

Introduction

Blending effect occurs in binary mixtures both in humans and animals ^{1,2,3,4} → **AB = C** (configural processing) different from $AB = A+B$ (elemental processing)

What factors contributes to a blending effect?

structure of molecules⁵ / concentration of molecules⁶ / number of components^{7,8}

Question 1: In a 6 components mixture which blends in humans, does similar blending occur in newborn rabbits?

Question 2: If a blending occurs in this mixture is it due to the structure, to the concentration or to the number of components?

Material and Method

Red Cordial mixture (RC)
6 components
C1 (Isoamyl acetate), C2 (Ethyl acetate), C3 (Damascenone), C4 (β-ionone), C5 (Frambinone), C6 (Vanilin)

Oral Activation Test (10s. on a glass stick)

- 1 component of RC
- RC
- RC minus one component (RC-X)
- RC → other concentration of two components (RC -50%X + 50%Y)
- RC → equal components concentrations (RC 1/6)
- RC → all the components concentrations modified (RC all concentrations modified)

Pavlovian Conditioning

- Mixture + Mammary Pheromone
- 1 component + Mammary Pheromone

Single trial – 5 min. ^{1,2,9}

Exp1: cond. RC → test to each component

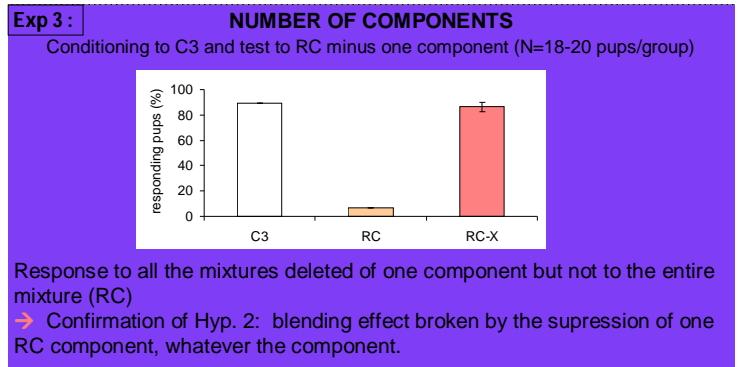
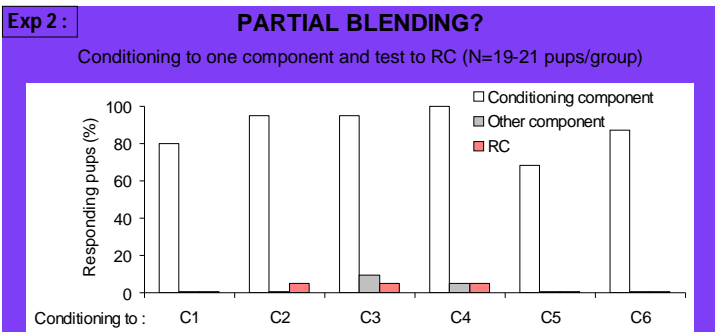
Exp2: cond. 1 component → test to RC and components

Exp3: cond. C3 → test to RC minus one component

Exp4: cond. C3 → test to RC with changes in components concentrations

Results and Discussion

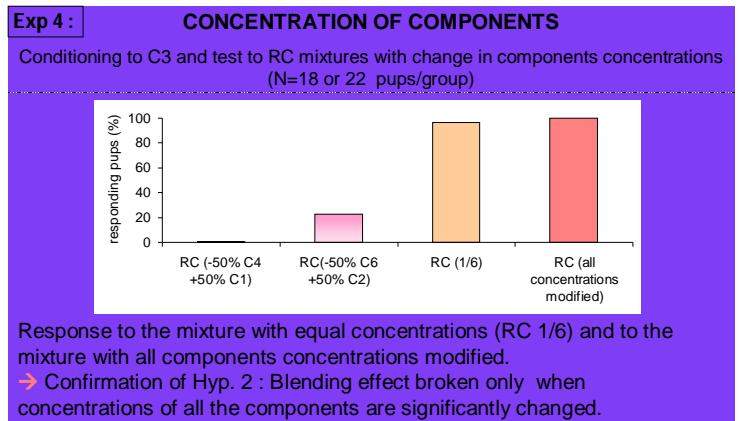
Exp 1: Equal response to each of the 6 components after conditioning to the RC mixture : **ELEMENTAL PROCESSING**



No response to the complex mixture after a conditioning to 1 of the 6 components

HYP1: The discrimination between RC mixture and its components is due to the **number of components**. There is too many unknown informations in the mixture; only 1 information on 6 is known.

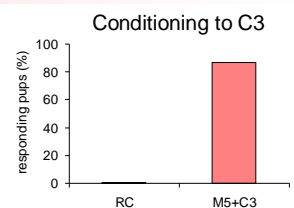
HYP2: **Specific association** of the 6 components at a **particular concentration rate** → configural processing



Conclusions and Perspectives

All the results tend towards the hypothesis of a **partial blending mixture** depending more on a **specific ratio** of components than on the **number of components**.

New experiments are currently investigating whether any 6 components mixtures induces a configural processing.



Test to different 6 components mixtures including C3