Understanding Personality as a Factor in Determining Liking of Spicy Foods

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“TASTE”

- Chemesthesis
  - Temperature
  - Touch
  - Pain
- Similar receptors as sweet, bitter, umami
- Genetic variation

http://www.scotherbs.co.uk/products-range-herbs.html
http://www.bjorklundnutrition.net/category/functional-foods/spices/chili-pepper/
FOOD CHOICE

- Cognition
  - Emotion
  - Motivation
  - Decision making
- Memory
  - Previous experiences
  - Learning
- Personality traits
  - Neophobia

- Appearance
- Interaction
- Taste
- Smell
- Texture
- Trigeminal

- Complexity
- Adaptation
- Dynamic contrast

- Irritation
- Boredom
- Aversion

Copy right J. Mojet ATO 18-11-2001
Burn Intensity

Liking
PERSONALITY

❖ Sensation Seeking Scale (Arnett Inventory, AISS)

❖ Adapted from Zuckerman Form IV:
   ❖ Thrill and Adventure Seeking, Experience Seeking, Disinhibition, Boredom Susceptibility
   ❖ Two subscales: Novelty Seeking, Intensity Seeking

❖ Sensation Seeking/Novelty Seeking Scales

❖ Thrill and Adventure Seeking: liking of spicy Asian foods
❖ Experience Seeking: liking of spicy Asian foods, black pepper

PERSONALITY MEASURES

_private body consciousness (PBC)
  individual sensitivity to bodily responses
  more sensitive to burn of chiles

Sensitivity to Punishment and Sensitivity to Reward Questionnaire (SPSRQ)
  Sensitivity to Punishment: Response to novel stimuli
  Sensitivity to Reward: Impulsivity
  No link yet

PART I: RELATIONSHIPS BETWEEN FOOD CHOICE VARIABLES

1) Liking of spicy meal ➔ Annual Chile Intake
   • $r = 0.41 \ (p < 0.0001)$

2) Annual Chile Intake ➔ Burn Intensity (25 uM capsaicin)
   • $r = -0.02 \ (p = 0.77)$

3) Burn Intensity (25 uM capsaicin) ➔ Liking of spicy foods
   • $r = -0.20 \ (p = 0.0064)$ Spicy meal
   • $r = -0.08 \ (p = 0.26)$ Spicy Asian food
   • $r = -0.14 \ (p=0.07)$ Spicy BBQ
**RESULTS**

- No relationship: PBC or short TPQ-NS
- Positive relationship between liking of spicy foods (meals and Asian foods) and Sensation Seeking and Sensitivity to Reward

![Graphs showing correlation between liking and sensation seeking/sensitivity to reward](image-url)
PART II: MEDIATION AND MODERATION ANALYSIS

- AISS split into Novelty and Intensity Seeking subscales
- Which drives relationship?
- Mediator and moderator analysis

**Mediation model**

**Moderation model**
RESULTS: MEDIATION

- Sensation Seeking (AISS) partially mediates the relationship between burn intensity and liking of spicy meal
- Intensity Seeking and Novelty Seeking subscales partially mediate relationship
RESULTS: MODERATION

- Sensation Seeking moderates relationship between burn sensitivity and liking of spicy meal

![Graph showing the relationship between burn intensity and liking differs by Overall AISS score.](image-url)
RESULTS: MODERATION

Sensation Seeking subscales moderate relationship between burn intensity and liking of spicy meal

Main Effect – Novelty Seeking: \( p = 0.04 \)
Interaction – Novelty Seeking x Burn: \( p = 0.03 \)

Main Effect – Intensity Seeking: \( p = 0.82 \)
Interaction – Intensity Seeking x Burn: \( p = 0.04 \)
CONCLUSIONS

- Burn intensity linked with liking of spicy foods
- Liking of spicy foods predicts annual chile intake
- No desensitization
- SS and SR are associated with liking of spicy foods
  - SS Total, IS, and NS act as mediator and moderator
LIMITATIONS

- Chile Intake measure doesn’t capture whole story
  - dose, other chemesthetic agents… (TRPV1 vs. TRPA1)
- Individual’s conception of what is ‘spicy’
  - Does mild salsa actually contain any chiles?
  - Indian food is full of aromatic spices, but need not be hot
THE END