

Introduction

- Determinism claims that all events, including human choice behavior, are caused by other events (e.g., a person's environment and past experiences); whereas indeterminism, or free will, maintains that a decision can emanate solely from within (i.e., independent of external influences).
- The capacity for independent choice within an indeterministic perspective may encourage moral responsibility, whereas, some suggest a deterministic perspective does not allow for individuals to be held morally responsible for their actions (Myers, 2008).
- In support of this claim, previous research found that participants who read deterministic passages cheated more on an arithmetic test than those who read free will passages (Vohs & Schooler, 2008).
- Alternatively, findings regarding autonomy, decision-making, and learned helplessness all suggest that individuals benefit psychologically from viewing themselves as independent beings (Ryan & Deci, 2006).
- The cheating behavior reported by Vohs & Schooler (2008) may be the result of a negative emotional response to a threat to agency (i.e., a deterministic perspective), thereby influencing moral behavior.
- The current experiments analyzed how exposure to a deterministic or indeterministic description of actions that resulted in a positive (e.g., helping a child) or negative (e.g., ignoring a child) outcome influenced a new measure of cheating (Experiment 1), as well as the valence of those descriptions as rated by a separate group of participants and the degree to which participants perceived object and agent causality in an action (Experiment 2).

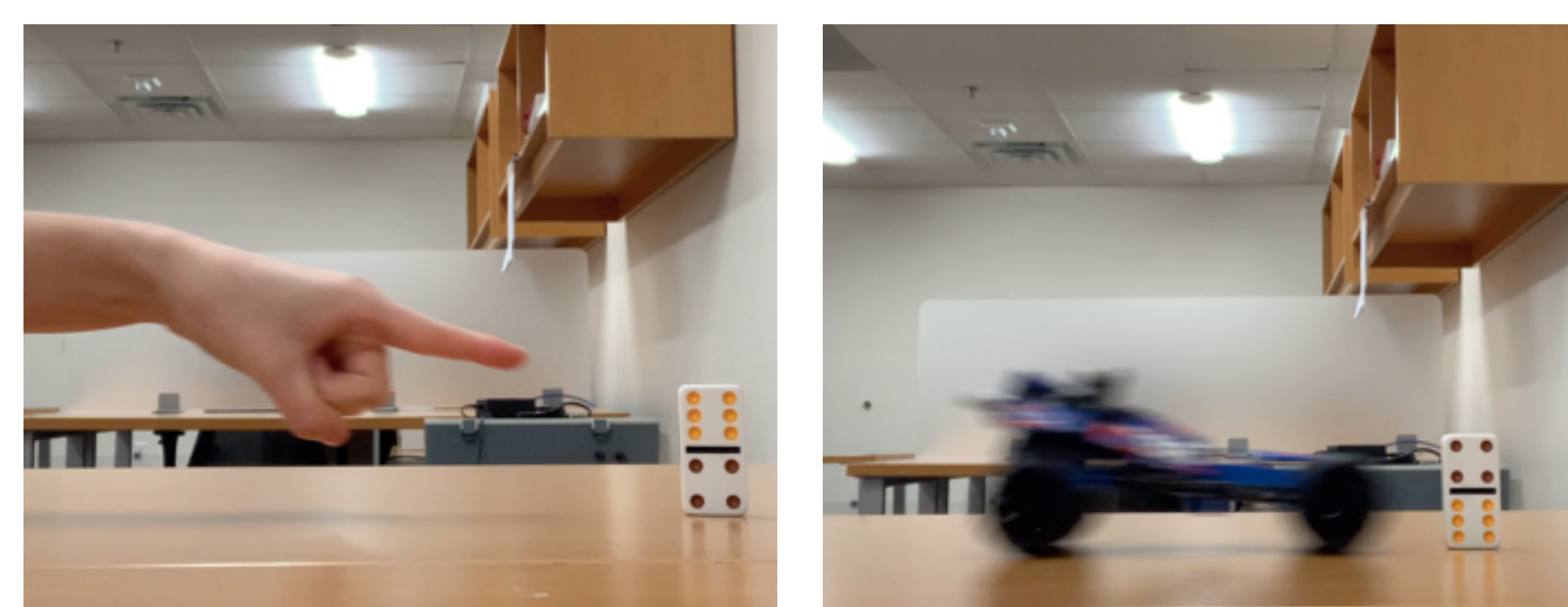
Method

Experiment 1

- Undergraduate students served as participants for the first experiment, which was disguised as a reading comprehension test.
- Participants were required to answer a question that indicated comprehension of a deterministic or indeterministic account.
- The first passage was described as a practice passage which feedback would be provided.
- It either described a deterministic or indeterministic universe that ended in either a positive (e.g., a rescued child), negative (e.g., a lost child), or neutral (e.g., a child sitting) outcome. The neutral outcome was only used in a deterministic story.
- The experimental passage was then followed by 9 additional passages and comprehension questions.
- After reading each passage, a click to a "Show Questions" button made the passage disappear and the comprehension questions appear.
- To manipulate cheating, on some passages, the questions were automatically displayed while the passage was visible. Participants could answer the questions with the passage visible or click "Show Questions" to remove it

Experiment 2

- A covert measure of deterministic and indeterministic beliefs was obtained by participant ratings of two videos. In each video, a domino was knocked over by either a human finger (agent causation), or a toy car (object causation).
- To assess each participant's deterministic or indeterministic perspective, they were asked whether they believed that the car or the hand could have done something different.
- The five passages described above were presented, plus a neutral passage that was neither deterministic or indeterministic.
- Participants were then asked to rate how positively or negatively they viewed each passage on a five-point Likert scale.



