

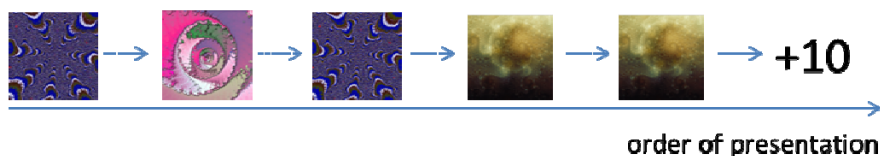
Instructions

In this experiment, we want to study how people identify causes in the presence of uncertainty.

Overview: In this task on each trial you will be presented with a sequence of pictures. These pictures will vary in the degree of frequency in which they are presented. After the sequence of pictures has been presented, you will receive a monetary outcome. This outcome will in some cases be to win a certain amount of money or else on other occasions involve losing a certain amount of money. After this outcome has been presented you will be asked to make several ratings, and judgments about the stimuli you saw. You take away cumulative winnings depending on the amount of money you win on each trial.

Task overview: Each round consists of 4 steps.

Step1 (observation): You will watch 5 pictures being presented in a sequence. This will be followed by a single outcome delivery (winning or losing money); this will be repeated 5 times. It is important that you pay attention to each of the pictures, as subsequently we will ask you to make several judgments about these pictures.



<Step 1: observations of pictures and outcomes>

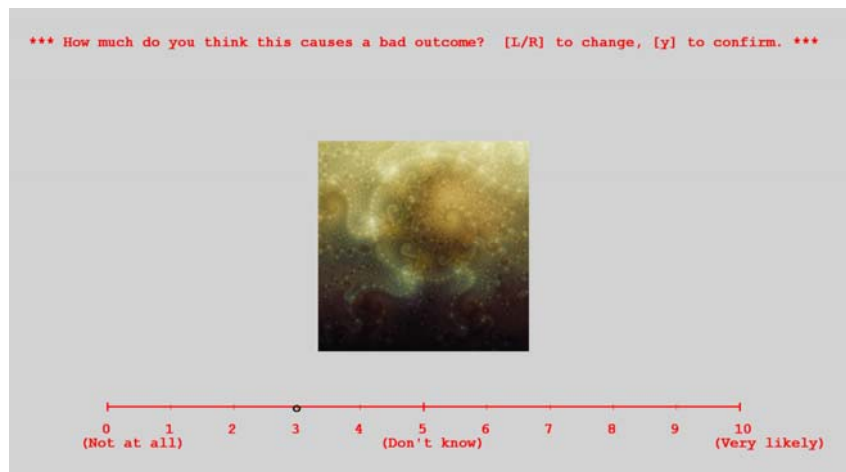
Step 2 (liking rating -5~+5): You will be asked to make a rating for each picture based on your subjective feelings about how much you like the picture. More specifically, you will be asked “How much do you like this picture?” You can choose any number between -5 and +5 by pressing the left or right keys, for example, -5 would mean you dislike the displayed picture very much (“Dislike”), 0 would mean you don’t have strong feelings one way or the other, while +5 would mean you like the displayed picture very much (“Like”). You then press ‘y’ to submit your rating. Four seconds is the maximum for each submission. Late or no submission will be penalized.

*** How much do you like this picture? (hedonic rating) [L/R] to change, [y] to confirm. ***

-5 -4 -3 -2 -1 0 1 2 3 4 5
(Dislike) (Don't know) (Like)

