



# THE PSYCHOLOGY OF EATING

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# PERCEPTION OF TASTE

- Taste = Gustation ?
- Gustation = Five basic tastes

Sweet  
UMAMI  
Salty  
Sour  
Bitter

## The “Taste Map”: All Wrong

One of the most dubious “facts” about taste—and one that is commonly reproduced in textbooks—is the oft-cited but misleading “tongue map” showing large regional differences in sensitivity across the human tongue. These maps indicate that sweetness is detected by taste buds on the tip of the tongue, sourness on the sides, bitterness at the back and saltiness along the edges.

Taste researchers have known for many years that these tongue maps are wrong. The maps arose early in the 20th century as a result of a misinterpretation of research reported in the late 1800s, and they have been almost impossible to purge from the literature.

In reality, all qualities of taste can be elicited from all the regions of the tongue that contain taste buds. At present, we have no evidence that any kind of spatial segregation of sensitivities contributes to the neural representation of taste quality, although there are some slight differences in sensitivity across the tongue and palate, especially in rodents.

—D.V.S. and R.F.M.

OUTDATED “TONGUE MAP” has continued to appear in textbooks even though it was based on a misinterpretation of research done in the 19th century.



Hedonic

dratation

Disgusting

# PERCEPTION OF TASTE

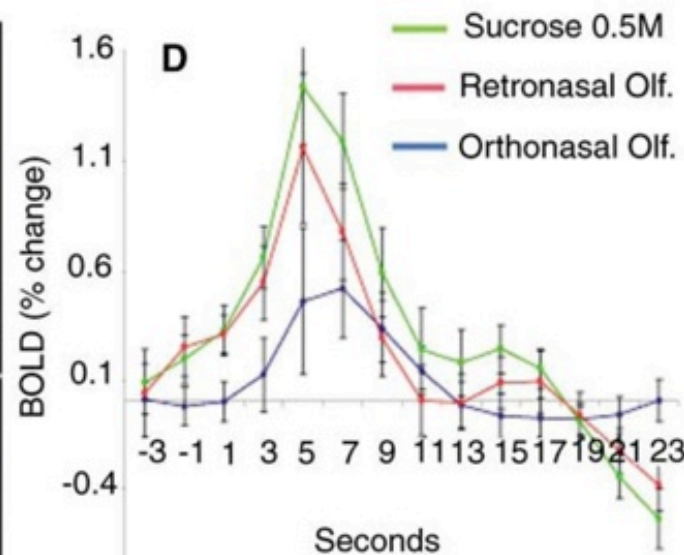
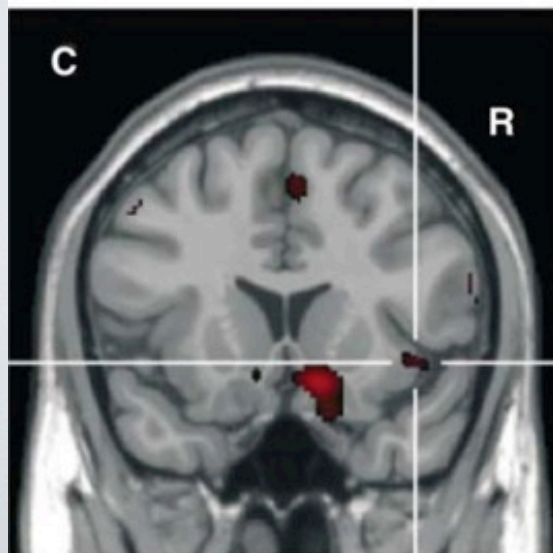
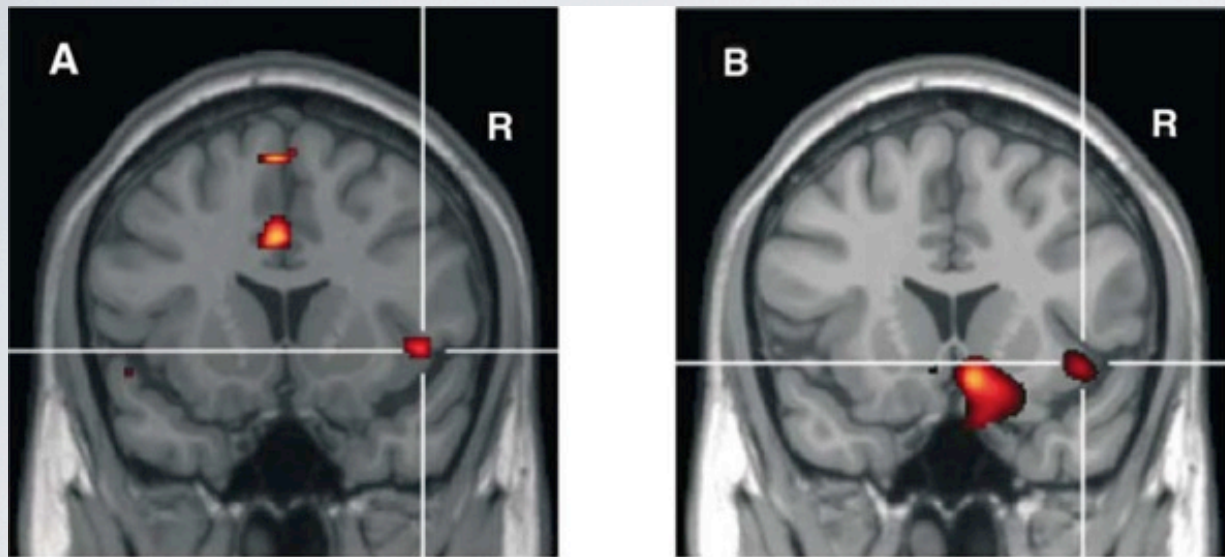
- Pinch your nose and taste the juice → NO taste

