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Investigating new technologies of visual product evaluation

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Background: Consumers are known to not reach their required daily fruit and vegetable intake. Measuring fruit and vegetable liking via visual methods can be done with the use of Central Location Testing (CLT) and In-Home Use Testing (IHUT), but might yield different results. Several studies have been investigating new technologies to optimize visual sensory testing by comparing Central Location Tests with different In Home User methodologies, including IHUT with physical product (IHUT-Product), 2D images (IHUT-2D), virtual reality (IHUT-VR) and 360 degree video (IHUT-360)

Method: A first study included a total of 224 adults assessing six samples of tomato varieties for liking, purchase intention and preference with CLT (n=78), IHUT-2D (n=81), IHUT-Product (n=82), or IHUT-VR (n=69). In a second study a total of 116 adults assessed four relatively familiar and four relatively unfamiliar fruit and vegetables for liking, purchase intention and freshness with CLT (n=40), IHUT 2D images (n=38) or IHUT 360 degree video (n=38).

Results: The first study found a significantly lower visual liking and purchase intention for IHUT-2D compared to IHUT-Product and CLT (only visual liking). The test method had no influence on the test results for preference testing. Participants perceived the most difficulties conducting the IHUT-VR test. In the second study liking, purchase intention and freshness perception were significantly higher for IHUT-360 compared to IHUT-2D, however ratings were highest for CLT. Familiar products had a significant higher liking compared to unfamiliar products.

Conclusions: Using new technologies for visual product testing is promising, but is still resulting in lower liking and purchase intention scores compared to classic CLT. Participants had difficulties performing the IHUT with virtual reality, therefore using VR would need elaborate instructions and practice sessions. 360 degree videos resulted in higher liking and purchase intention compared to 2D images and is therefore a suitable alternative.

Keywords: In Home User Test; Virtual Reality; 360 degree video