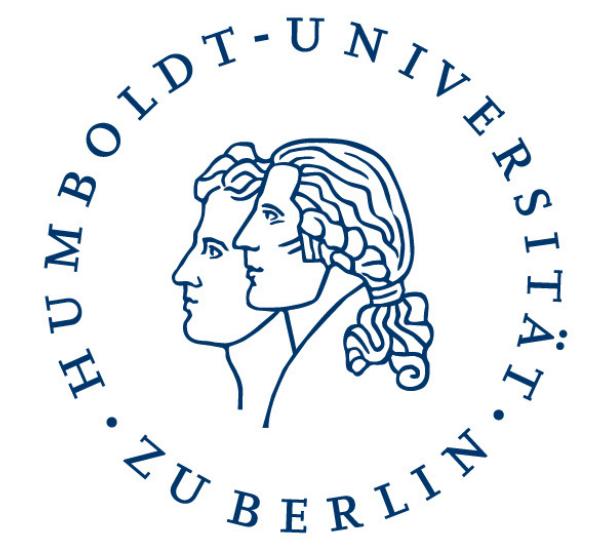


EXPLORING HYPOMANIC PERSONALITY AND EXECUTIVE CONTROL

INFLUENCE OF EMOTIONAL DISTRACTORS ON PERFORMANCE

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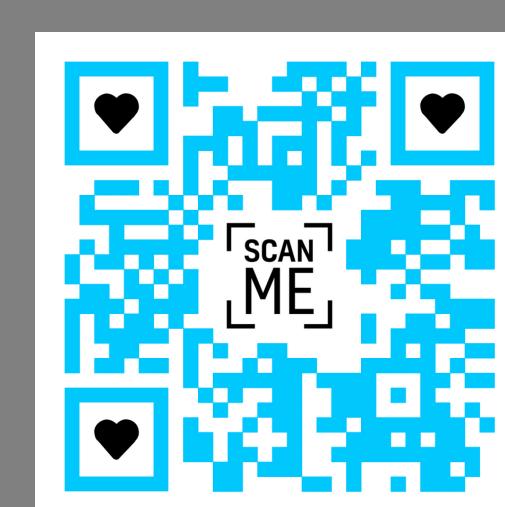
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INTRODUCTION

Individuals exhibiting hypomanic personality features are often characterized as extraverted, possessing heightened energy levels, intense emotions, hyper-confidence, ambition, and impulsivity (Eckblad & Chapman, 1986). The Hypomanic Personality Scale (HPS) (Eckblad & Chapman, 1986) is mostly used in a clinical context, as a risk factor for bipolar disorder, though some evidence suggests it is not fit for subclinical/personality trait measurement (Parker et al., 2014). However it is widely used in different contexts. We will focus on the interplay between high hypomanic traits and intentional inhibition (Badcock et al., 2015). There have been different studies linking high hypomanic personality to higher levels of impulsivity/impulsive decision making (Wessa et al. 2015), higher emotional reactivity (Heissler et al., 2014), biases towards emotional stimuli (Dornbach-Bender et al., 2019), as well as higher levels of distractions through positive stimuli (Heissler et al., 2014). We want to follow this train of thought, and further explore the effects of emotional stimuli on abilities tied to executive control of individuals with high hypomanic trait levels.

fig.[1]

Repository with preregistration, code and materials:

