Supplemental material to: "Eating, Smelling, and Seeing: Investigating Multisensory Integration and (In)congruent Stimuli while Eating in VR"

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1 Questionnaire pre-selection - neutral product

1. Please **name** the product? (Chen et al. [1])
2. How **neutral** does this product taste? a) very neutral b) neutral c) somewhat neutral d) not neutral e) not neutral at all
3. Is it **possible to identify** this product? a) clearly identified b) able to identify c) tendency of identification d) not able to identify e) not able to identify
4. How **familiar** is this product to you? (Chrea et al., 2003 [3]) a) not familiar at all b) not much familiar c) somewhat familiar d) familiar e) very familiar
5. How **intense** is this product to you? (Chifala and Polzella [2]) a) very weak b) weak c) medium d) stronger e) very strong

2 Questionnaire pre-selection - odor evaluation

Same as in Sect. 1 but with verbs for "smell" instead of "taste".

3 Questionnaire — Phase 1 — Picture evaluation

1. Please **name** the product: (Chen et al. [1])
2. Do you **like** this product? a) not at all b) not much c) neutral d) like it e) like it a lot
3. How **pleasant** is this product? (Chrea et al. [3]) a) not pleasant at all b) not much pleasant c) somewhat pleasant d) pleasant e) very pleasant
4. How **familiar** is this product to you? (Chrea et al. [3]) a) not familiar at all b) not much familiar c) somewhat familiar d) familiar e) very familiar
5. How **intense** do you think this product would taste? (Chifala and Polzella [2]) a) very weak b) weak c) medium d) stronger e) very strong

4 Questionnaire — Phase 2 — Odor evaluation

Same questions as in Sect. 3.

5 Questionnaire — Phase 3 — VR situation

1. Please **name** the product: (Chen et al. [1])
2. How **pleasant** is this product? (Chrea et al. [3]) a) not pleasant at all b) not much pleasant c) somewhat pleasant d) pleasant e) very pleasant
3. How **intense** is this product to you? (Chifala and Polzella [2]) a) very weak b) weak c) medium d) stronger e) very strong
4. Where would you **sort the taste** of this product? (Chifala and Polzella [2]), c.f. Fig. 5. [out of scope for this article]

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(a) Do you think it tends to be more Sweet or Sour? You can enter a decimal number into the text field. The range reaches from -2.5 to 2.5.

(b) Do you think it tends to be more Intense or Mild? You can enter a decimal number into the text field. The range reaches from -2.5 to 2.5.

5. Does what you see and what you smell differ? Yes/No

6 Higher-quality Tables and Figures

Influence	N	What I see and what I smell...	
		...is the same	...is not the same
Congruent trials	120	53 (44.2%)	67 (55.8%)
Incongruent trials	360	74 (21%)	286 (79.0%)

Table 1: Number of times, people thought they experienced matched or unmatched stimuli grouped by bi-modal visual olfactory congruent or tri-modal incongruent condition

	Bi-modal congruent		Tri-modal incongruent	
	M	SD	M	SD
Pleasantness	3,16	0,82	3,23	0,77
Intensity	2,71	0,97	2,80	0,91

Table 2: Intensity and pleasantness for bi-modal visual-olfactory congruence and tri-modal incongruence in the VR experiment.

(a) Chemical flavours

(b) Natural flavours

Fig. 1: Examples for chemical scents (a) and natural scents (b)

Fig. 2: The virtual reality (left) and the real scenario (right)

Fig. 3: Participant using the Smell-O-Spoon during the VR trial (phase 3)

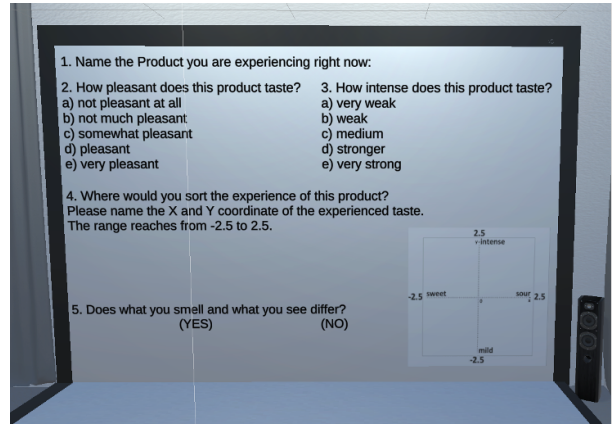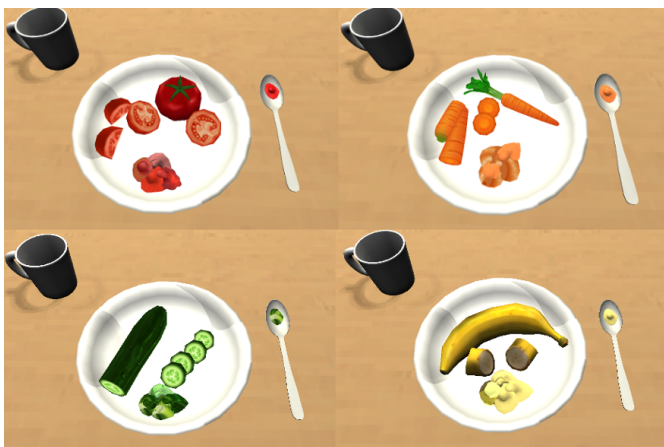Fig. 4: The four food products that acted as visual main stimuli.

Fig. 5: The questionnaire for phase 3 is shown on a virtual screen which aligns with a real projection screen. Participants answered verbally to speed up the process and the experimenter recorded their answers.

REFERENCES

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