Feedback and Goal Setting

- The facilitating motivational effect of feedback on performance has been attributed by some to *difficult* goals set in response to feedback (Becker, 1978). Setting of *specific, challenging* goals leads to higher levels of performance compared to setting no goals, or vague or easy goals (Locke & Latham, 1990).

Hypotheses

- **H1.** There would be no relationship between grit and short-term performance
- **H2.** There would be significant relationship between grit and goal setting behavior
- **H2-1.** Gritty would set more higher goal before exam
- **H2-2.** Gritty would set more higher goal after exam regardless of the result of exam

Method

• Participants

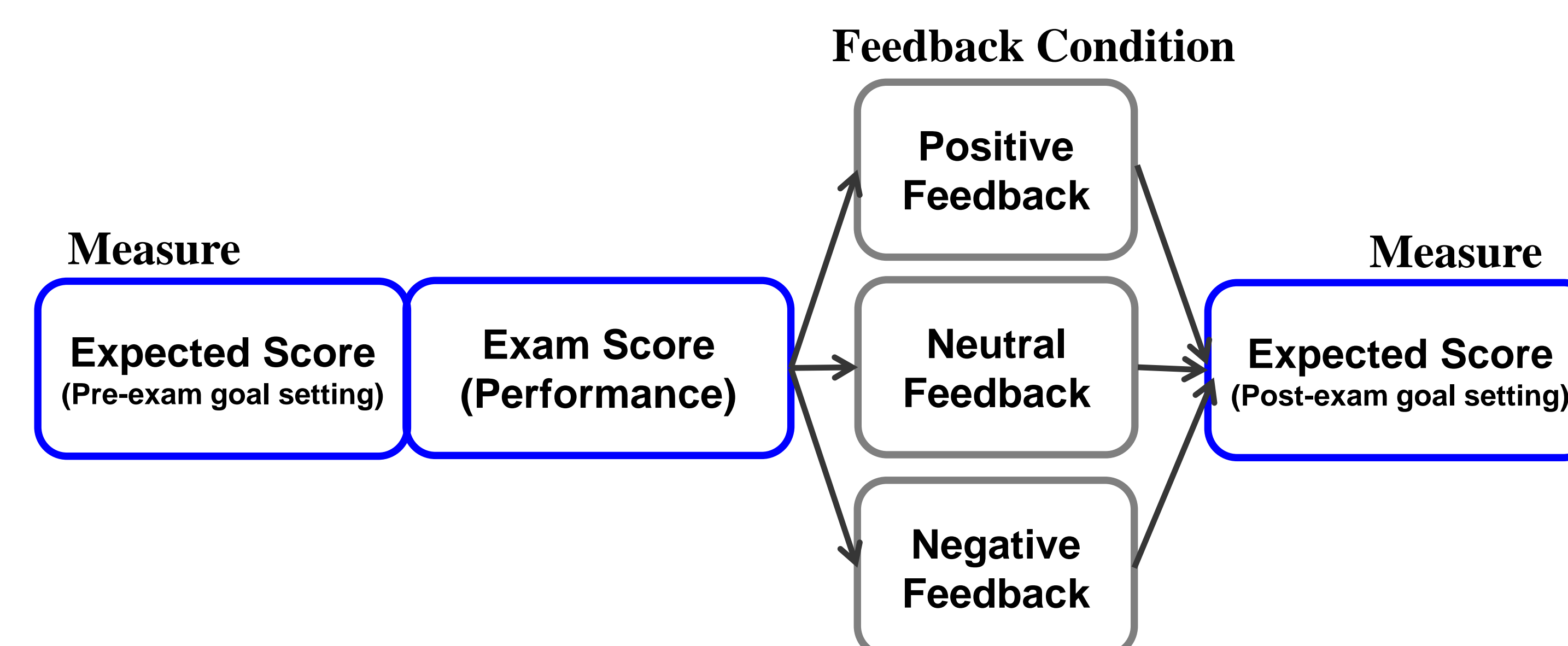
- 127 high school students, $M_{age}=19$, female 55.1% .

• Measures

- IV: Grit scale (Duckworth et al., 2009; Lee & Sohn, 2013)
- DV: Performance (nation-wide exam score), Pre-exam goal setting (expected score for the present exam), Post-exam goal setting (expected score for next exam)

• Procedure

- Collect nation-side exam scores on Verbal, Math and English
- Survey expected score for the present exam and next exam
- Positive feedback condition: if the exam score was *higher* than expectation
- Neutral condition: if the exam score was the *same* with expectation
- Negative feedback condition: if the exam score was *lower* than expectation



Results

- The result of simple regression analysis (N = 127, all conditions)
 - No relationship between grit and performance ($\beta = .14, p = .11$)
 - A significant relationship between grit and pre-exam goal setting ($\beta = .23, p < .01$)
 - A significant relationship between grit and post-exam goal setting ($\beta = .20, p < .05$)
- The result of simple regression analysis (N = 110, only negative feedback condition)
 - A significant relationship between grit and post-exam goal setting ($\beta = .19, p < .05$)

