

# The Effect of a Defusion Technique with Negative and Positive Self-Statements: Using FAST to Explore the Defusion Process in Terms of RFT and the DAARRE Model

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## Background

Defusion can be defined in terms of three aspects: procedure, process, and outcome (Assaz, Roche, Kanter, & Ochiro, 2018). Although a large number of defusion studies was conducted, *only a small number of researchers has conducted defusion studies that have focused on the investigation of defusion-the-process based on Relational Frame Theory and related models such as DAARRE model.*

*What is the whole process* that can yield the effect of defusion-the-procedure?

## Operational Definition of Defusion and Hypothesis

Defusion = **disrupting transformation of function and arbitrary applicable relational response**, which **allow people to distance from context (e.g., self-statements) that prevent them to live in a way they want** (Blackledge, 2007; Harris, 2007).

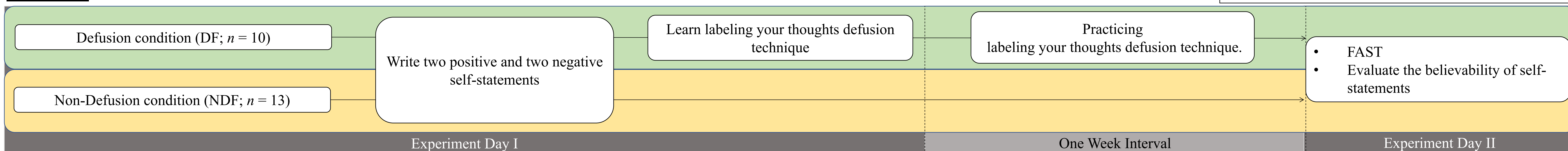
**Defusion-the-process:**  
The changes in  $C_{rel}$  and  $C_{fun}$  which were involved in one's relational framing for self-statement (i.e., increasing derivation, decreasing coherence, increasing orienting functions, increasing evoking functions), and the increase in the behavioral fluency in the relational framing (Blackledge, 2007; Kishita, et al., 2014; Ritzert et al., 2015)

**Defusion-the-outcome:**  
The reduction in the believability of positive/negative self-statements (i.e., less likely to treat self-statement as the absolute truth, which is unchangeable and irreversible) and the correlation between the believability of positive/negative self-statements would be yielded (more likely to observe the positive/negative self-statements independent from each other; Assaz et al., 2018; McHugh et al., 2019; Masuda, Hayes, Sackett, & Twohig, 2004).

**Defusion-the-procedure (i.e., defusion technique):**  
Defusion techniques that are considered to be yield the defusion-the-outcome via defusion-the-process (Assaz et al., 2018). In this study, labeling your thoughts technique (Hayes & Smith, 2005) was employed.

- Hypothesis 1:**  
Defusion technique can reduce...  
1. the absolute value of Strength of Relation (SoR), the index of Function Acquisition Speed Test (FAST).  
2. the believability of positive/negative self-statements.  
3. The correlation between the believability of positive/negative self-statements.
- Hypothesis 2:**  
At the individual level, the response tendencies (the trial number required for each FAST block) for participants on FAST would be along with the prediction made by DAARRE model (see the green speech balloon).
- Hypothesis 3:**  
The relationship between a defusion technique and  $H_{1-2}$  and  $H_{1-3}$  is mediated by  $H_{1-1}$ .