TASTING IS SMELLING!

SYNESTHESIA



# PERCEPTION OF TASTE



- Olfaction and gustation are converged in the **primary** taste cortex.

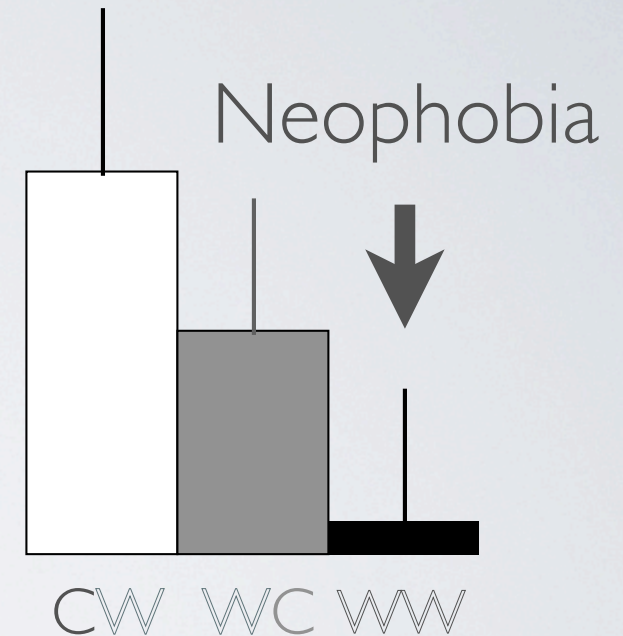
de Araujo et al., European Journal of Neuroscience, 18, 2059-2068, 2003

# PALATABILITY OF FOODS



# PALATABILITY OF FOODS

	Third-term of Pregnancy	Period of Lactation
CW	Carrot Juice	Water
WC	Water	Carrot Juice
WW	Water	Water

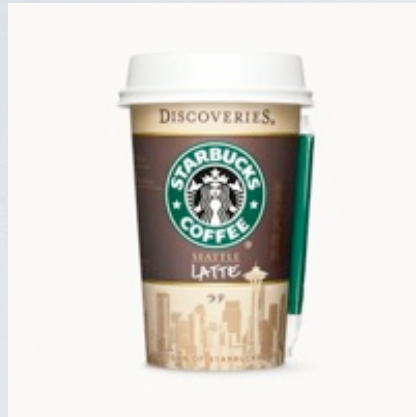


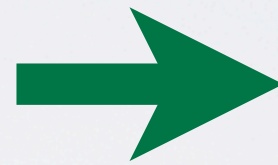
Consumed carrot cereal by the child at 6 month age

Motivation for **safety**.

