Strategies to improve the willingness to taste: the moderating role of reward sensitivity

Vandeweghe, L.[1], Verbeken, S.[1], Moens, E. [1], Vervoort, L.[1], & Braet, C.[1]*

[1] Department of Developmental, Personality, and Social Psychology, Ghent University, Belgium

* Corresponding author. Laura.Vandeweghe@Ugent.be

INTRODUCTION

We investigated the effectiveness of different exposure strategies in willingness to taste (WtT) a disliked vegetable. Moreover, we examined whether children with a high reward sensitivity (RS) were more willing to taste compared to children with a low RS. The innovative part of this research lies in the focus on differential effects of exposure strategies depending on individual differences (i.e. RS), and in the focus on WtT instead of change in liking. We consider WtT to be a crucial first step in the process of liking healthy food.

METHOD

Preschool children (n=161, 54% boys, age: *M*=4.54, *SD*=1.07) participated in a single-tasting experiment with disliked vegetables. They were randomly allocated to one of six different exposure strategies: Exposure Only, Exposure + Modeling (adult), Exposure + Modeling (puppet), Exposure + Reward&Puppet, Exposure + Reward, and Exposure + Encouragement. Using multinomial logistic regression, we tested the effect of exposure strategies on WtT (did not taste, hesitated to taste, and tasted immediately) and the moderating role of RS, indexed via the Behavioral Inhibition System (BIS) and Behavioral Approach System (BAS) Scales. The BAS scale can be subdivided in three subscales: Reward Responsiveness, Fun Seeking and Drive. The multinomial logistic regression model was adjusted for three variables hypothesized as potential confounders: age, food neophobia (6-item Food Neophobia Scale) and the degree of hunger (3-point likert scale) .

RESULTS

	Tasted immediately	Hesitated to taste
	Odds Ratio	
Age	**2.60 ****	**2.32***
Neophobia	**.41 ****	.87
Degree of hunger		
- Not hungry at all	.43	.69
- A little hungry	2.09	1.94
- Very hungry	.	.
BAS Drive	.53	1.23
Exposure strategies		
- Modeling (adult)	6.37	**10.19***
- Modeling (puppet)	6.24	7.54
- Puppet+Reward	**11.53***	6.89
- Reward	17.69	**25.57***
- Encouragement	6.33	13.54
- Control	.	.
Exposure strategies x BAS drive		
- Modeling (adult) x BAS drive	2.06	.56
- Modeling (puppet) x BAS drive	1.02	.31
- Puppet+Reward x BAS drive	2.88	.33
- Reward x BAS drive	**25.66***	10.04
- Encouragement x BAS drive	.29	**.06***
- Control x BAS drive	.	.

Note: R^2 = .36 (Cox & Snell), .40 (Nagelkerke). Model χ^2 (30) = 62.95, p < .001. * p < .05, ** p < .01

Multinomial logistic regression broke the regression up into a series of binary regressions comparing each group to a baseline group, which we determined to be the "Did not taste" group. We found no main effect of BAS drive (p > .1) suggesting that WtT was not dependent on RS. We found a main effect of "Puppet + Reward", "Modeling (adult) and "Reward" indicating that children in these exposure strategies were more willing to taste compared to the control condition (i.e. Exposure Only). We further found an interaction effect between the strategy Exposure + Reward and the BAS drive subscale (p < .05): children with a higher RS were more likely to taste immediately when receiving a reward compared to the control condition. Lastly, we found an interaction effect between Encouragement and BAS drive, suggesting that children with a lower RS were more willing to taste when being encouraged compared to the control condition. However, we could not find these effects with the other BAS subscales (i.e. BAS Fun Seeking and BAS Reward Responsiveness).

DISCUSSION

The present study suggests that adult modeling, rewarding, and the combination of puppet and reward are effective strategies in encouraging children to taste disliked vegetables. This finding is very innovative since previous research focused on change in liking. Secondly, we found a differential effect of reward and encouragement strategy depending on individual differences (i.e. RS). Focusing on both individual differences and behavioural techniques (i.e. exposure strategies) might be a promising strategy for health promotion.

reward REWARDING HEALTHY FOOD CHOICES

agency for Innovation by Science and Technology