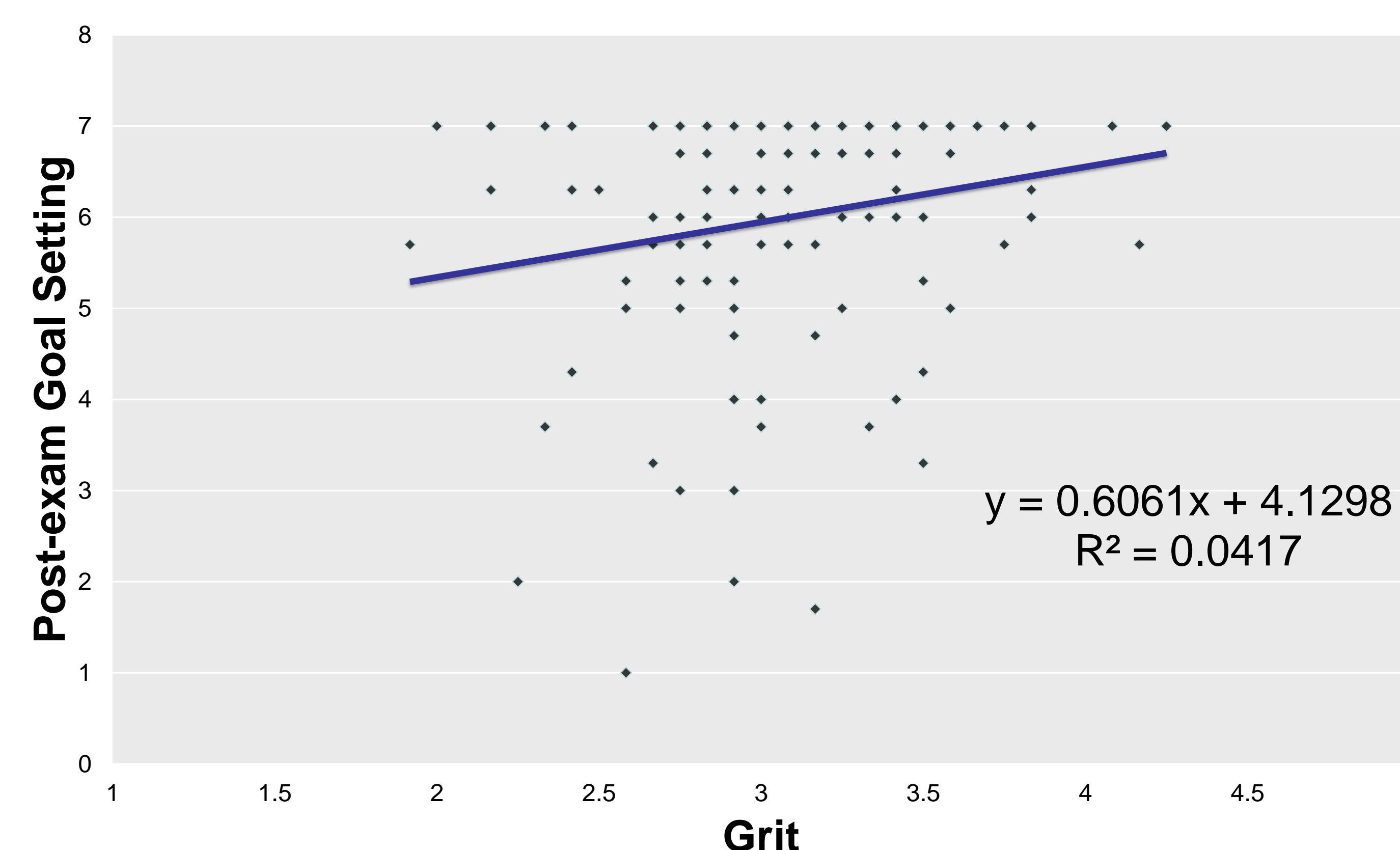


Figure 1. Predicted post-exam goal setting as a function of grit. Post-exam goal setting behavior was associated with the level of grit, $\beta = .20, p < .05$.

