

# Visual Exposure Elicits Positive Visual Preferences in Toddlers

Carmel Houston-Price

Eliza Burton, Rachel Dickinson, Jade Inett, Emma Moore, Katherine Salmon & Paula Shiba

School of Psychology & Clinical Language Sciences, University of Reading, UK



## Background & Aims of Study

In adults, 'mere exposure' to a stimulus typically leads to greater liking of the stimulus, whether exposure is provided in a controlled laboratory environment or in incidental everyday experiences (e.g. Cutting, 2003; Monahan et al, 2000; Murphy et al, 1985; Pliner, 1982; Zajonc, 1968).

In laboratory studies with infants, repeated exposure typically leads to a decrease in interest in the exposed stimulus and an increase in attention towards a novel (non-exposed) stimulus, the opposite pattern to that shown by adults (Fantz, 1960; Hunter & Ames, 1988; Slater et al, 1984).

Little research has explored the effects of everyday exposure to stimuli on children's preferences. Yet, exposure might be a mechanism by which children learn which aspects of the world they should attend to.

We report three studies that explore whether repeated, home-based exposure to pictures of food items has a positive or negative effect on toddlers' subsequent visual preferences for these food items.

## Design of Studies

Parents were sent one of 2 picture-books to read with their child daily.

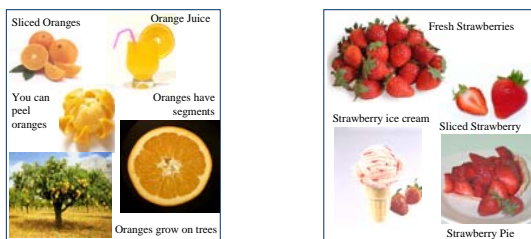


Fig. 1 Book A

Book B

After the exposure period, children completed a visual preference test, in which they were shown pairs of pictures, one food from each book. We compared looking times towards exposed and non-exposed foods.

### Visual Preference Test

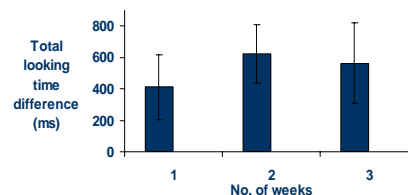


## Experiment 1

**Questions:** Does visual exposure impact on visual preferences? If so, how many exposures are required?

**Participants:** 30 toddlers, aged 20 – 23 months

**Procedure:** Parents were asked to read *All About Asparagus* or *All About Aubergine* with their child every day for 1, 2 or 3 weeks.



**Results:** In the visual preference test, infants looked longer at exposed pictures,  $t(24)=4.33, p<.001$ , regardless of the number of weeks parents had been assigned to read the books,  $F(2,22)=.26, p=.77$ .

## Experiment 2

**Question:** Does the type of visual exposure provided matter?

**Participants:** 36 toddlers, aged 24 – 27 months

**Procedure:** Children saw a book about 6 fruits daily for 2 weeks. Books provided 'enriched exposure' (Fig.1) or 'mere exposure' (Fig.2).

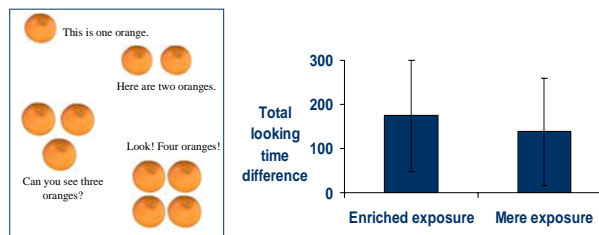


Fig. 2

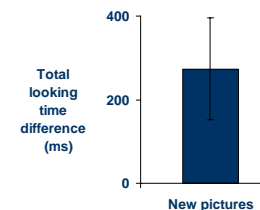
**Results:** Infants looked significantly longer at exposed pictures overall,  $t(32)=2.01, p=.05$ , regardless of the type of exposure they had received,  $t(31)=.29, p=.78$ .

## Experiment 3

**Questions:** Are the effects of exposure limited to exposed stimuli? Or do the effects generalise to new pictures of the exposed items?

**Participants:** 36 toddlers, aged 17 – 20 months

**Procedure:** Children saw a book about 8 fruits or 8 vegetables daily for 2 weeks. At test, new pictures of exposed foods were shown.



**Results:** Infants looked longer at exposed foods,  $t(35)=3.21, p=.003$ , even when new, non-exposed pictures of these were used at test.

## Conclusions

Picture-book exposure enhances infants' visual interest in both the exposed pictures themselves and in new pictures of exposed items. These effects were robust and unaffected by our manipulations of the numbers or type of exposure provided.

**Theoretical Implications:** The frequency with stimuli are encountered in a child's everyday environment may determine the level of attention the child pays towards those stimuli. Frequency of exposure may be a predictor of children's behaviour in a range of developmental domains, including attachment formation, group processes, food preference, etc.

**Applications:** Similar positive effects are known to result from taste exposures to foods (Birch & Marlin, 1982; Birch et al., 1987; Wardle et al., 2003). Studies have shown that liking of a food's taste is a function of the number of times children have been offered the food to taste.

Further research is needed to explore whether visual exposure might prove useful for enhancing children's attitudes towards healthy foods. For example, children's willingness to taste the exposed foods might be enhanced alongside their willingness to look at them.