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Exploring product complexity dimension: contributions of sensory properties, emotions and individual differences

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Despite its relevance for food appreciation and acceptability, complexity is not an easily defined concept. The present work aims to shed light on consumer's perceived complexity for a specific set of alcoholic cocktails prepared with a common "bitter" ingredient. A consumer panel (n=150), cocktails frequent consumers, balanced by gender, aged from 19 to 40 was recruited. Subjects were characterized for consumption of alcoholic beverages, familiarity with varied cocktails, personality traits and PROP status. Products were evaluated for complexity, liking, sensory properties, emotions and contexts appropriateness, using a consumer-led product specific questionnaire. Associations between perceived complexity and the other product variables were studied using a Multiple Factor Analysis. Perceived complexity was related to specific sensory properties: intensity of color, clarity of mixture, spice and herb flavors, perceived alcohol. Bitter taste characterized products higher in complexity in opposition to sweetness. A nonlinear relationship (reversed U curve) was found between complexity and liking. Overall, negative emotions were higher in products higher in complexity. Individual differences in complexity ratings were explored by means of a Principal Component Analysis (rows: products; column: consumers). Two main consumer segments were found. They did not differ in any measured background variable nor in actual liking for products, while they differed in familiarity with cocktails prepared with the same "bitter" ingredient used in sample preparation. Positive emotions were systematically higher, and negative emotions lower, in one segment, thus highlighting a different emotional involvement with the products in the two segments. In close correlation with differences in emotional responses, segments significantly differed in rating product appropriateness for varied situational contexts. Our results show that emotions and appropriateness depict better than liking individual differences in consumer appreciation of cocktails. Furthermore, our findings highlight the need of taking into account individual differences in the investigation of the complexity-affect pattern.