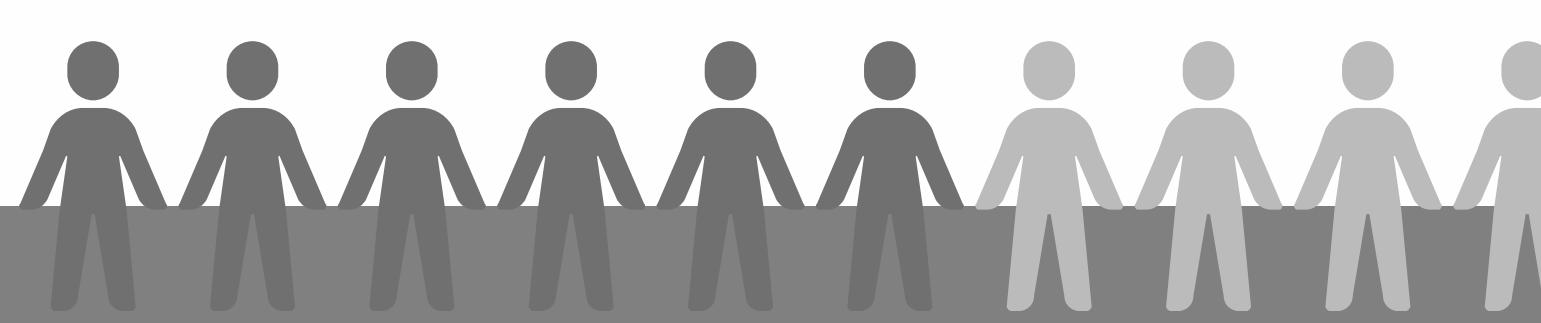


HYPOTHESES

People with upper quartile HPS scores show significantly lower performance rates in regards to processing speed and the number of correct answers in verbal intelligence tasks paired with emotional distractors than people with lower quartile HPS scores.

There will be no differences in the performance rate in tasks paired with neutral distractors or no distractors.

METHOD



Measuring Hypomanic Personality

- Hypomanic Personality Scale (Eckblad & Chapman, 1986)

Measuring Executive Control

- selfmade verbal reasoning task, paired with distractors taken from the „OASIS“
- 4 distractor conditions (no distractor, neutral, positive, negative) with 12 Items each
- distractors were selected based on their valence and arousal ratings, which were maximized for the positive and negative conditions, while minimized for the neutral.

The experiment was run online, and the sample was mainly acquired through word of mouth and social media.

All Items and distractors can be found under fig[1].

fig.[2]: exemplary verbal reasoning task paired with distractor

Es gilt: Schiff - Wasser.
Welches der folgenden Wortpaare passt?



ANALYSIS

Sample and Data

- Only full sets of data used
- after exclusions (see fig.[1] for criteria): n = 27, mean age = 24 years, range = 18 – 31 years
- two items removed, missing values were estimated
- Upper Quartile HPS: n = 7, HPS Score Range = 28 – 40
- Lower Quartile HPS: n = 7, HPS Score Range = 7 – 11

ANOVA

- all prerequisites were met
- 2x two-way mixed ANOVA
 - between factor: HPS Quartile
 - within factor: distractor condition
 - dependent variable: number of correct answers / answer time on the verbal reasoning task

Partial Correlations

- between HPS Score and number of correct answers/answer time, age was partialized
- across whole sample as well as each distractor condition

All analyses were computed under the exclusion of one outlier as well. Additionally, the item statistics were calculated.

Not all analyses mentioned in the preregistration were computed.