Experiment 1

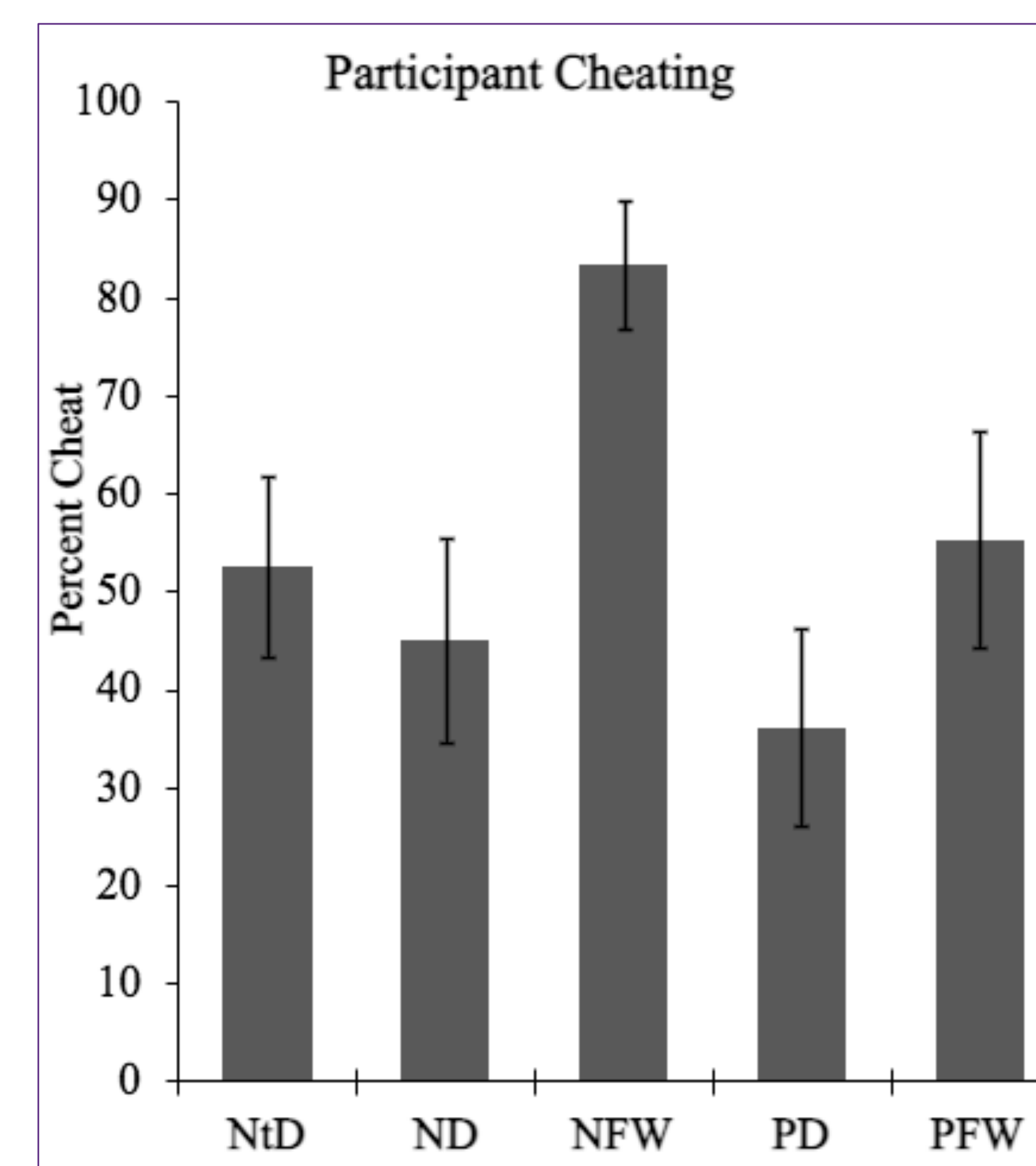


Figure 1. A between subjects ANOVA was performed on Percentage of Cheating as a function of Condition (Control [CTL], Negative Determinism [ND], Negative Free Will [NFW], Positive Determinism [PD], vs. Positive Free Will [PFW]). There was a main effect of Condition, $F(4, 93) = 3.76, p = .007$. Follow-up tests using Bonferroni's adjustment revealed that the Negative Free Will condition was significantly different from both the Negative Determinism and Positive Determinism conditions, $ps \leq .04$. All other comparisons were non-significant, $ps \geq .18$.

