# No effect of time of day on dishonest behavior: Evidence from correlational analyses, experiments, and meta-analysis

Qianyu Jiang[1], Pingyuan Gong[2], Zibin Zhu[1], Yuyang Zhang[1], Ke Ding[1], Jinting Liu[1]

[1] School of Psychology, Shenzhen University, Shenzhen 518060, China.
2 Institute of Population and Health, College of Life Science, Northwest University, Shanxi 710069, China

Meeting ID: 139918075

## INTRODUCTION

Kouchaki and Smith (2014) found that people engage in less unethical behaviors in the morning than in the afternoon. Following studies tried to replicate the morning morality effect but found mixed results (e.g., Arechar, 2017; Gunia, 2014; Ingram, 2016; Mozgai, 2017; Roeser, 2016; Vranka, 2019). To quantify the effect of time of day on dishonesty, we conducted three studies.

● Study 1: correlational analyses in four samples ($N$ = 2025) with four behavioral tasks, to examine the association between time of day and dishonesty.

● Study 2: randomized experiments among students ($N$ = 315) and criminals ($N$ = 559), to verify the causal relationship between time of day and dishonesty.

● Study 3: meta-analysis ($k$ = 32, $N$ = 6792), to further quantify the effect size of time of day on dishonest behavior.

## STUDY 1

Correlational analyses in 4 samples with 4 tasks.

Table 1
*The detailed information and statistical results of samples in Study 1.*

| Sample | N | Age ($M \pm SD$) | % females | Dishonesty paradigm | Correlation ($r$) |
|---|---|---|---|---|---|
| Sample 1: College students | 72 | 20.8 ± 1.7 | 40.3 | Visual-perception Task | 0.108 |
| | | | | Die Guessing Task | 0.146 |
| | | | | Difference Spotting Task | 0.274* |
| Sample 2: College students | 131 | 21.1 ± 1.8 | 51.1 | Difference Spotting Task | 0.079 |
| Sample 3: Communities | 1720 | 26.9 ± 6.1 | 49.6 | Difference Spotting Task | -0.035 |
| Sample 4: College students | 102 | 20.7 ± 1.9 | 65.7 | Sender-receiver Game | 0.010 |
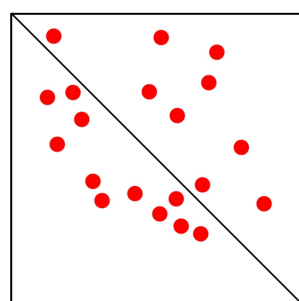


*Fig. 1* Example of ambiguous-left-more trial in Visual-perception task. The proportion of identifications of more dots on the right side in ambiguous-left-more trials was used as an index of dishonesty.
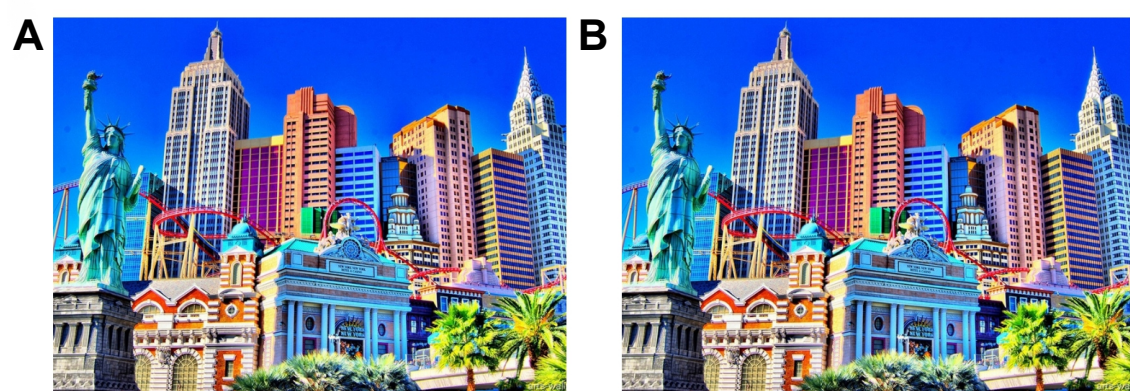


*Fig. 2* Example of the unsolvable trial (**A** and **B**) in Difference Spotting Task. The proportion of self-reported successes in the unsolvable trials was used as an index of dishonesty.