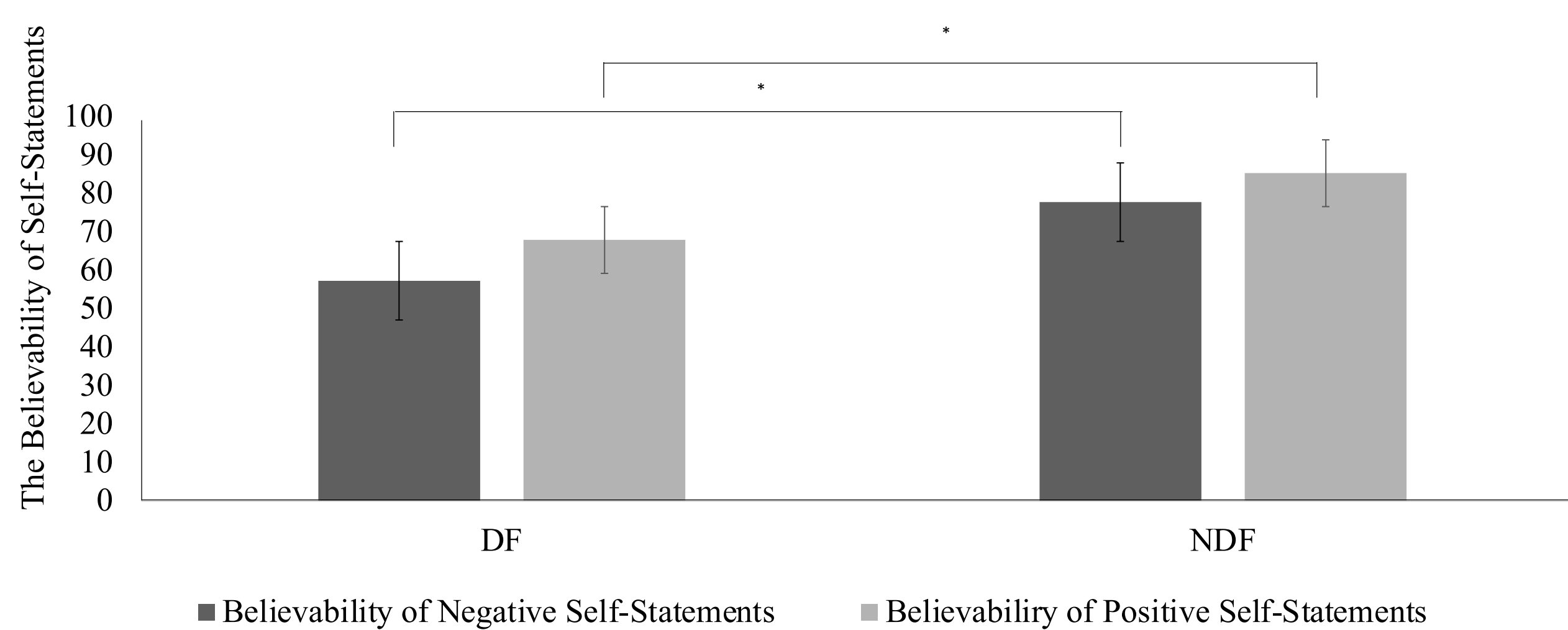
## Method:



Participants: 23 participants (4 male, 19 female,  $M_{age} = 26.52$ ,  $SD = 6.04$ , age range = 21 - 42 years old) were randomly assigned to either the experimental (Defusion; DF) or control (Non-Defusion; NDF) condition.  
FAST Stimuli: [Baseline 1 & 2]: nonsense syllables; [the correct responses at the consistent block]: press M if "positive self-statements" or "may be true/fact" and press Z if "negative self-statement" or "may be not true/fact"; [the correct responses at the inconsistent block]: press M if "positive self-statements" or "may not be true/fact" and press Z if "negative self-statement" or "may be true/fact".  
FAST Criterion: 10 consecutive correct response by the end of each block (100 trials), otherwise the data was excluded from FAST analysis.

