

The Effect of Monetary Reward Uncertainty on Consumption Behaviours

Anushka Gulani, Erika Delorme, Amanda Ding, Velika Kristianto, Lucas Palmer, Luke Clark

Centre for Gambling Research, Department of Psychology, University of British Columbia, Vancouver

INTRODUCTION

- **Background:**
 - Monetary reward uncertainty is associated with increased food and drink consumption Rauwolf et al. (2021).
 - Uncertainty is generally found to be aversive (Luhmann et al., 2011).
 - Negative affect is associated with increased consumption of food (White et al., 2013) and alcohol (Duif et al., 2018).
- **Aim:**
 - Test the replicability of Rauwolf et al. (2021).
 - Examine the mediating role of negative affect in the relationship between reward uncertainty and consumption.
- **Hypotheses:**
 - H1: monetary reward uncertainty will be associated with increased food and drink consumption.
 - H2: this relationship will be partially mediated by negative affect.

METHODS

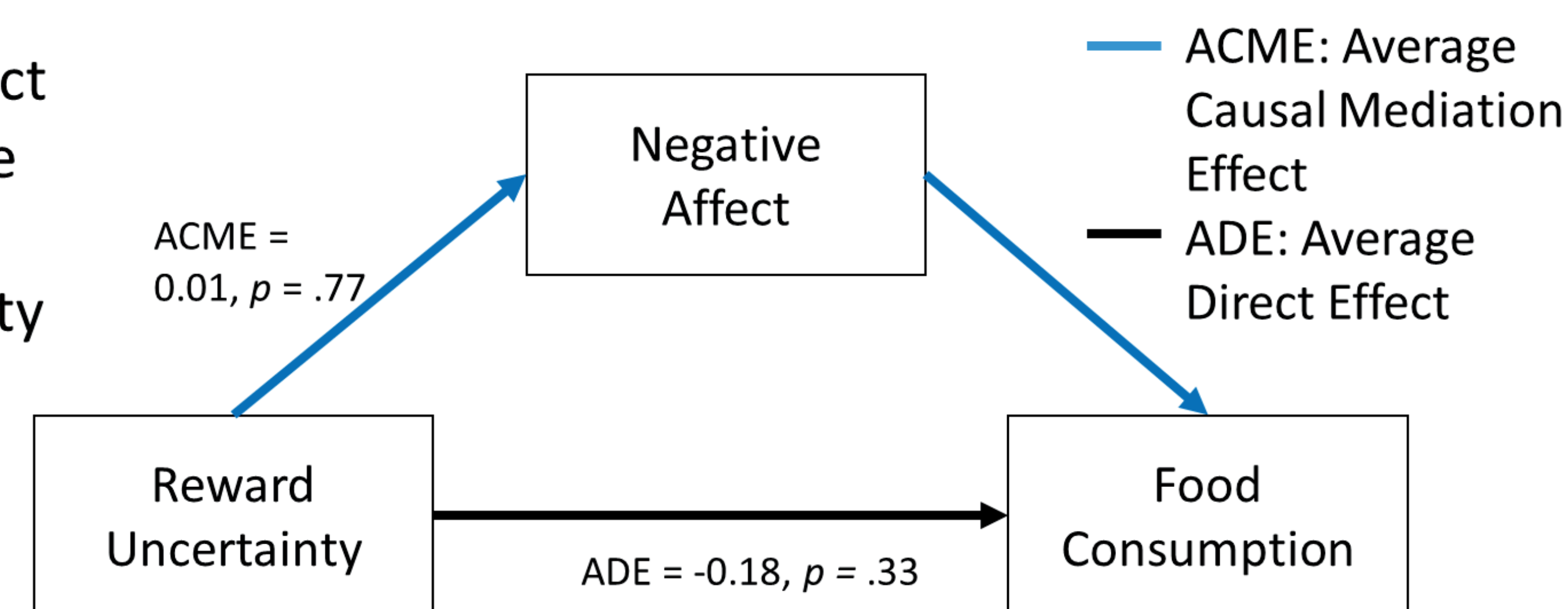
- Food and drink consumption measured using a bogus taste test while participants watched a 10-minute TV show clip ($N = 57$, 75.44% women)
- Conditions:
 - Uncertain reward (\$21 or \$0)
 - Fixed reward (\$7)
- Affect measured using PANAS-S (Positive and Negative Affect Schedule)

RESULTS

Hypothesis 1: Reward uncertainty did not significantly predict increased consumption of food ($\beta = 0.25$, $p = .25$), alcohol ($\beta = 27.14$, $p = .60$) and soft drinks ($\beta = 1.51$, $p = .96$).



Hypothesis 2: Negative affect did not significantly mediate the relationship between monetary reward uncertainty and food (ACME = 0.01, $p = .77$) or drink (ACME = -7.69, $p = .57$) consumption.



DATA ANALYSIS

H1: We bootstrapped the following linear regression models 1000 times

Food consumption \sim Reward uncertainty + Gender + Hunger ratings + AUDIT

Drink consumption \sim Reward uncertainty + Gender + Thirst ratings + AUDIT

H2: We used the causal mediation analysis approach, as conceptualized by Imai et al., (2011)

All analyses were controlled for AUDIT (Alcohol Use Disorders Identification Test) scores, as the two groups significantly differed on these scores.

CONCLUSION

- **Hypothesis 1 was not supported.** We did not significantly replicate Rauwolf et al. (2021).
- Preliminary results: cannot confidently conclude that our results disconfirm the original study
- **Hypothesis 2 was not supported.** Negative affect was not found to be a significant mediator of the relationship between reward uncertainty and consumption.
- Limitations:
 - No temporal precedence for mediation
 - Filler task may have reduced negative affect and the mental state of reward uncertainty
 - Small sample size
- Future directions
 - Looking at varying levels of reward uncertainty
 - Using a clinical sample

REFERENCES



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