Results

Experiment 2

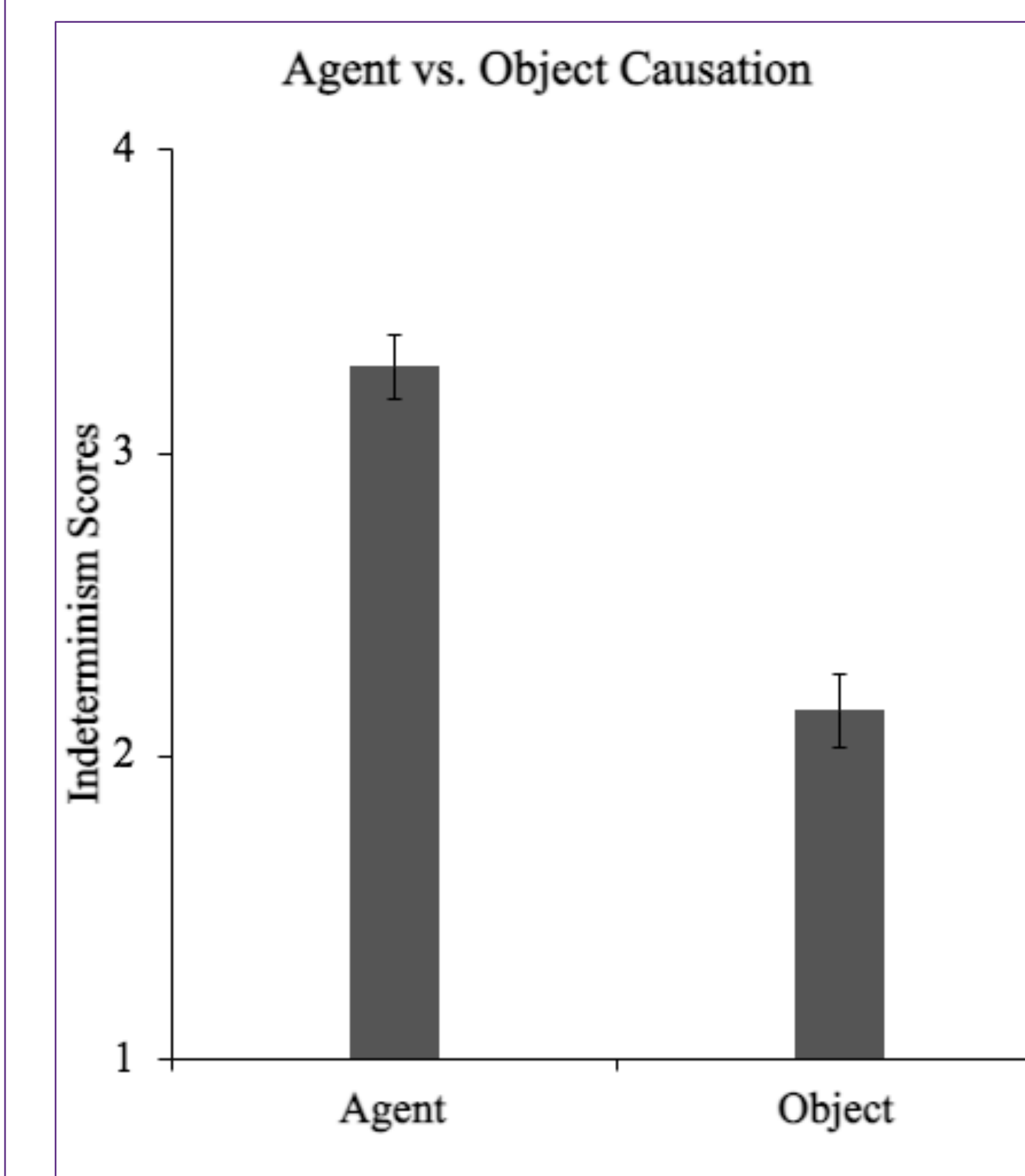


Figure 2. A paired-samples *t*-test was performed on Indeterminism scores (e.g., could the object/person have done something other than what it did; 1 = *Totally Disagree*, 2 = *Somewhat Disagree*, 3 = *Somewhat Agree*, 4 = *Totally Agree*; higher scores indicate more indeterministic beliefs) as a function of Event Cause (Agent vs. Object). The results were significant, $t(66) = 7.27, p \leq .001$, with higher indeterminism scores when the agent caused the domino to fall than when the object caused the domino to fall.