Mennella et al. (2001) Pediatrics, 107, e88-e93.

# BRANDS AND PALATABILITY





Palatability  
30% UP!

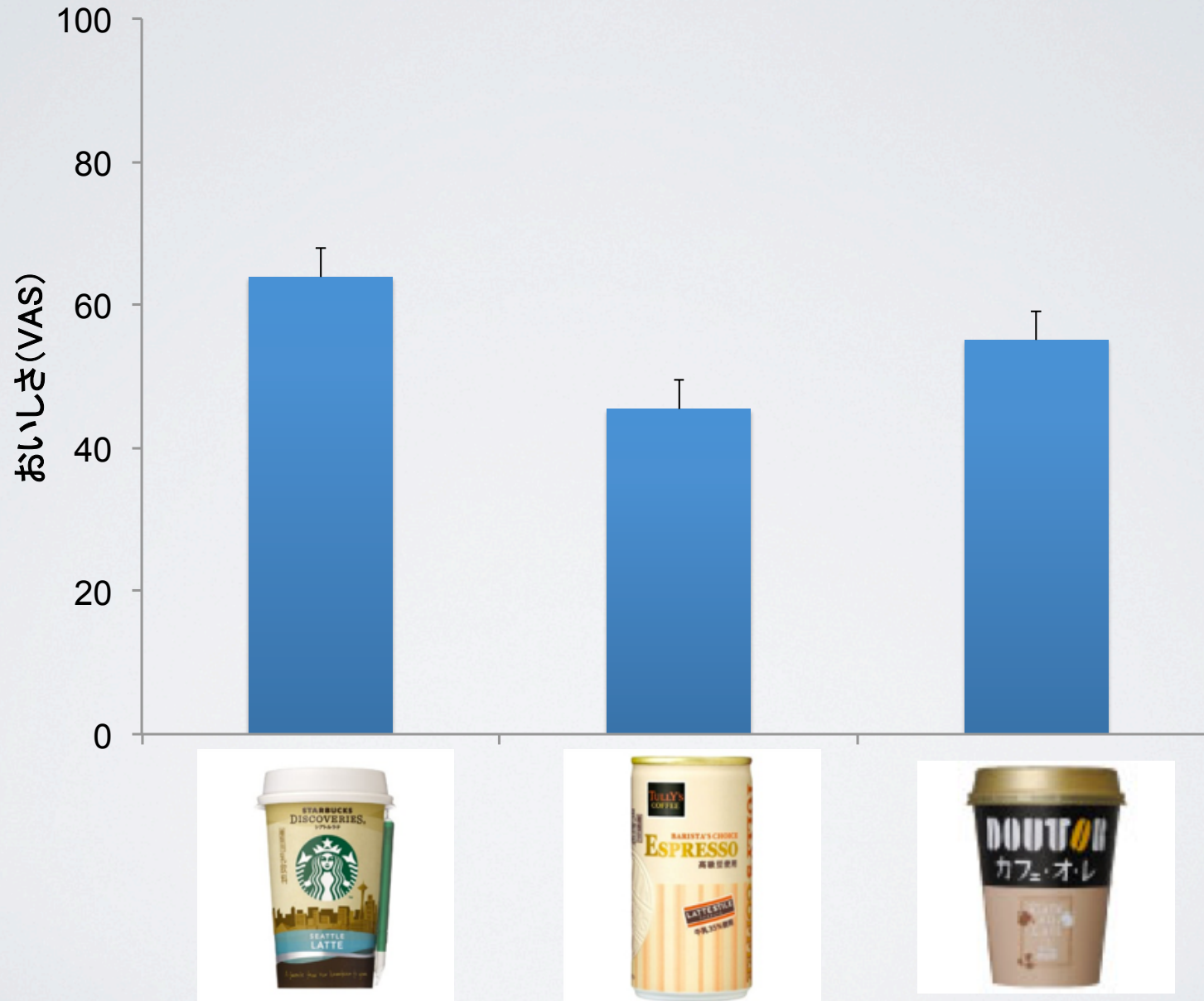




# EFFECT OF BRANDS



# BRANDS AND PALATABILITY



# SEMANTIC DIFFERENTIAL FOR SHOPS AND BEVERAGES

	Liking	Familiarity	High-quality	Profundity	Natural
correlation coefficient	0.231	0.070	0.43	0.189	0.237