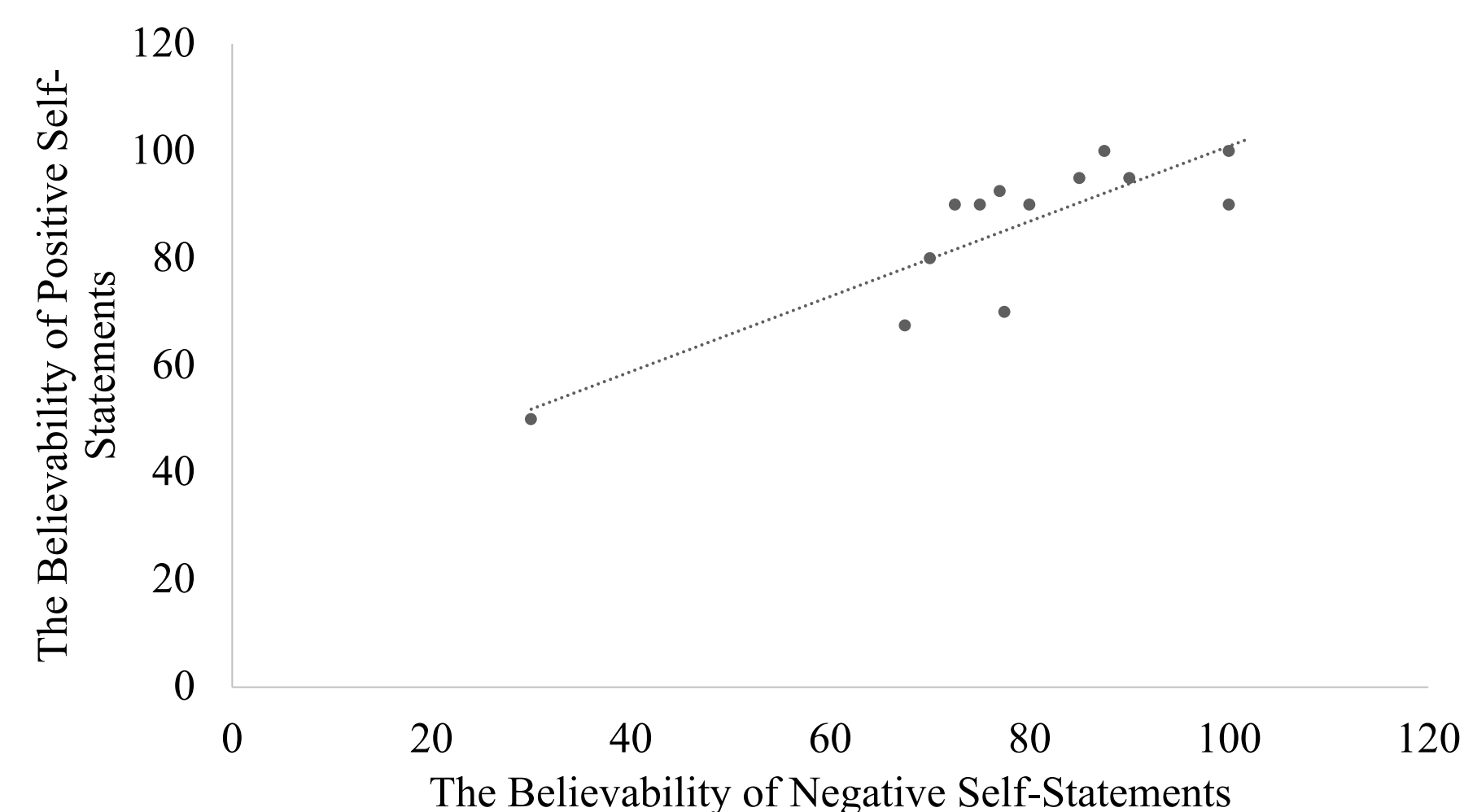
## Results:

The Difference in Believability of Self-Statements Between DF and NDF Condition



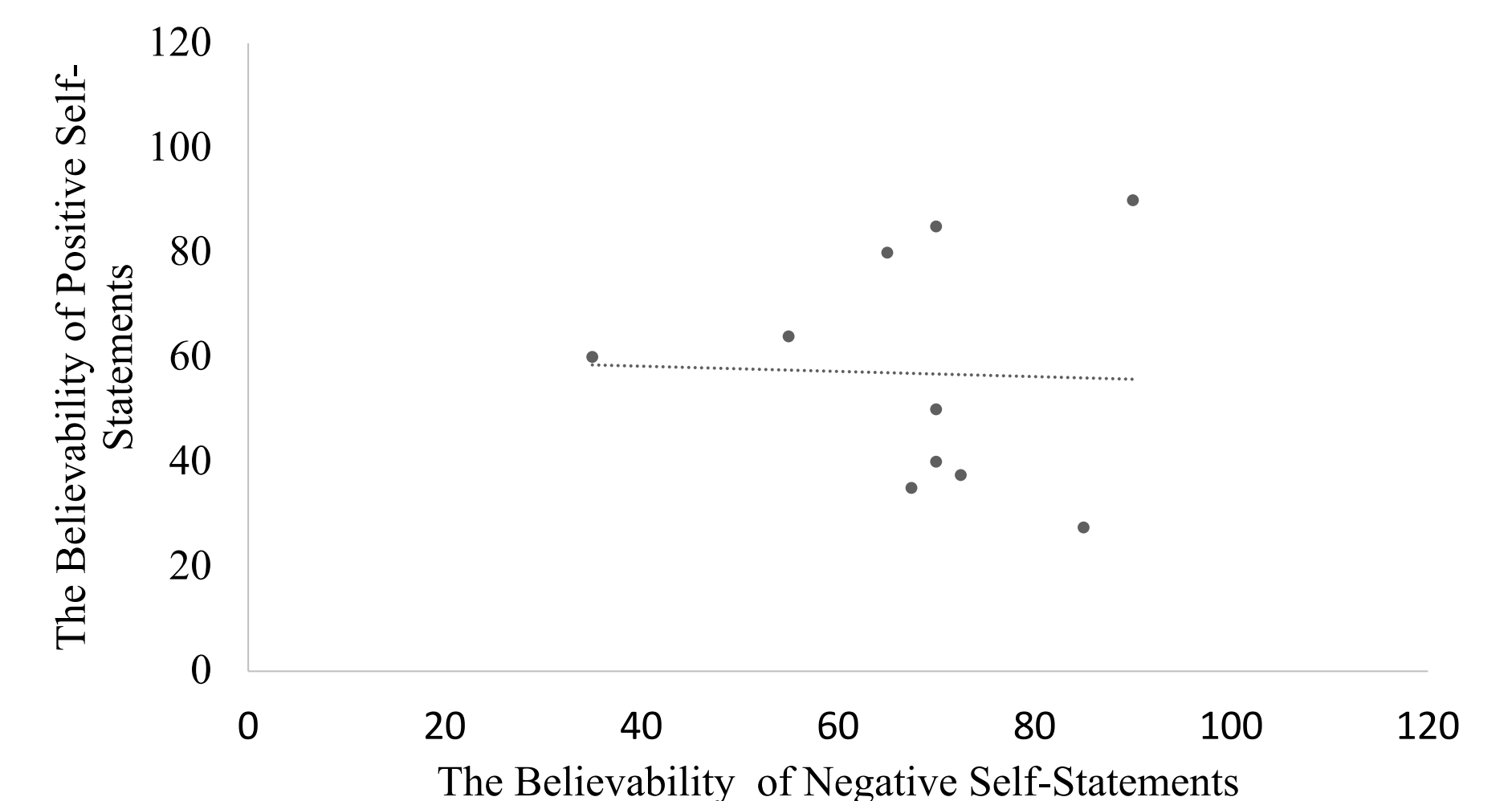
(1) The believability of negative/positive self-statement was significantly lower in DF condition than in NDF condition.

The Correlation Between The Believability of Negative and Positive Self-Statements in NDF Condition.

