

An exploration of the relationships between need for cognition and impulsiveness and working memory capacity.



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ABSTRACT

We explored the relationship between need for cognition and an individual's self-reported impulsivity and working memory capacity. NFC was negatively correlated with non-planning impulsivity $r = -.32$, but had no relationship with attentional or motor impulsivity. We found no relationship between NFC and any of the working memory measures.

INTRODUCTION

- Need for Cognition (NFC) refers to an individual's preference for engaging in effortful thinking.
- A number of studies have demonstrated relationships between NFC and other personality traits such as Openness and Conscientiousness (Sadowski, & Cogburn, 1997).
- However, the relationship between NFC and measures of cognitive ability is less clear with some reporting correlations with verbal ability and reasoning (Day et al., 2007) while others find no relationship (Bors et al., 2006).
- Recently, Fleischhauer et al. (2010) found NFC to be weakly correlated with reasoning and fluid intelligence.
- We were interested in assessing whether NFC would show a similar relationship to working memory capacity, a predictor of Gf

STUDY ONE

Objectives:

- To test for a relationship between NFC and 3 measures of working memory.
- To examine possible correlations between NFC and the Big 5 personality traits and impulsivity.

Participants:

- 67 College of Idaho students completed the survey measures on-line. 39 students were tested on the laboratory measures of working memory

Surveys:

- Need for Cognition Questionnaire (Caccioppo & Petty, 1982)
- The Big Five Inventory (BFI) (John & Srivastava, 1999)
- The Barratt Impulsiveness Scale, V11 (Patton et al., 1995)

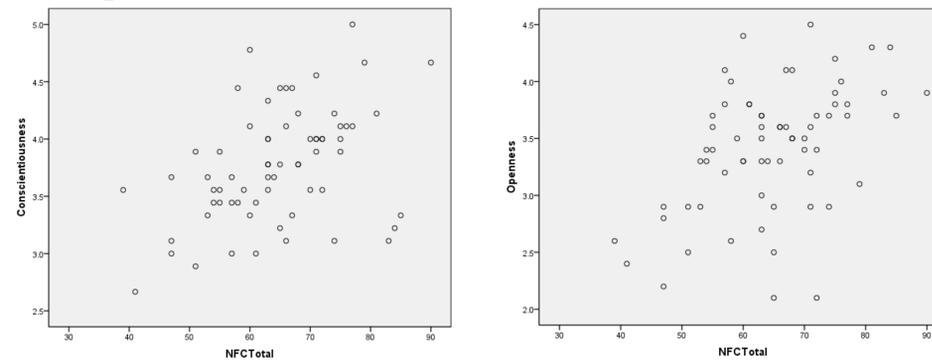
STUDY ONE

Working Memory Measures:

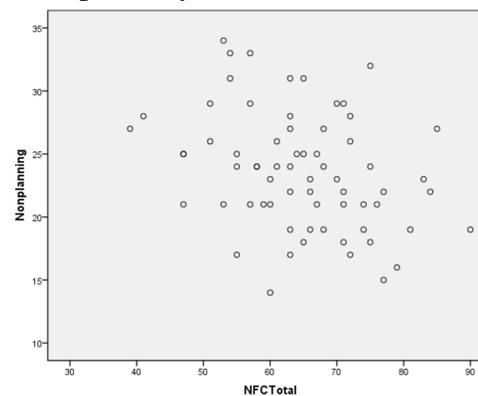
- Operation Span: participants are asked to judge the correctness of an equation while simultaneously remembering a sequence of letters.
- Reading Span: participants are asked to identify the validity of a statement while simultaneously remembering a sequence of letters.
- Symmetry Span: participants are asked to judge whether a pattern was symmetrical or not while simultaneously remembering a series of locations.

Results:

- NFC was positively correlated with Conscientiousness, $r = .42$, and Openness to new experiences, $r = .47$



- NFC was negatively correlated non-planning impulsivity $r = -.32$, but unrelated to attentional or motor impulsivity.



- NFC was unrelated to any of the working memory measures.

STUDY TWO

Objective:

- To attempt to replicate the results of Study One in a larger sample.

Participants:

- 148 College of Idaho students

Surveys:

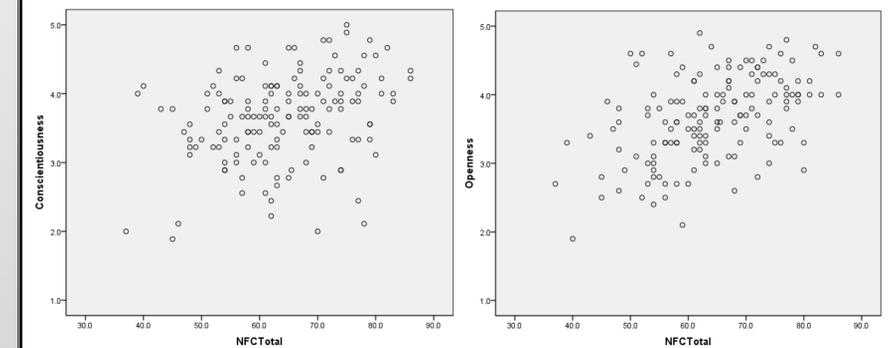
- Need for Cognition Questionnaire (Caccioppo & Petty, 1982)
- The Big Five Inventory (BFI) (John & Srivastava, 1999)
- Brief Self Control Scale (Tangney, Baumeister & Boone, 2004)

Working Memory Measure: Operation Span

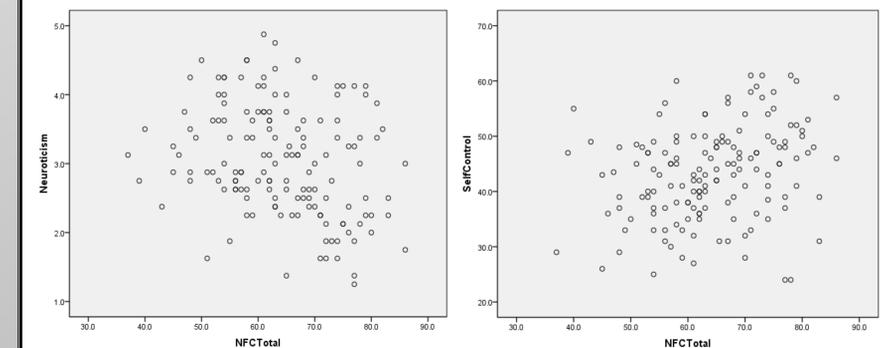
STUDY TWO

Results:

- NFC was again positively correlated with both Conscientiousness, $r = .30$ and Openness, $r = .47$



- NFC was negatively correlated with Neuroticism $r = -.26$ and positively correlated with Self Control $r = .27$



- Again NFC was not correlated with WMC as measured by Operation Span

DISCUSSION

- We found relationships between NFC and various aspects of personality similar to those reported in the prior literature. We also found NFC to be negatively related to non-planning impulsiveness and positively related to self-control.
- In neither study did we find a relationship between NFC and working memory capacity as measured by span tasks.
- However, we did use a selective sample of individuals who all chose to continue their education. It may be that in a more representative sample NFC and working memory may be related. It may also be that the drive to seek out cognitive challenge may be more predictive of cognitive function later in the lifespan.

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