Boisterousness	Gay	New	Active	Fashion-conscious	Warm
0.068	0.263	0.294	0.247	0.461	0.208

$r = 0.40$

$r = 0.37$

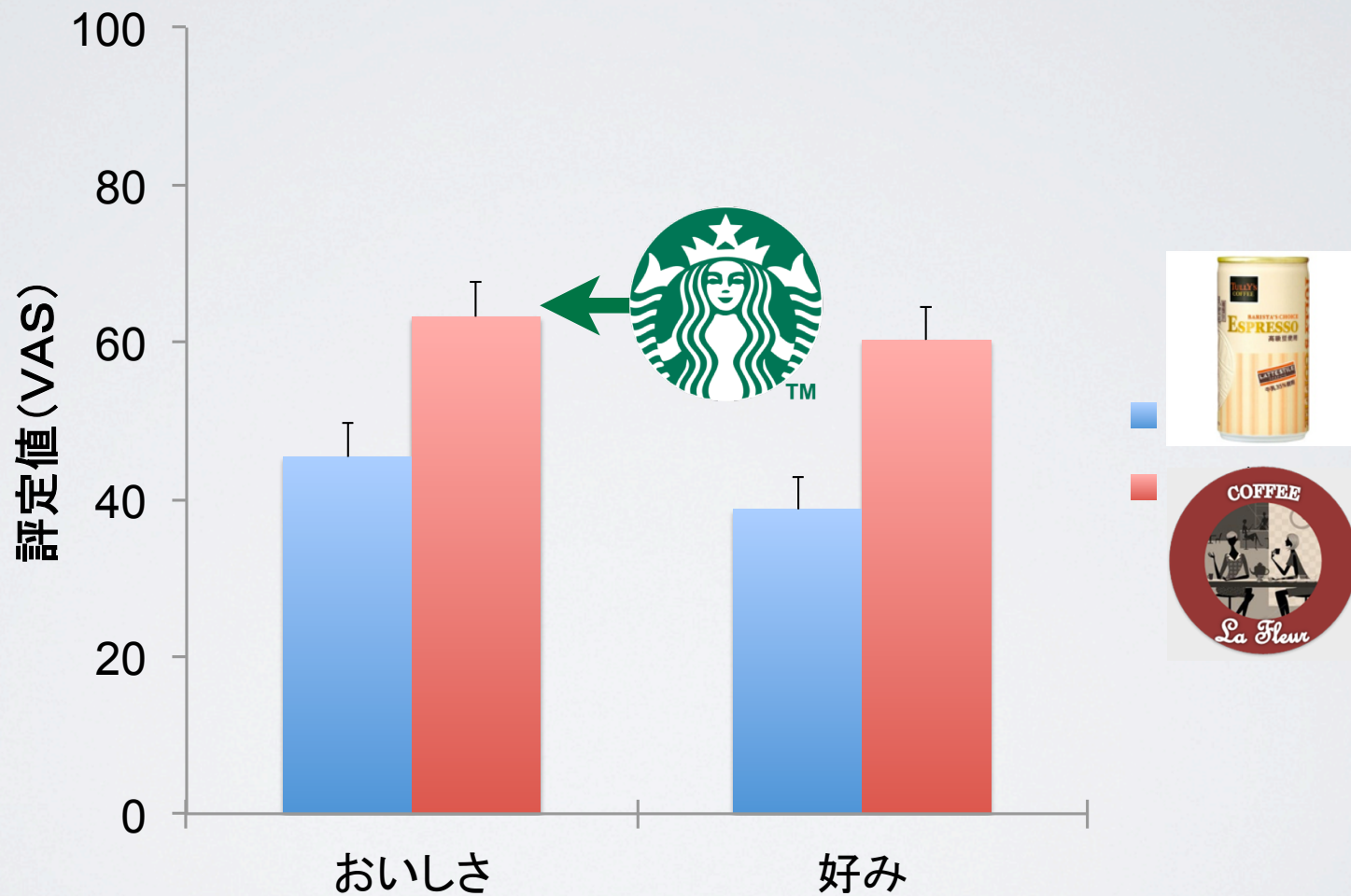
Palatability (VAS)



