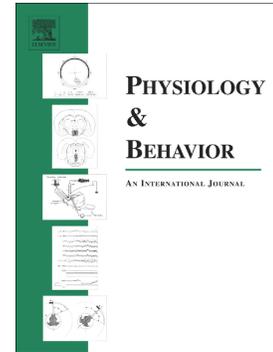


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Beyond expectations: The responses of the autonomic nervous system to visual food cues.

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Abstract

Self-report measures rely on cognitive and rational processes and may not, therefore, be the most suitable tools to investigate implicit or unconscious factors within a sensory experience. The responses from the autonomic nervous system (ANS), which are not susceptible to bias due to their involuntary nature, may provide a better insight. Expectations are important for the consumer-product interaction and should be considered. However, research using ANS responses has not focused thoroughly on expectations. Our aim was to investigate the mechanisms underlying ANS responses by evaluating the reactions to different images when expectations about a product are created (before tasting the product) and when they are confirmed and disconfirmed (after tasting the product).

In a first study, seventy-five participants tasted four drinks (three identical soy-based drinks and one rice-based drink) and were told that they would be shown their main ingredient either before or after tasting. For the three identical drinks, the images shown were: worms, chocolate, and soy. Heart rate and skin conductance were measured during the procedure. The results showed that ANS responses followed similar patterns when images were presented before or after tasting. Heart rate decreased for all images, with the largest decrease found for chocolate and worms. Skin conductance increased, with the largest increase found for worms. To test whether the effects were solely caused by image perception, a second study was done in which forty participants only saw the images. The responses obtained were smaller and did not completely match those of the first study.

In conclusion, it could be said that the ANS responses of the first study were a result of the sensory processing and defense mechanisms happening during the creation and (dis)confirmation of expectations. The second study confirmed that visual perception alone could not account for these effects and that it led to smaller changes. Hence, it seems that the context of use influences the patterns and magnitude of ANS responses to food cues.

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