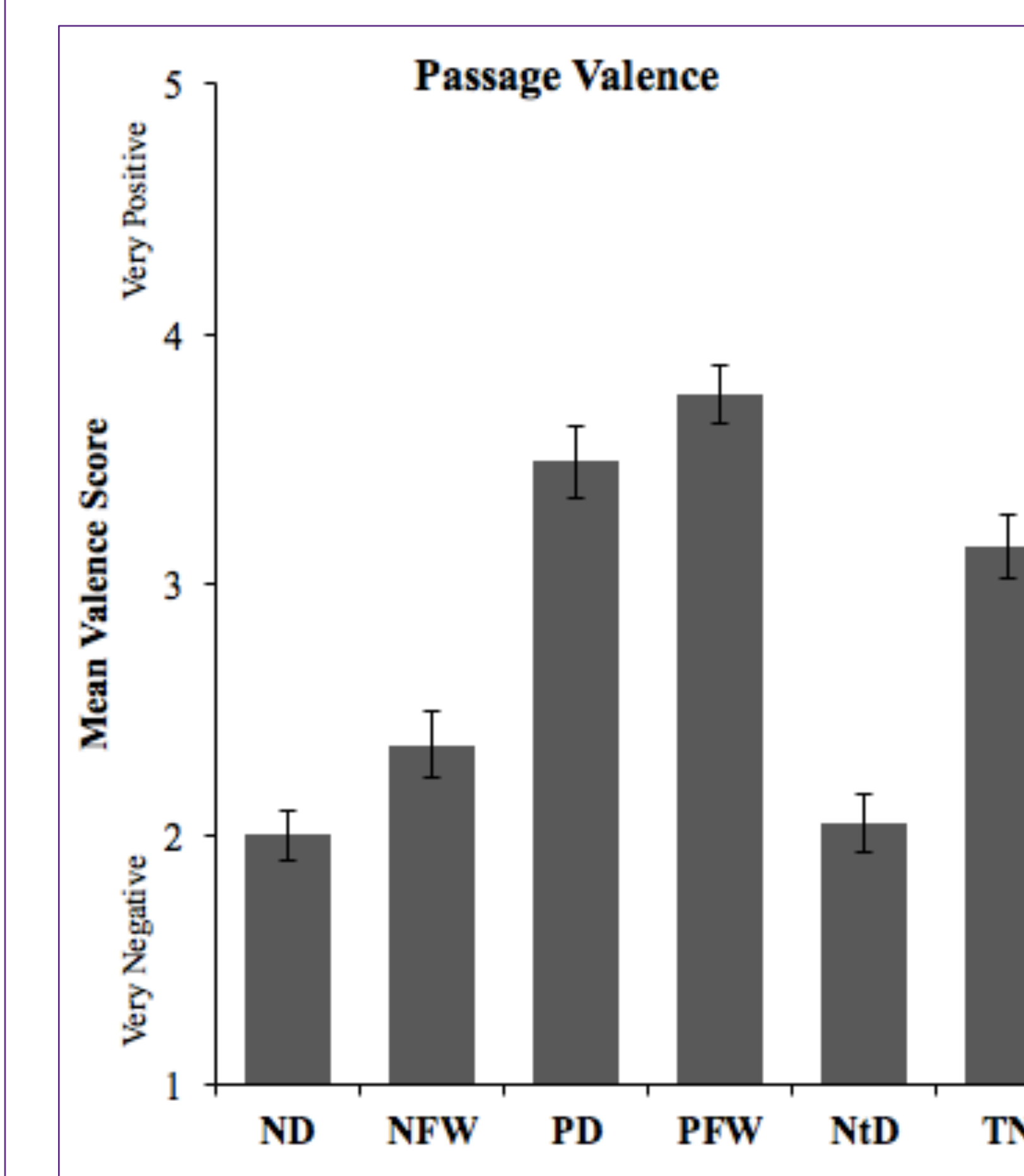


Figure 3. A repeated measures ANOVA was performed on Valence Scores (1 = *Very Negative*, 2 = *Somewhat Negative*, 3 = *Neither Positive nor Negative*, 4 = *Somewhat Positive*, 5 = *Very Positive*) as a function of Passage (Negative Determinism, Negative Free Will, Positive Determinism, Positive Free Will, Neutral Determinism [NtD], vs. True Neutral [TN]). Using a Greenhouse-Geisser correction, there was a main effect of Passage Valence Scores, $F(4.07, 268.51) = 40.90, p \leq .001$. Follow-up tests using Bonferroni's adjustment revealed that both Negative passages differed from the two positive passages, $ps \leq .001$, with there being no difference within each valence type, $p \leq 1.00$. The Neutral Determinism passage did not differ from the two negative passages, $ps \geq .80$, but did differ from the two positive passages, $ps \leq .001$. The True Neutral passage differed from all passages, $ps \leq .012$, except for the Positive Determinism passage, $p = 1.00$.

Discussion

- In Experiment 1, cheating behaviors were significantly higher in the negative free will condition than in the positive and negative determinism conditions.
- The results of Experiment 2 revealed that valence ratings of negative determinism and negative free will were significantly lower than all positive conditions, but did not differ from each other.
- Additionally, the neutral determinism passage did not differ from the negative conditions, whereas the true neutral was rated as neutral, suggesting that the mere description of a deterministic account of the world is perceived negatively.
- The perceived valence findings from Experiment 2 provide some support for the view that positive or negative emotions may be linked to the behavioral differences found in Experiment 1. However, we would have expected negative free will to be rated most negatively.
- The indeterminism scores of the videos in Experiment 2 indicate that participants perceive indeterminism (i.e., free will) in agent action, which is consistent with a negative emotional response to the perceived loss of agent causation in deterministic accounts of human action.
- Furthermore, we should expect to find that a deterministic description of the action of an object (e.g., tree falling) should not result in the same negative emotional response.
- The results of Experiment 2 confirm that a negative reaction to a deterministic perspective (e.g. negative determinism and neutral determinism) can be eliminated by changing the outcome of the deterministic action.

References

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