*Results:*

(1) Correlations between dishonesty and time of day (Table 1).
(2) Dishonesty: morning vs. afternoon ( all $p$s ≥ .061).

## STUDY 2

*Sample 5: College students*

315 (70.1% females; age = 24.1 ± 1.4 years)

*Mesurement: Die-roll Task.*

*Sample 6: Male Criminals*

559 (age = 32.1 ± 9.1 years)

*Mesurement: Difference Spotting Task.*

*Group:*

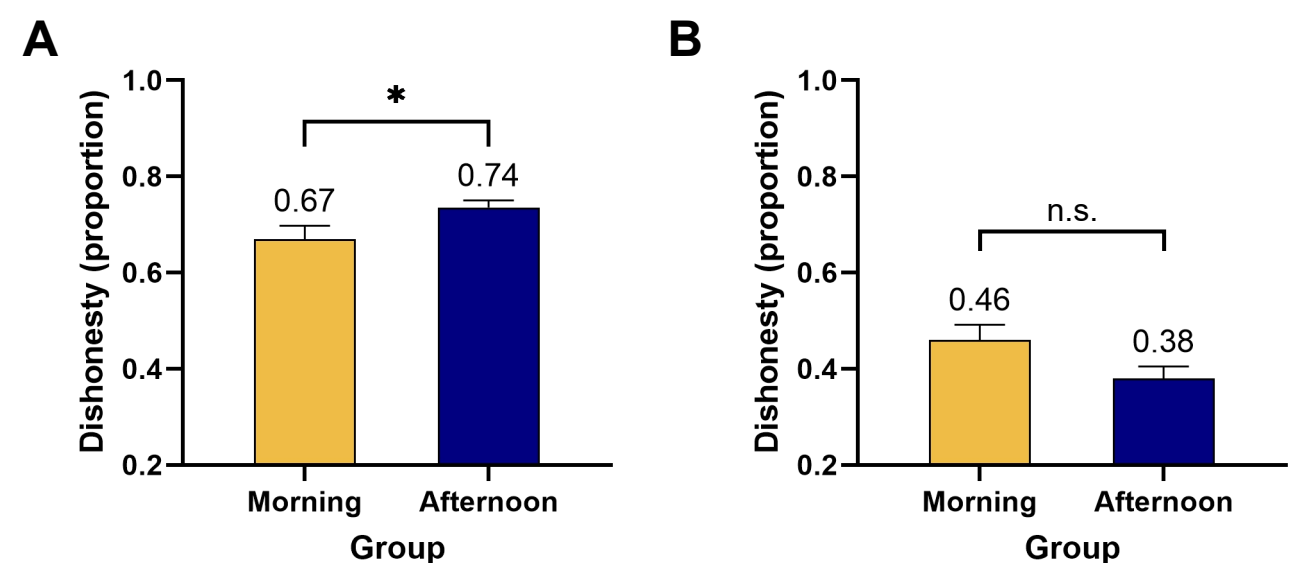Morning (8 a.m. - 11 a.m.) vs. Afternoon (3 p.m. - 6 p.m.)

*Results:*



*Fig. 3* Morning morality effect was found in Student Sample (**A**), $p$ = .046. A reverse effect was found in Criminal Sample (**B**), $p$ = .052.