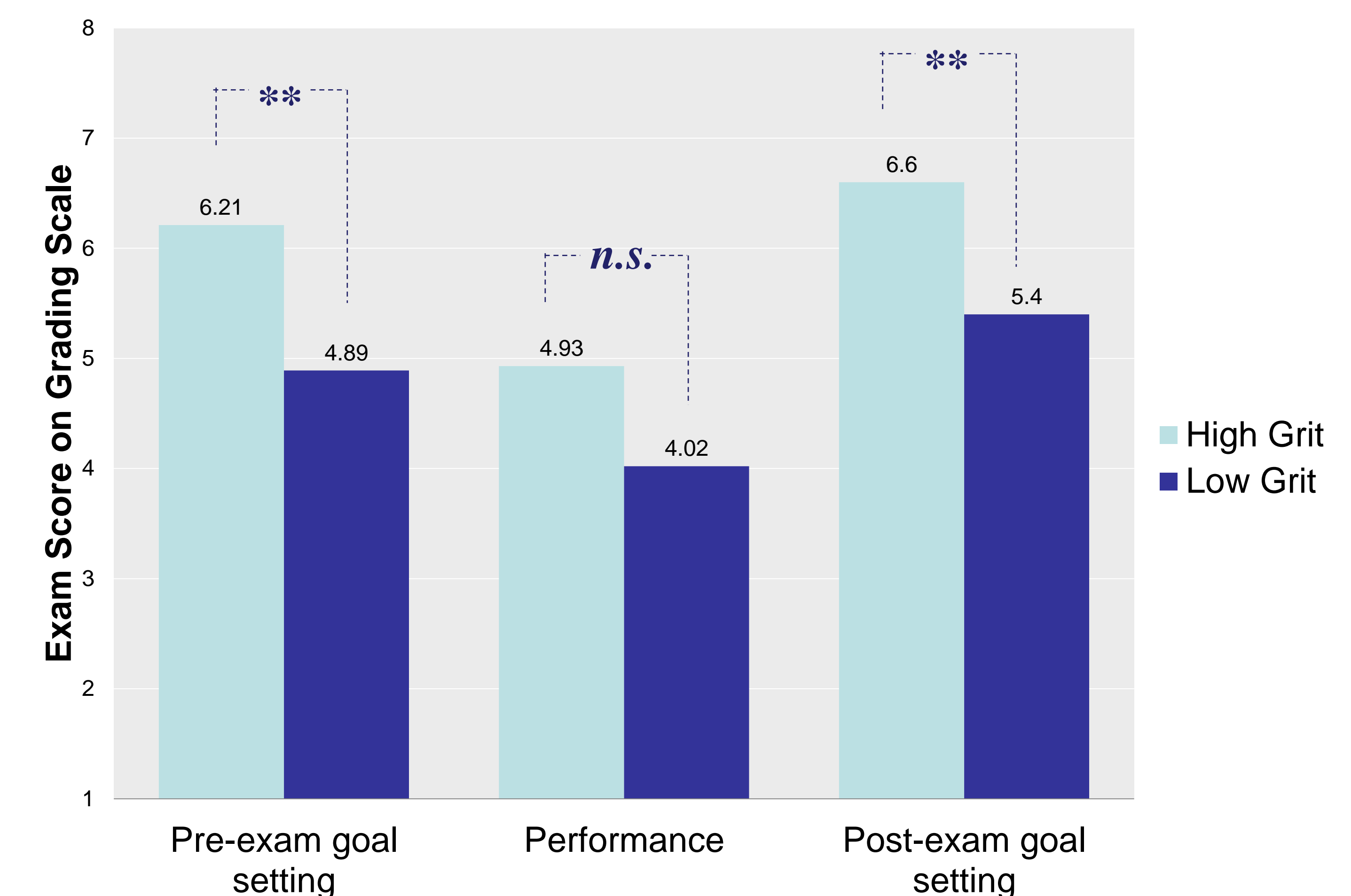


Figure 2. The difference between high grit and low grit in pre-exam goal setting, performance, post-exam goal setting, respectively.

- Additional analysis: independent *t*-test was performed to examine the effect of grit (+1SD high vs. -1SD low) on dependent variables more intuitively.
 - There were differences between high grit and low grit in pre-exam goal setting ($t(32) = 2.65, p < .01$). Students in high grit tends to set goals higher before exam.
 - There were no differences between high grit and low grit in short-term performance ($t(32) = 1.68, p = .10$).
 - There were differences between high grit and low grit in post-exam goal setting ($t(32) = 2.58, p < .01$). Students in high grit tends to set goal higher after exam.

Discussion

• Conclusion

- Grit did *not* relate significantly to performance. Grit nonetheless demonstrated **incremental predictive validity of goal setting**. Specifically, gritty students expected higher performance before and after examination even when actual outcome was generally lower than their expectation.
- This suggests that **gritty tends to set goals optimistically even in the face of negative feedback**.

• Implication

- We *cannot* say that gritty sets *realistic* goals, however, we could assume that gritty tends to pursue their goals and improve performance despite difficulties by setting *more difficult but optimistic* goals.
- Grit, again, acts as a *buffer* against negative feedback

• Limitation

- In order to protect privacy, we collected exam score with grading scales and the scale may affect the results.
- As this study was a field study, we could not manipulate feedback condition directly. Instead, we classified participants by feedback conditions based on their response.

References

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