

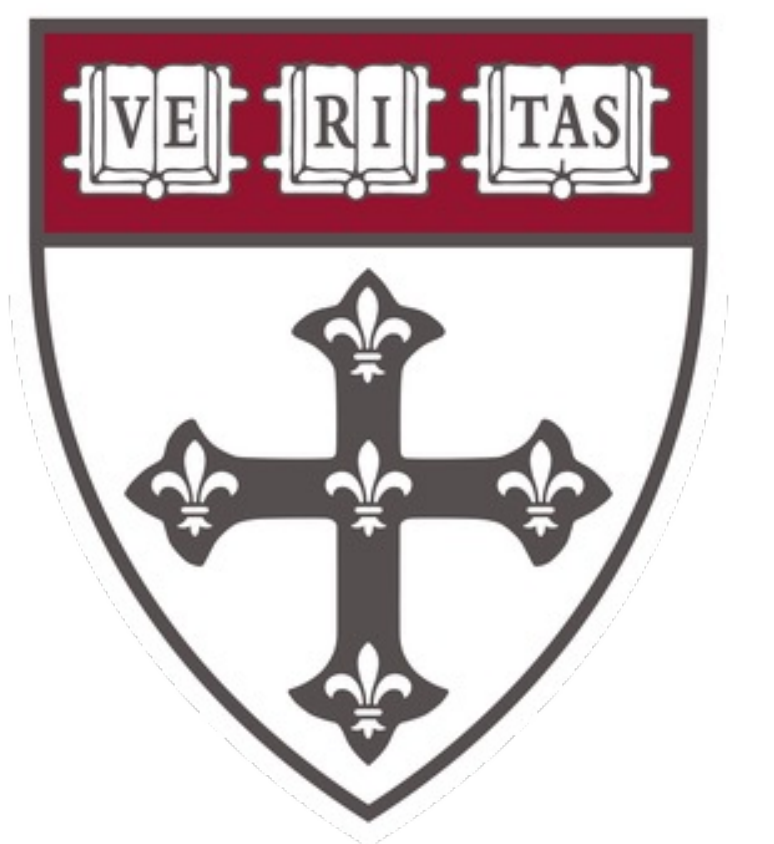
# Emotions and Health Decisions:

## The Opposing Effects of Incidental and Integral Sadness

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### Project Summary and Conclusion

Judgment and decision making research has long assumed that emotions normatively related to decisions (“integral emotion”) as well as emotions normatively unrelated to decisions (“incidental emotion”) should exert similar influences on behavior (Lerner, Li, Valdesolo & Kassam, 2015). However, this assumption has been left largely unexamined (Ferrer & Ellis, 2020). Here we examined potential differences between the effects of integral versus incidental sadness on judgments about cigarette craving among people who smoke.

Across two pre-registered, experimental studies (N=1,344) with people who smoke, we hypothesized and found that integral sadness decreased, whereas incidental sadness increased, impatience for smoking reward (as evidenced by craving for cigarettes.) Thus, the findings challenge the long-held assumption that incidental and integral forms of an emotion share similar influences on judgment and decision.

The present work offers theoretical advances to research on emotion and health decision-making, as well as practical implications for the design of health communication.

### Background to Studies

Incidental sadness, triggered by factors unrelated to the choice at hand, has been found to increase hedonic consumption behaviors (Cryder et al., 2008; Garg, Williams, & Lerner, 2018; Lerner, Small, & Loewenstein, 2004). This effect has especially harmful health effects among people who smoke: they experience heightened levels of craving for cigarettes as well as increased smoking when experimentally induced to experience incidental sadness (Dorison et al., 2020). One possible explanation for this pattern is that sadness, which arises from experiences of irrevocable loss (Lazarus, 1991), activates an implicit goal of reward-seeking to replace feelings of loss (Raghunathan & Pham, 1999; Lerner, et al, 2004; Lerner et al., 2015).

But should all forms of sadness increase hedonic consumption? We hypothesize that integral sadness, triggered by factors related to the decision, may reduce smoking. Drawing on affect-as-information theory (Schwarz and Clore, 1983), when individuals can attribute the source of their sadness to smoking, smoking itself may become associated with the feelings of loss and thus, might be perceived as less rewarding. If this is indeed the case, then the greater the degree to which the content of a sadness induction relates to smoking, the less craving for cigarettes should be evoked. Hence, we predict that people who smoke will experience reduced craving for cigarettes when induced to experience integral sadness.

### Studies

#### Study 1: Effects of Integral Sadness on Craving

##### Main Hypothesis

Individuals in the integral sadness condition will report less craving compared to individuals in the neutral conditions.