## STUDY 3

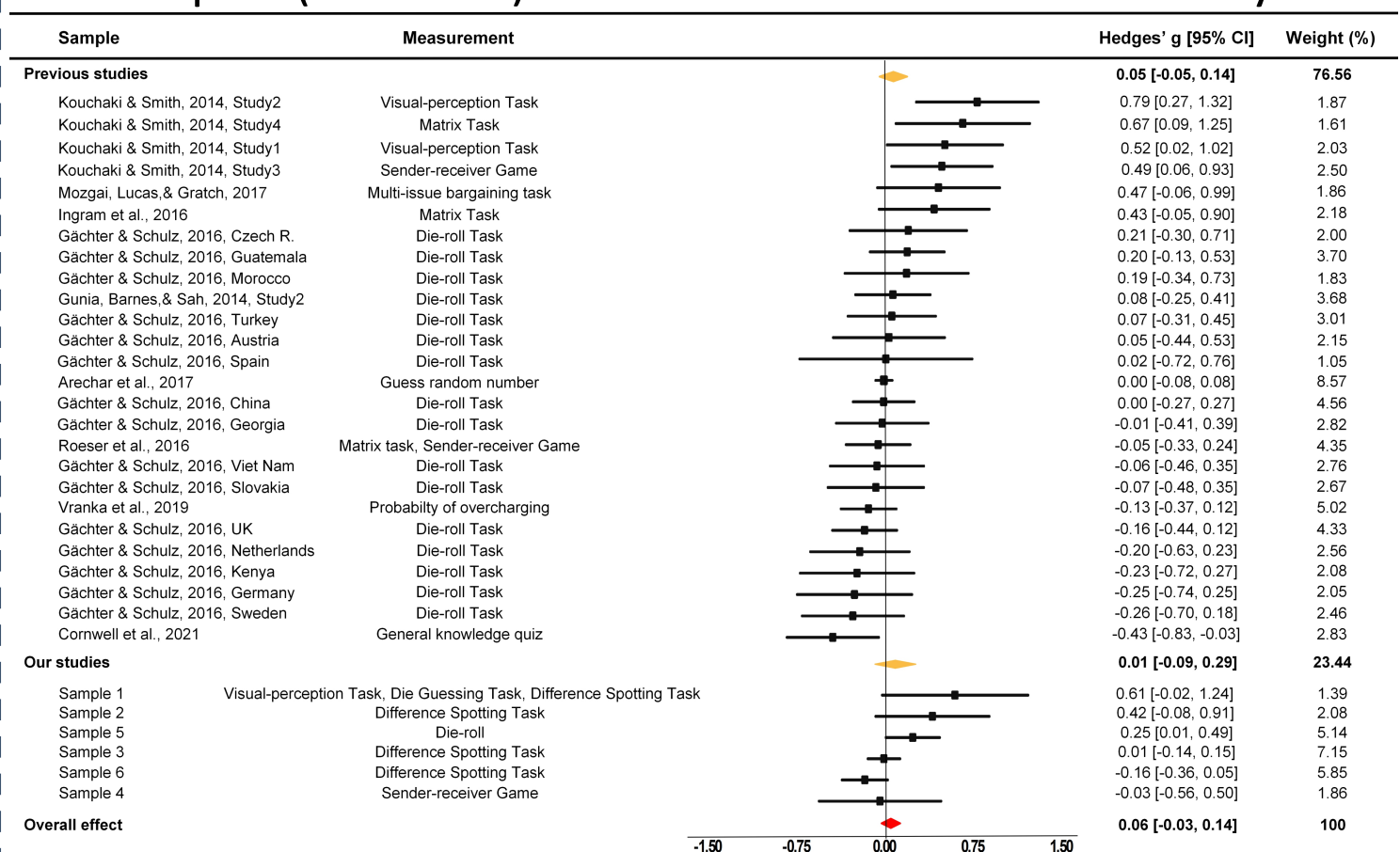32 samples ($N$ = 6792) were included in the meta-analysis.



*Fig. 4* Forest plot of the effect sizes (Hedges' g) along with their 95% CI between time of day and dishonest outcomes.

*Results:* Morning morality effect —— tiny, non-significant. (Hedges' $g$ = 0.056, 95% CI = [-0.025, 0.136], $p$ = 0.175)

## CONCLUSION

We performed three studies and provided comprehensive evidence for a small and unstable effect of time of day on dishonesty.

## REFERENCE

Kouchaki, M., & Smith, I. H. (2014). The Morning Morality Effect: The Influence of Time of Day on Unethical Behavior. *Psychological Science*, 25(1), 95-102. https://doi.org/10.1177/0956797613498099