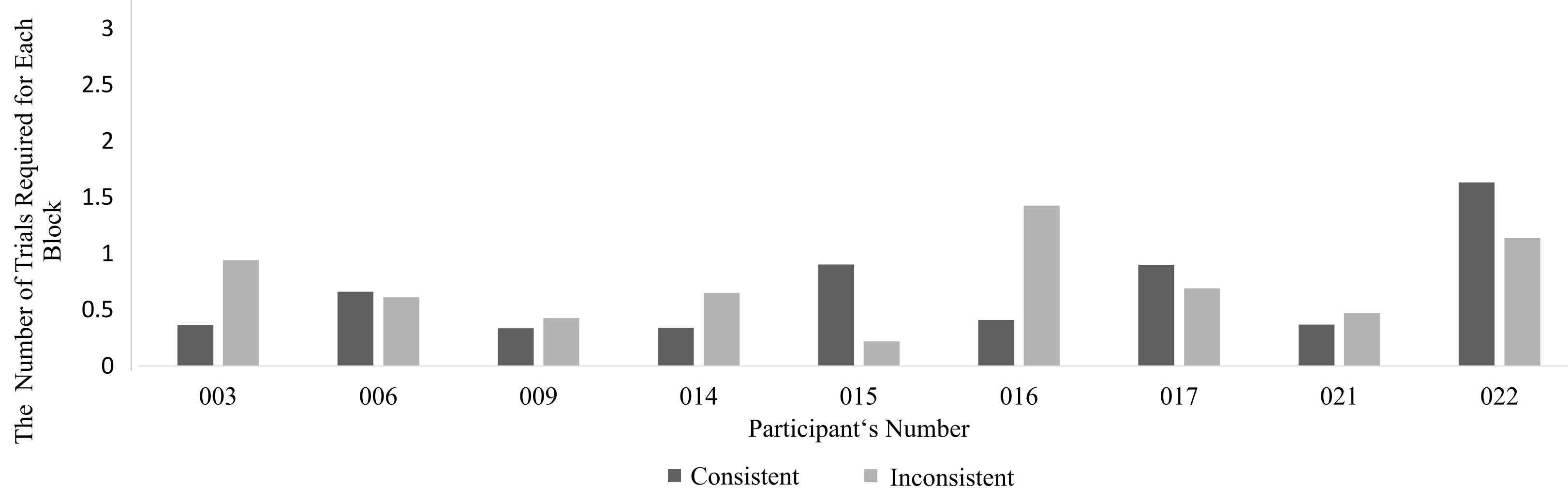


(2) There was a significant positive correlation between the believability of negative and positive self-statement only in NDF condition.

The Correlation Between The Believability of Negative and Positive Self-Statements in DF Condition.

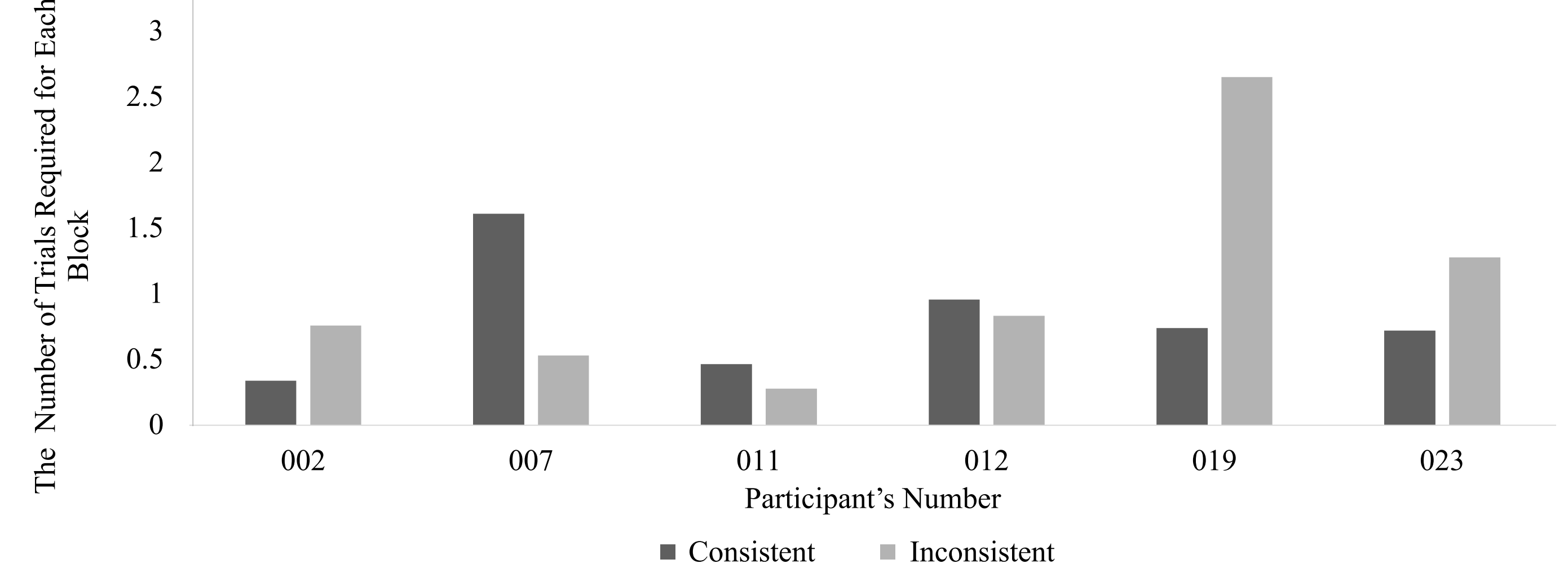


The Number of Trials Required for FAST Consistent and Inconsistent Block in NDF Condition



▲Note: The number of trials required for each FAST block was calculated by dividing actual number of trials required for each FAST block by the mean of the number of trials required for baseline 1 and 2.

