

“Should I cook or should I raw? Implicit and explicit preferences towards natural and transformed food”

Coricelli C, Foroni F, Rumiati R

Neuroscience and Society Laboratory, SISSA, Trieste, Italy

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In western countries, where the availability of food is abundant, choosing what to eat generates anxiety [1]. Yet, the underlying neural processes implicated in these daily food choices are still poorly understood. A spontaneous preference for cooked food compared to raw in hominids has been hypothesized based on animal models [2]. Indeed both mice [3] and great apes [4] showed preferences towards processed food. In particular, the control of fire for cooking food has been relevant for human evolution as transformed food generally contains more calories and therefore provides greater energy. In addition, some food can be dangerous if eaten raw, and cooking reduces the risk of infections. The present study comprises two experiments that aimed at testing the nature of implicit and explicit evaluations towards natural and transformed food in young normal-weight individuals. Implicit preferences were assessed using the Implicit Association Test (IAT; [5]). This is a response latency task providing a measure of strengths of automatic associations between target concepts and attributes. The concept dimension was represented by food/utensils and the attribute dimension by positive/negative. Participants were then asked to explicitly rate the general valence and wanting of the food images of the IAT task. Results of both experiments showed how at the implicit level participants had strong positive associations towards food items compared to tools. At the explicit level participants prefer natural food and foods containing low calories. Gender differences as expected emerged and hunger level of participants correlated positively solely with the wanting of transformed food. This study sheds light on an unexplored dimension of food categorization in humans to date.

1. Rozin, P. (1976). The selection of foods by rats, humans, and other animals. *Advances in the Study of Behavior*, 6:21-76.
2. Wrangham, R. W., Jones, J. H., Laden, G., Pilbeam, D., & Conklin- Brittain, N. (1999). The raw and the stolen. *Current anthropology*, 40:567-594.
3. Carmody, R. N., Weintraub, G. S., & Wrangham, R. W. (2011). Energetic consequences of thermal and nonthermal food processing. *Proceedings of the National Academy of Sciences*, 108:19199-19203.
4. Wobber, V., Hare, B., & Wrangham, R. (2008). Great apes prefer cooked food. *Journal of Human Evolution*, 55:340-348.
5. Greenwald AG, McGhee DE, Schwartz JL. (1998). Measuring individual differences in implicit cognition: the implicit association test. *Journal of personality and social psychology*, 74:1464.