

# Stressor-elicited smoking and craving during a smoking cessation attempt

Gaylen Fronk, Megan Schultz, Natalia Jaume-Felicios, Kate Magruder, and John Curtin



## BACKGROUND & RATIONALE

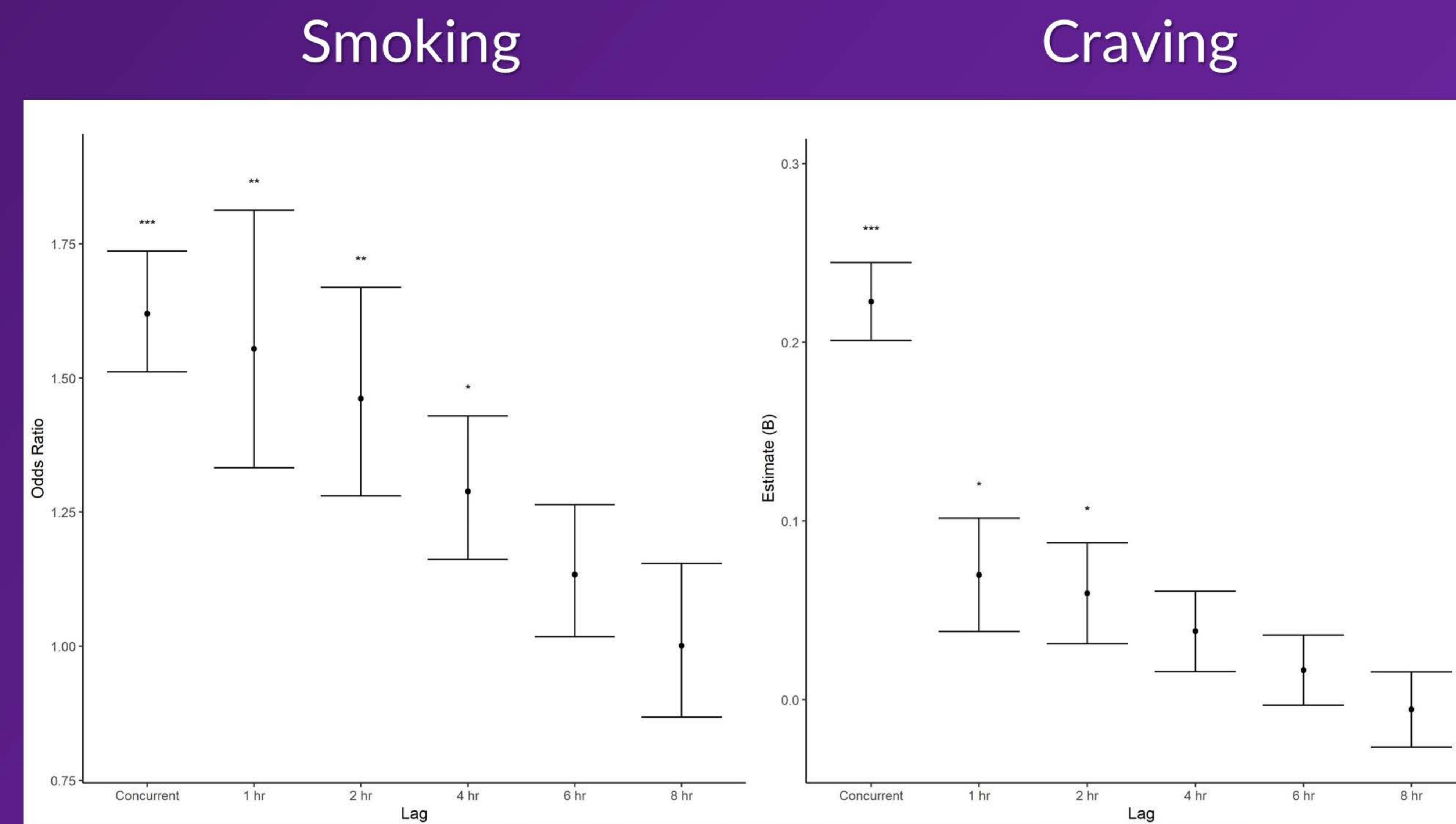
- Stressful events have been hypothesized to undermine smokers' attempts to quit
- Clinical research has struggled to define clearly the relationship between stressors and smoking
- Ecological momentary assessment (EMA) can assess stressful events, craving, and smoking in situ
- The purpose of this study was to examine the effect of stressful event intensity on smoking and craving among cigarette smokers while quitting

## METHODS

- Cigarette smokers (N = 125) were randomly assigned to take nicotine replacement therapy (NRT) or placebo
- Participants provided 4X daily EMA reports during the first two weeks of a quit attempt

| Characteristic            | Percentage (N) |
|---------------------------|----------------|
| Age*                      | 40.05 (11.77)  |
| Gender                    |                |
| Male                      | 61.6% (77)     |
| Female                    | 37.6% (47)     |
| Other                     | 0.8% (1)       |
| Race                      |                |
| White                     | 68.8% (86)     |
| Black or African American | 24.8% (31)     |
| Multiracial               | 0.8% (1)       |
| American Indian           | 2.4% (3)       |
| Asian                     | 0.8% (1)       |
| Unreported                | 2.4% (3)       |
| Ethnicity                 |                |
| Non-Hispanic              | 98.4% (123)    |
| Hispanic or Latinx        | 1.6% (2)       |
| Treatment Group           |                |
| Active NRT                | 52.0% (65)     |
| Placebo                   | 48.0% (60)     |