fig.[3.1] distribution of Item difficulty

Item Means

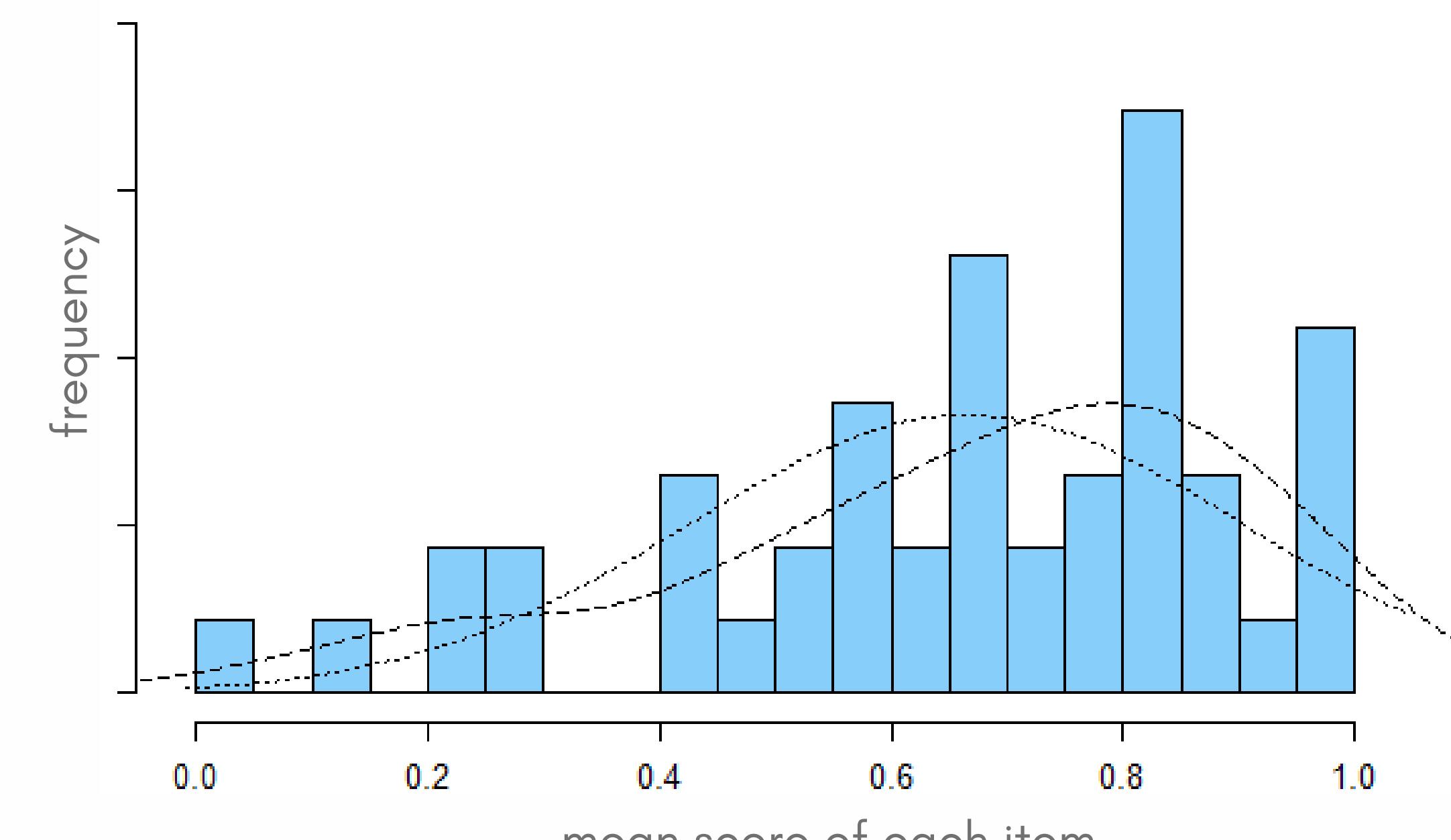


fig.[4] significant correlation between HPS Score and number of correct answers in negative distractor condition