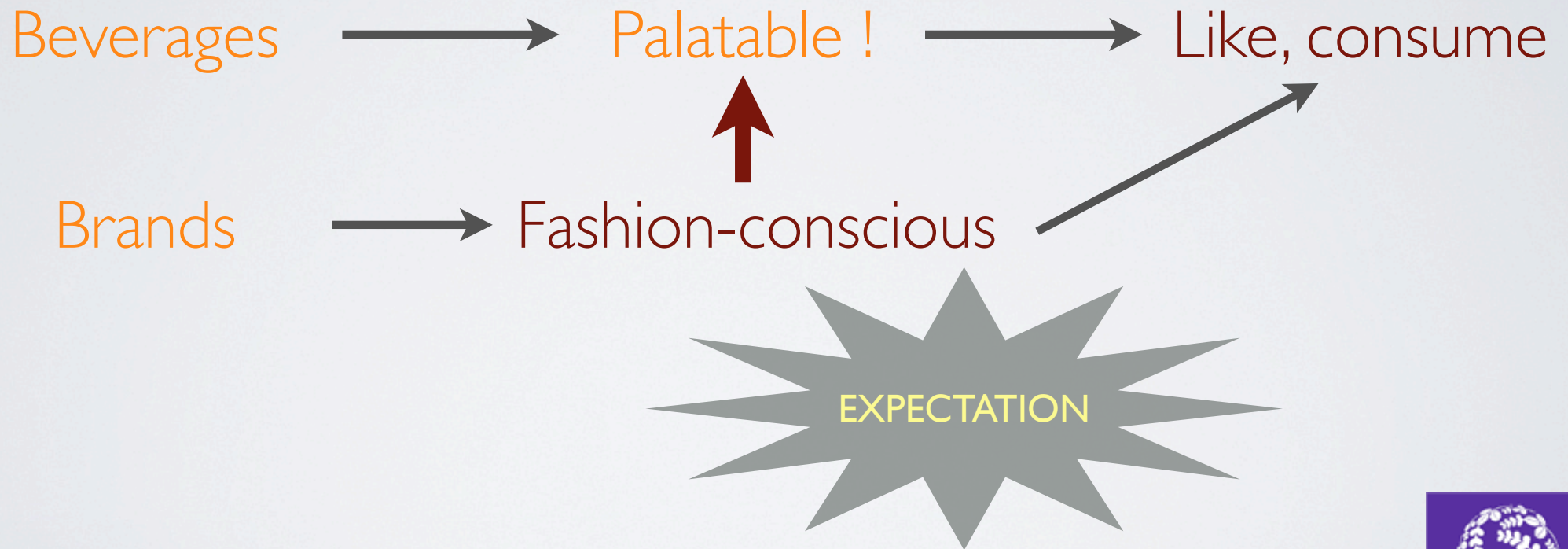
# FICTITIOUS BRAND



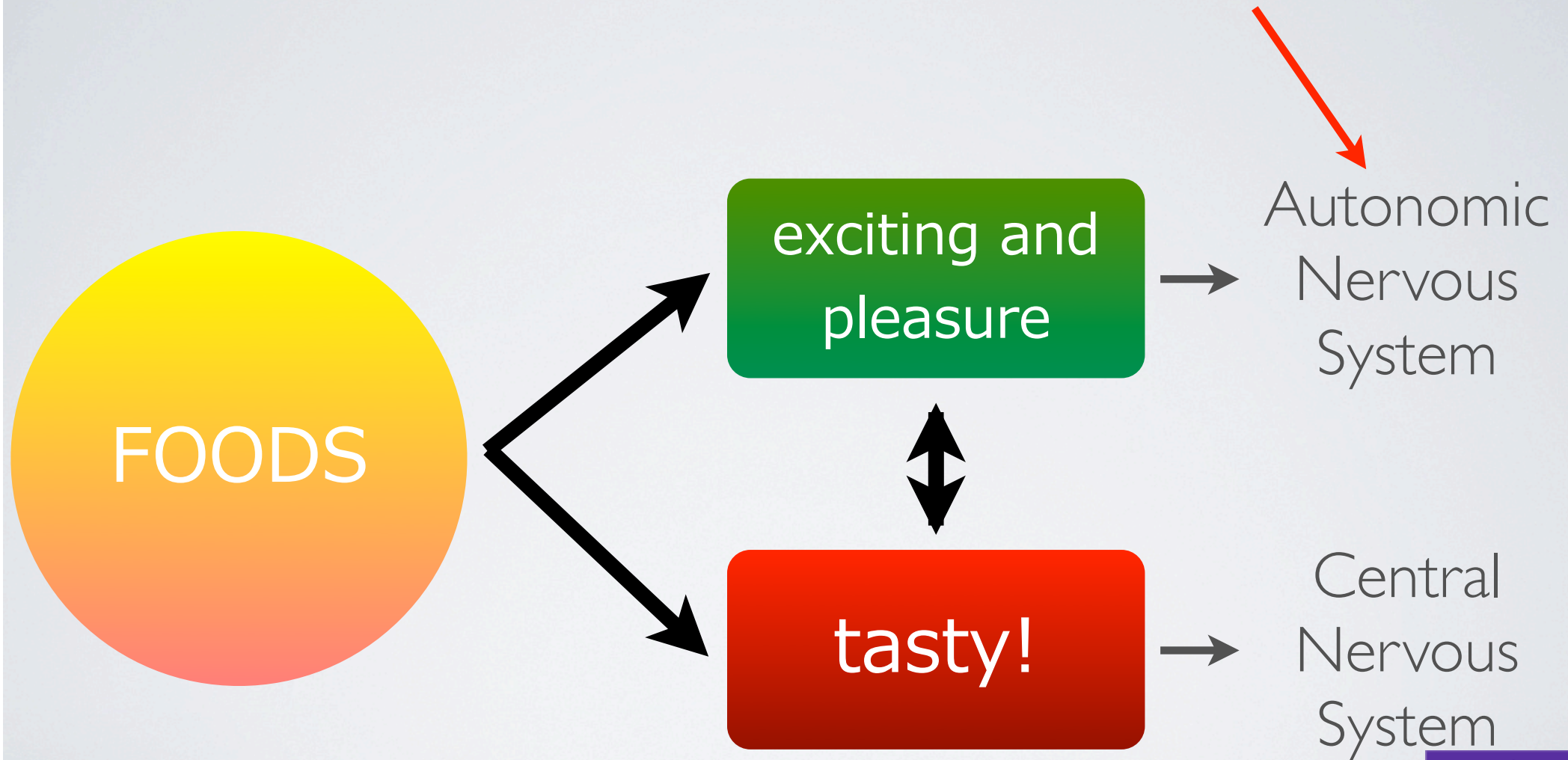
# LIKING FOR FICTITIOUS BRAND



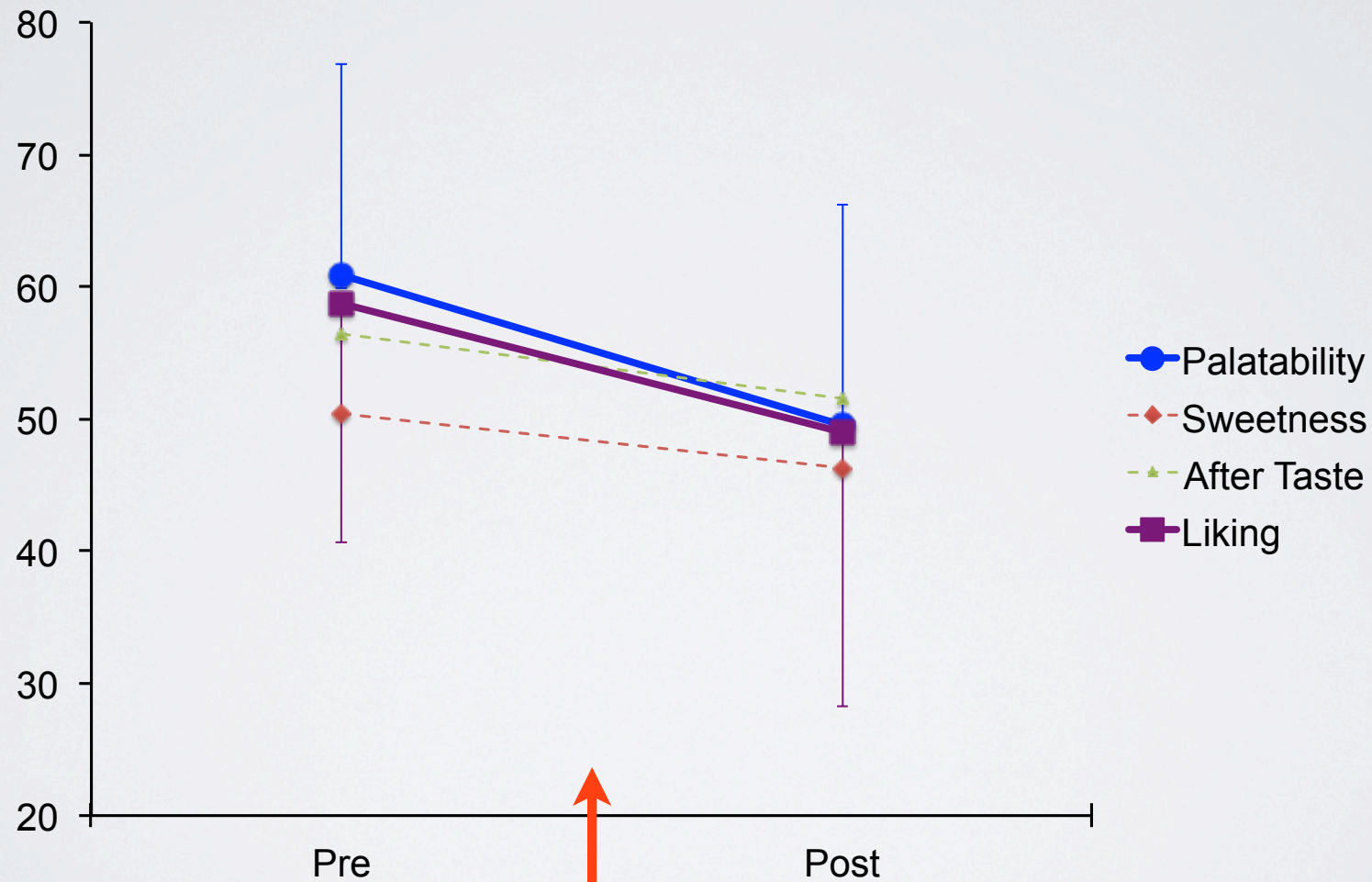
# ESTEEM AND PALATABILITY



# SOMATIC MARKER



# GROUP PRESSURE AND PALATABILITY OF FOODS



Conversation with 4 influencers



# OTHER RESEARCHES ON EATING BEHAVIOR

- Brain and human eating behavior.
- Classical conditionings in human and/or animal.
- Food selection and energy regulation.
- Emotional eating and easing stress.
- Obesity and motivation to eat.
- Anorexia and Bulimia Nervosa.



# CONCLUSION

- Understanding eating behavior leads us to understand the human behavior itself.
- To Understand human eating behavior, we need multidisciplinary approach including almost all fields of psychology.
- Our knowledge about eating behavior is useful to improve not only people's Quality of Life (QOL) but also industries and cultures.