# Experiencing stressful events increases smoking and craving among cigarette smokers trying to quit

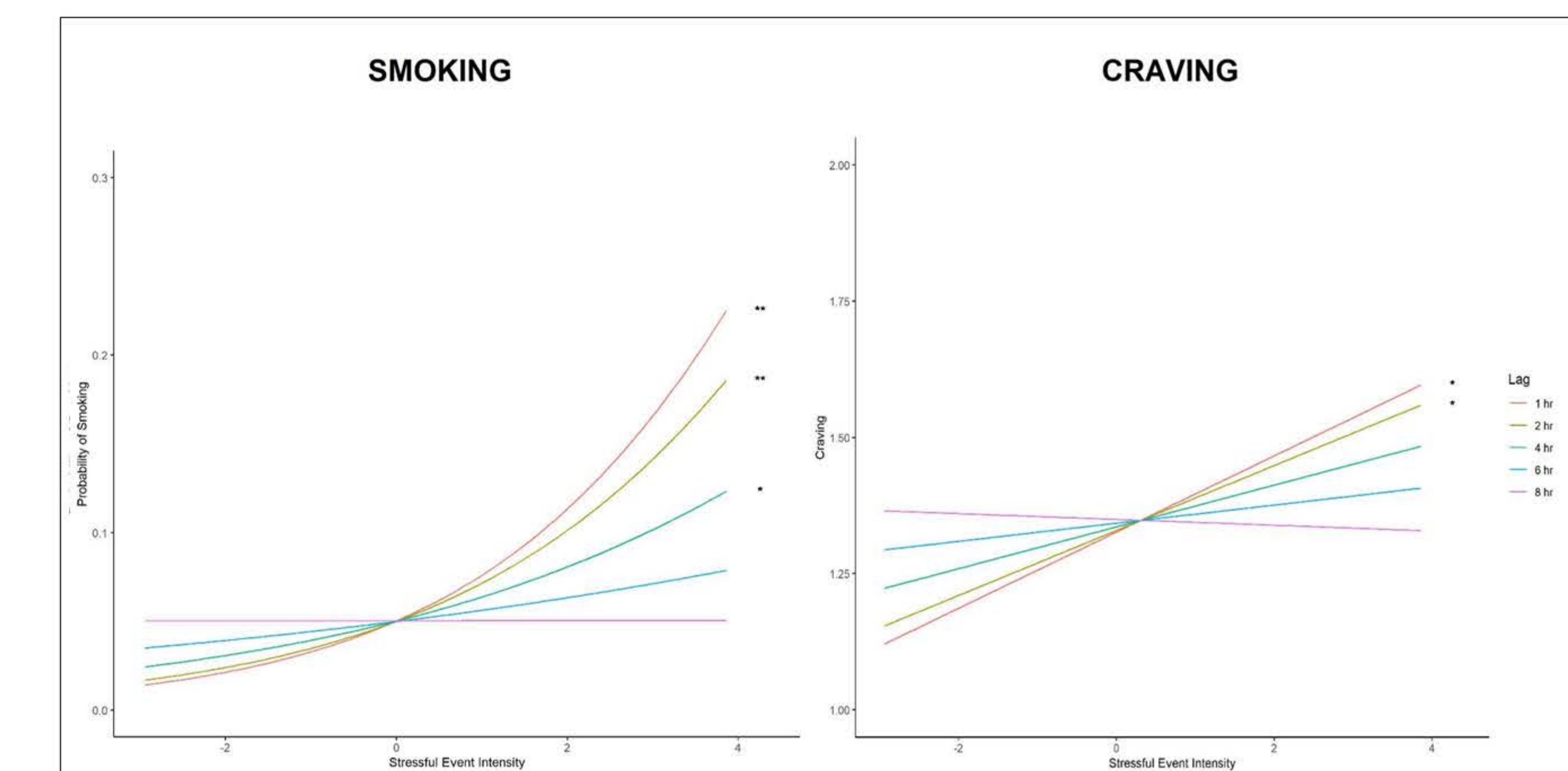


## ANALYSES

- Preregistered, complementary concurrent and prospective (8-hour lag window between stressful event and outcome reports) analyses
- Follow-up moderation (lag duration X stressful event intensity) analyses

## RESULTS

- Stressful events increase craving and the probability of smoking in concurrent analyses
- As stressful event intensity increases...
  - Probability of smoking increases when the lag between the stressor and smoking is < 6 hours
  - Craving increases when the lag between the stressor and craving is < 4 hours



- NRT reduced the probability of smoking but not craving and did not moderate the effect of stressful event intensity on smoking or craving

## DISCUSSION

- There is a prospective relationship between stressful events and smoking/craving in situ
- Effects are strongest when there is a shorter lag between stressors and outcomes
- Treatment with NRT does not reduce the impact of stressors on smoking or craving



Full-access manuscript  
via PsyArXiv

Gaylen Fronk, M.S.  
Clinical Psychology Doctoral Candidate  
University of Wisconsin, Madison

[gfronk@wisc.edu](mailto:gfronk@wisc.edu)  
 @gaylenfronk



Open-source data,  
code, and materials