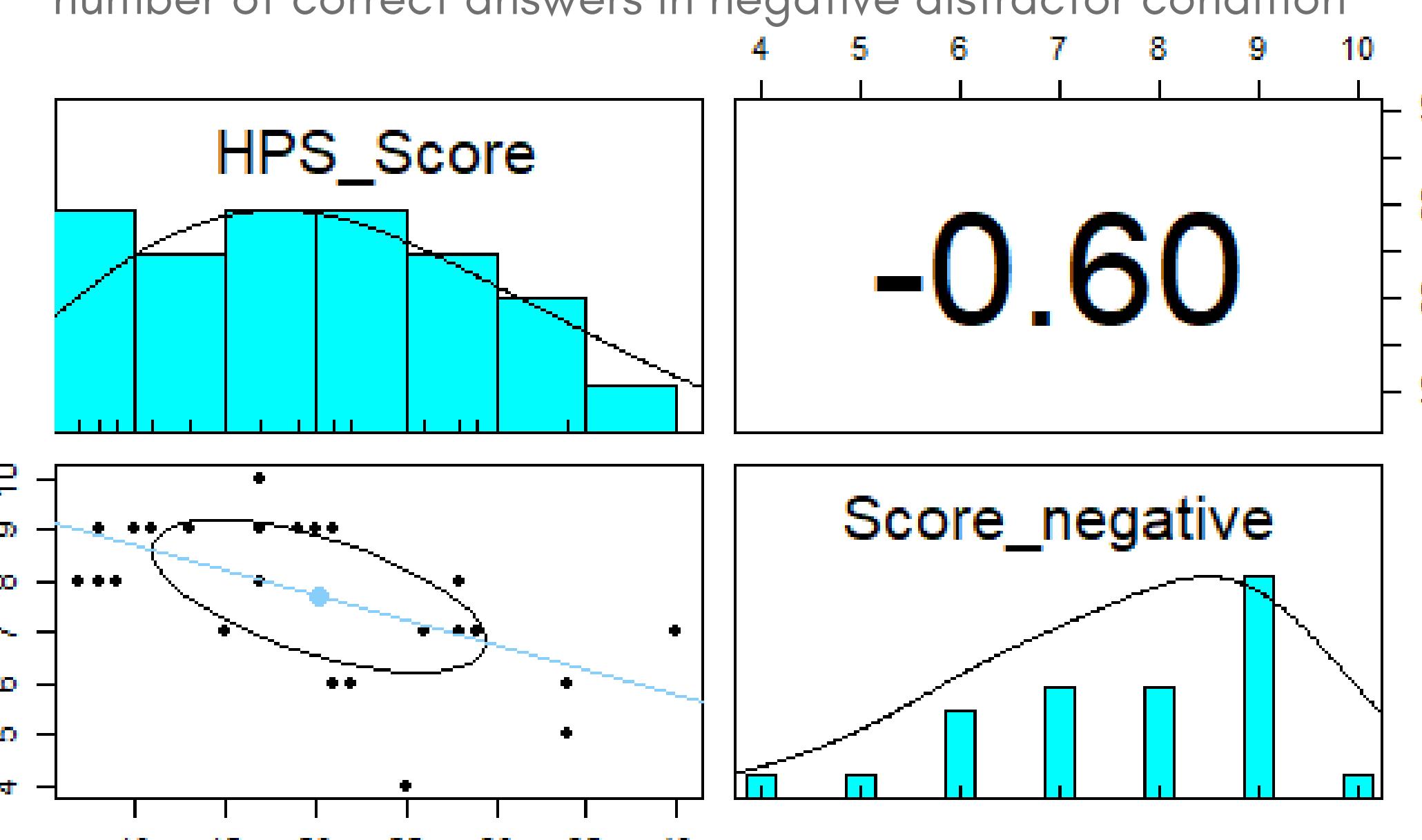
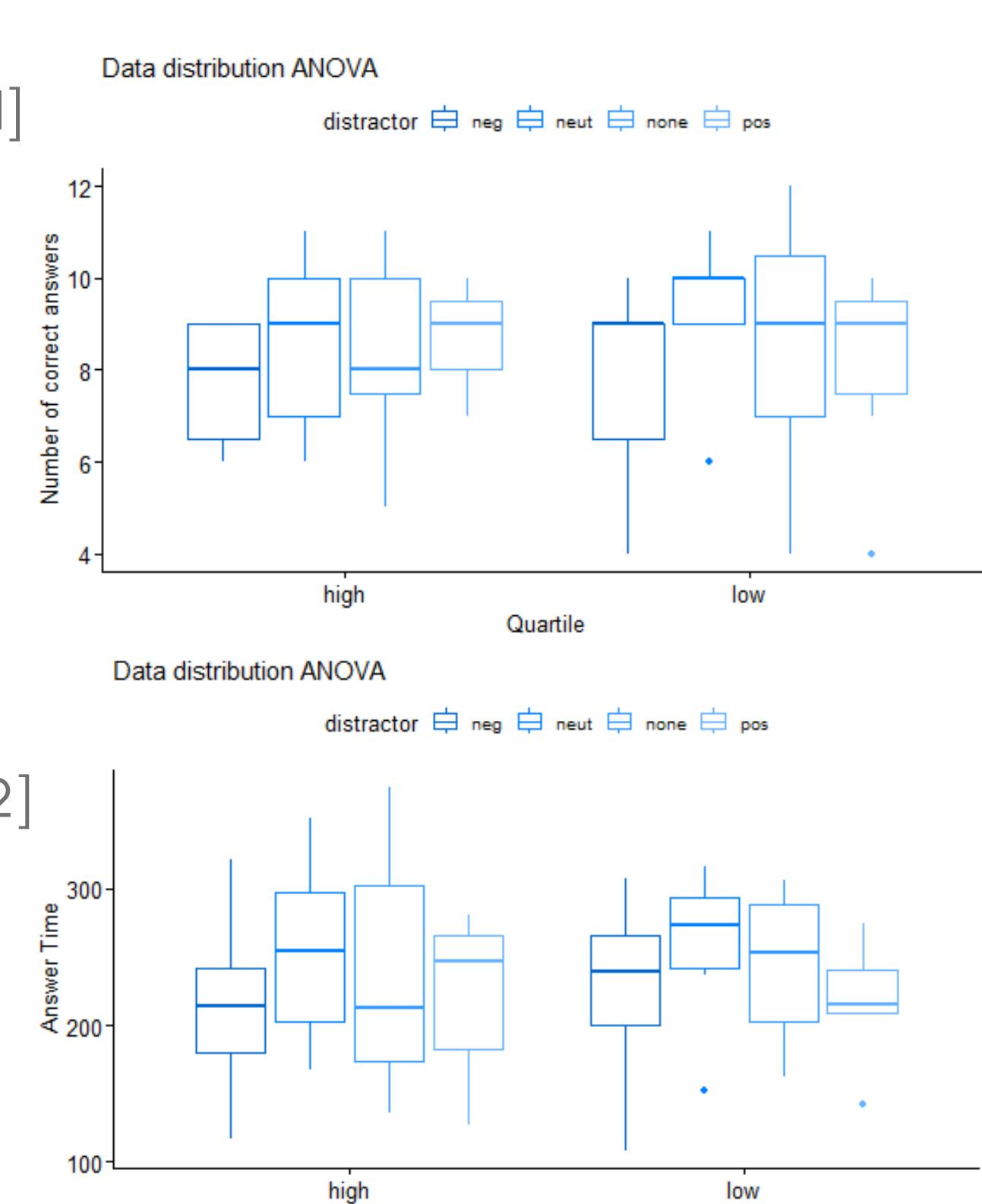


fig.[3.1]



RESULTS

The interaction effect of neither ANOVA – which were relevant to our hypotheses – were significant. The main effects weren't significant either. One correlation stayed significant after correction for multiple testing, as can be seen in fig.[4]

The exclusion of the outlier did not change any of the results.

The mean item difficulty is 0.66.

DISCUSSION

Neither of the hypotheses could be validated. However, the significant correlation found may give reason to further explore these questions with better tools, which may lead to more significant group differences than those visible in fig.[3.1] and fig.[3.2]. The major limitation of this study was the insufficient quality of our self-generated items, caused through lacking resources and time, which made prior testing impossible. As can be seen in fig.[5], a notable proportion of items had mean values of over .8, which made them far too easy for our purposes, severely impacting the discriminatory power between the groups. Furthermore, our sample was limited in both quality and size, and doesn't allow for comparison across different age groups. It is also worth noting, that our sample had an unusual high mean of HPS scores (mean = 20, range = 7-40; fig.[4]), though we can not conclude if this affected our results in any significant way. Whilst failing to provide conclusive results, we firmly believe that the design of this study can, if optimized, provide valuable data on the effects of hypomanic personality on emotional inhibition/control in the future.



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