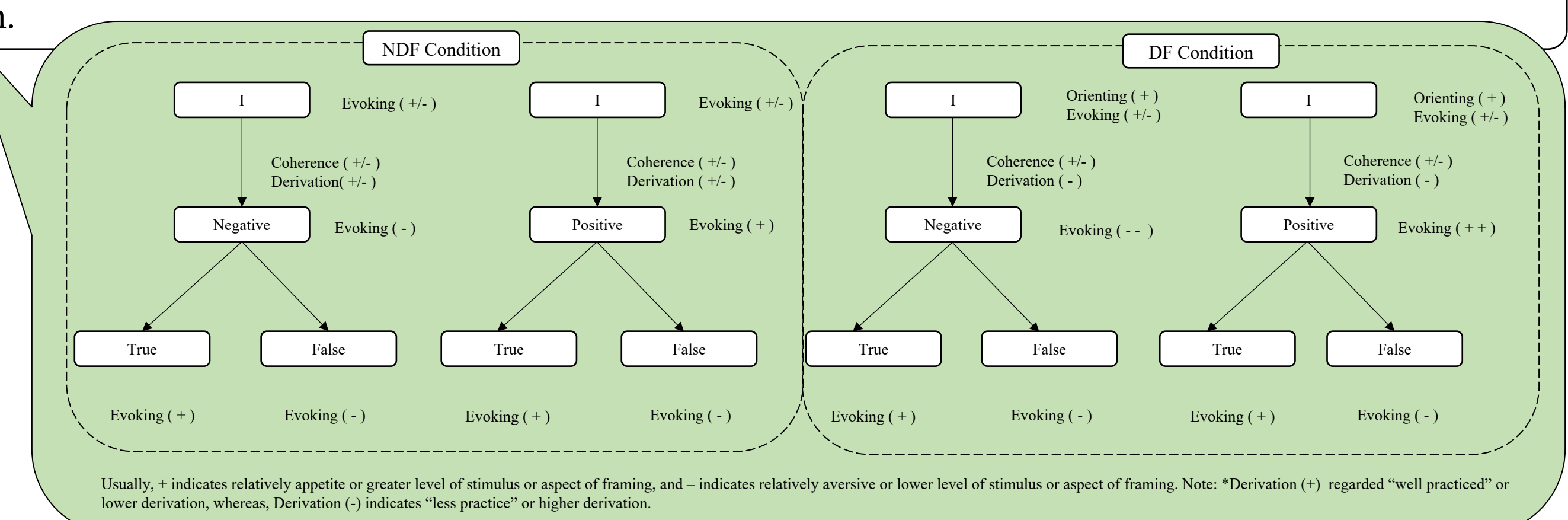
The Number of Trials Required for FAST Consistent and Inconsistent Block in DF Condition



(3) There was no significant differences in the absolute value of SoR on FAST between conditions, thus, no further analysis for it was conducted. At individual level, the prediction made by the DAARRE model indicated below could predict 70% of NDF participants' response tendencies on FAST, whereas only 50% of DF participants' response tendencies on FAST was successfully predicted by the prediction.

## Conclusion:

- "labeling a thought" defusion technique could help people to be *less likely to treat their positive and negative self-statements as the absolute truth* and *allow one to observe the positive and negative self-statements as the statements that simply appeared in one's mind, which was independent from each other.*
- The defusion-the-process remained unclear. No significant difference in the absolute value of SoR was found between the conditions.
- At the individual level, the successful prediction rate for FAST response tendency differed between DF condition and NDF condition → This difference may reflect the possibility that a *defusion technique might affect individual's  $C_{rel}$  and  $C_{fun}$  differently depending on their original way of relational framing, and the DAARRE model may be useful upon making prediction regarding dynamic interactions of  $C_{rel}$  and  $C_{fun}$ .* RFT and the DAARRE model might be useful for analyzing further defusion process *especially at individual level.*



**Limitation**

- Sample size were too small; *more participants would be needed.*
- The study simply compared two conditions and not directly observed the changes in participants relational framing; *pre-post design would be preferred in order to observe it.*
- FAST criterion was employed upon analyzing its data; *assessing participants relational framing with learning slopes on FASTA may be useful* for making data exclusion less and precise assessment more.

**Future Implication & Direction**

- Further analysis about defusion would be required → *Using RFT related model such as the DAARRE model might be beneficial for analyzing and gaining insights about defusion-the-process, especially at the individual level.*
- RFT based analysis might be useful not only for studying defusion-the-process, *but also for analyzing individuals' relational framing in flight such as in the context of counseling session; it might allow practitioners to evaluate on-going process of relational framing during the session and determine how, to what, where, and when to approach for helping their clients.*