**Method** (N = 553, Mturk, current smokers)

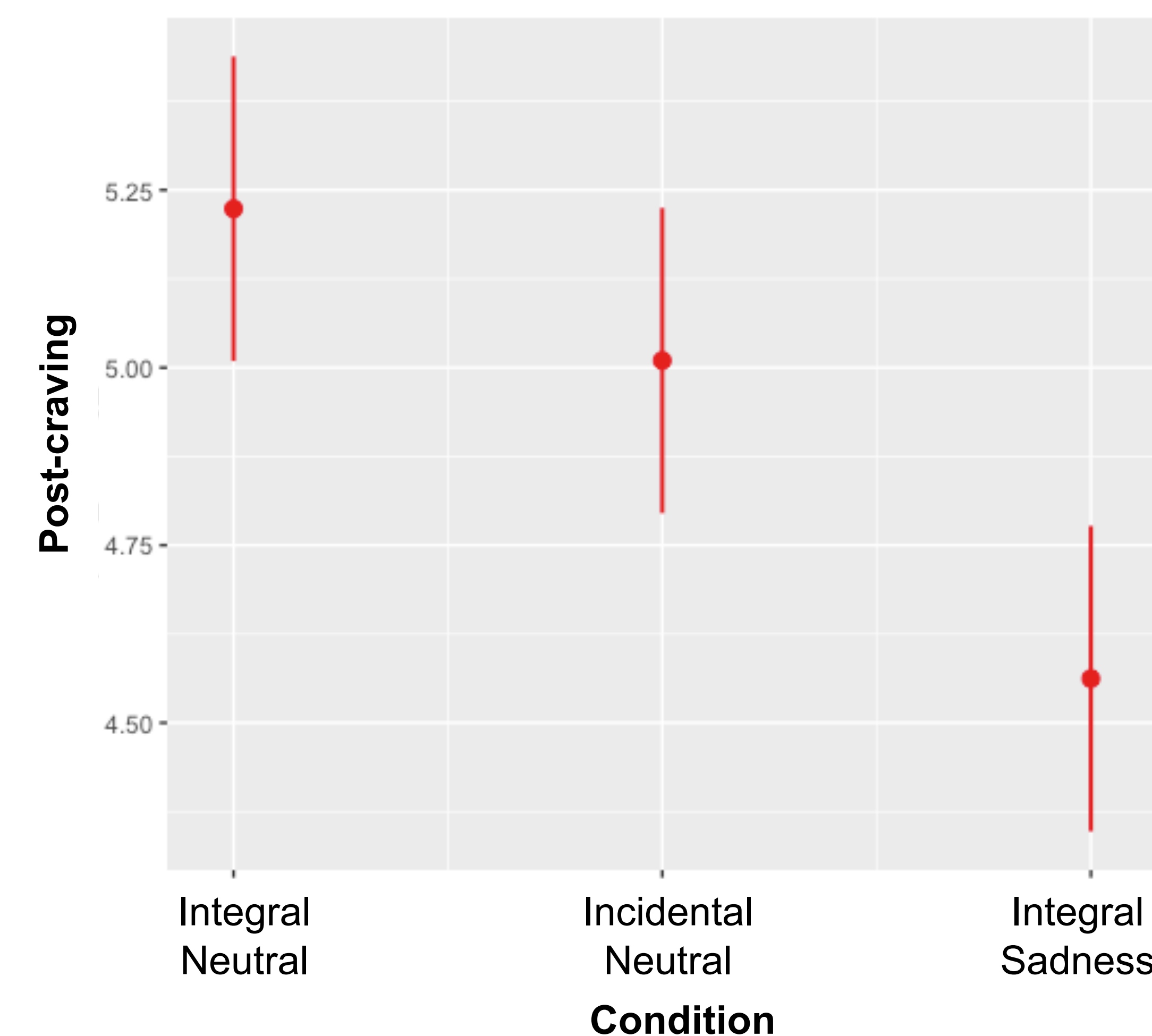
1-factor, 3 levels (emotions: incidental neutral vs. integral neutral vs. integral sadness) between-subjects design

**Emotion manipulation** (Small & Lerner, 2008):

Participants watched an approx. 2-min clip that elicits the target emotion. Then, participants wrote about a similar emotional experience.

##### Results

Consistent with our hypothesis, individuals in the integral sadness condition reported significantly less craving compared to individuals in the incidental neutral ( $d = -.10$ ;  $p = .006$ ) and integral neutral conditions ( $d = -.13$ ;  $p < .001$ ).



#### Study 2: Effects of Incidental vs. Integral Sadness

##### Main Hypotheses

**H1.** The effect of emotion (sadness, neutral) on craving will depend on the degree to which the content of the emotion induction relates to smoking.

**H2.** Compared to individuals in the neutral conditions, individuals in the incidental sadness condition will report more craving, whereas individuals in the integral sadness condition will report less craving.

**H3.** (Exploratory) Integral sadness will trigger stronger intentions to quit, compared to integral neutral and incidental neutral conditions.

**Method** (N = 791, Mturk, current smokers)

2 emotions (neutral vs. sadness) x 2 degree of relevance to smoking (low relevance – incidental vs. high relevance – integral) between-subjects experimental design

##### Results

- The effect of emotion condition (sadness, neutral) depended on the degree (low, high) to which the content of the emotion induction related to smoking ( $p < .001$ ).
- Consistent with H2, compared to individuals in the neutral conditions, individuals in the incidental sadness condition reported more craving ( $d = .12$ ,  $p = .01$ ), whereas individuals in the integral sadness condition reported less craving ( $d = -.47$ ,  $p < .001$ ).
- Consistent with our exploratory hypothesis, integral sadness led to a stronger intention to quit, compared to integral neutral ( $d = .45$ ,  $p < .001$ ) and incidental neutral conditions ( $d = .51$ ,  $p < .001$ ).

