

## **Experiment 3: Context-specific learning (Occasion setting)**

The experiment investigated occasion setting (Rescorla, 1991) by observing whether the context in which fear-related vicarious learning occurred became an occasion setter for a fear response. If this were the case, we would expect:

- 1) Higher increases in fear beliefs for the fear-paired animal when fear beliefs are tested in the context in which learning occurred.
- 2) Higher avoidance of the fear-paired animal when avoidance preferences on the NRT are tested in the context in which learning occurred.

### **Procedure and measures:**

Children first completed a fear beliefs questionnaire and a Nature Reserve Task about two animals (a quokka and a cuscus), in one of two conditions; for half the children (group Rural: R), the two tasks were adapted to a countryside environment, and for the other half of the children (group Urban: U), the two tasks were adapted to an urban environment. After completing the fear beliefs questionnaire and Nature Reserve Task, children were presented with the vicarious learning procedure developed by Askew & Field (2007). They were shown one animal (e.g., a quokka) with ten faces expressing fear ('fear-paired') and another animal (e.g., a cuscus) alone on the screen ten times ('unpaired'). Animals were counter-balanced across conditions. For half the children in each group (Rural and Urban), the animals in the learning procedure were displayed on a rural countryside background (R) and for the other children the animals in the learning procedure were displayed on an urban background (U). Children then completed the fear beliefs questionnaire and nature reserve task in the same context within which they first completed the two tasks (countryside for group rural and urban for group urban: R or U). Thus there were four possible Test-Learning-Test phases: RRR, URU, UUU, or RUR.

### **1. Nature Reserve Task (NRT: Avoidance preferences)**

Children in the Rural group were asked to imagine that a rectangular board embellished with pipe cleaner trees and fences, was a nature reserve containing one of the animals. A picture of a quokka or cuscus was placed at one end of the board. Children were asked to place a Duplo model representing themselves on the board where they would most like to be if they knew the animal was in the reserve. The distance between the animal and the Duplo figure was measured to determine children's approach-avoidance preferences for the animal. In a variation of the usual nature reserve task, children in the Rural group completed the same task but this time the board was embellished with grey felt and small houses to represent a street.

### **2. Fear Beliefs Questionnaire (FBQ: Self-reported measure of fear beliefs)**

Children filled in a computer-based fear beliefs questionnaire for two Australian marsupials (the Quokka and Cuscus) to measure their fear-related beliefs for the animals. The FBQ contained seven questions for each animal. There was an urban version of the questionnaire and rural version; for example, in the rural questionnaire one question was, “Would you keep your distance if you saw a quokka in the grass?” and in the Urban group it was, “Would you keep your distance if you saw a quokka on the road??” Children responded on a 5-point Likert scale: 0 (*No, not at all*), 1 (*No, not really*), 2 (*Don’t know/Neither*), 3 (*Yes, probably*), and 4 (*Yes, definitely*). Mean fear beliefs scores for each animal was calculated for each child.

### **3. Vicarious Learning**

Each child was shown one Australian marsupial (e.g., a quokka) with 10 faces expressing fear (‘scared-paired’) and the other Australian marsupial (e.g., a cuscus) alone on the screen 10 times (‘unpaired’). Each trial began with a randomly chosen animal picture appearing alone on the screen for 1 s. The marsupial picture remained displayed for a further 1 s while, depending on the counterbalancing order, either a scared face was simultaneously presented on the opposite side of the screen or no face appeared and the animal remained alone. Accordingly, the total length of a single trial from start to finish was 2 s. The interval between each pairing was a random interval that varied between 2 and 4 s. ). Half the children in each group (i.e. Urban and Rural) saw the animals depicted on a rural background, and half saw the animals depicted on an urban background.

### **4. FBQ**

Each child completed the FBQ for the two animals for a second time to ascertain whether fear beliefs changed as a result of vicarious learning. The FBQ was completed in the same context as the original FBQ

### **NRT 2**

Each child completed the NRT for a second time to ascertain whether avoidance preferences changed as a result of vicarious learning. The NRT was completed in the same context as the first NRT.