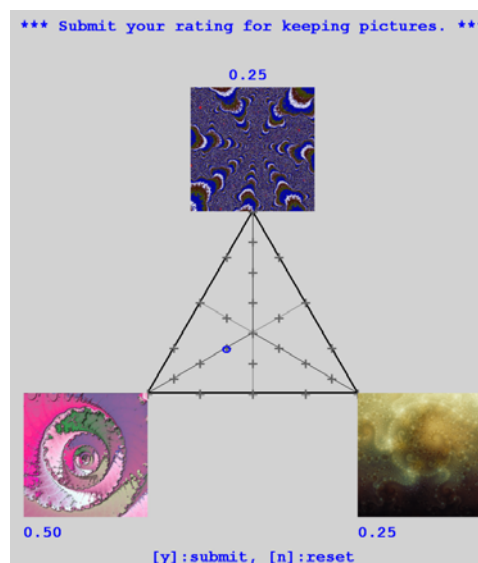
< Step 2: Liking rating for each picture (-5~+5) – selection point = 1 >

Step 3 (causal rating 0~10): Here we will ask you to make a judgment about how likely you think it is that the presentation of a particular picture caused the bad outcome (losing money) to occur on the trials where this happened. Specifically, you will be asked “How much do you think this causes a bad outcome?” for each picture. You can choose between 0 and 10 by pressing the left or right cursor; for example, 0 if you are sure that the displayed picture DOES NOT cause a bad outcome (“Not at all”), 5 for when you are not sure whether the picture cause the outcome or not, or 10 if you are sure that the displayed picture DOES cause a bad outcome (“Very likely”). You then press ‘y’ to submit your rating. Four seconds is the maximum for each submission. Late or no submission will be penalized.



< Step 3: Causal rating for each picture (0~10) – selection point = 3 >

Step 4 (Bonus round rating): For this phase you will make a judgment that will ultimately have consequences for you in terms of your prospect of winning and losing money at the end of the experiment. At the end of the experiment, a bonus round will be run in which the computer will randomly pick 3 rounds from the main session and then select 3 pictures from those rounds (one picture per round). The probability with which a particular picture is selected by the computer for inclusion in the bonus round depends on the rating you make in this phase of the trial. Those pictures will then be presented again during the bonus round, and once again you can win or lose money on that bonus round depending on the pictures that were presented.



< Step 4: Bonus round rating for keeping pictures – selection point = (0.25, 0.5, 0.25) >

During this rating phase, you will see three of the pictures that you saw over the course of that particular round. You control a little cursor ('o' mark) inside the triangle by using the left or the right key. The position of the cursor inside the triangle determines the likelihood or probability that the computer will select that picture for inclusion in the bonus round. You need to move the cursor to the location corresponding to your beliefs about how likely it is that this particular picture caused the bad outcome. You basically want to move the cursor away from the location of the pictures you think cause the bad outcome. Conversely, the closer you move the selection point toward one of the corners, the higher chance you keep the picture at that corner for your bonus round, and the higher chance the computer will discard other pictures. You then press 'y' to submit your selection. Eight seconds is the maximum time you can take for each submission. Late or no submission will be penalized. It is highly recommended that you decide your selection point first and then quickly move your selection point by pressing the left or the right key.

For example, let's say you suspect the picture "A" is the putative cause of a "good" outcome and the picture "B" and "C" are the putative causes of a "bad" outcome. Then you might want to keep the picture "A" for your bonus round by moving the cursor close to the location of this picture and move the cursor away from the other two pictures, such as by making a final selection of (A:0.8, B:0.1, C:0.1). The more "good" pictures you keep for the bonus round, the higher chance you win reward money in that bonus round. Here is the worst-case scenario: if you submitted high ratings for keeping all the pictures that actually cause a "bad" outcome, then you would get lose money in the bonus round. Therefore it is in your interest to make a sound judgment about how likely a particular outcome is to cause a bad outcome so that you can give that picture a very low probability of occurring.

Experiment: The experiment consists of one practice session + five main sessions.

In the practice session, you will be able to try 3 rounds. You need to learn how to assign your ratings using left and right cursors.

In the main sessions, you will complete 40 rounds. Be advised that your correct guess will raise the chance of your winning in the bonus round!

Rewards: Your initial endowment is \$15.

But you can also win additional money depending on the outcomes of a bonus round, in which a computer will randomly pick 3 rounds from the main session and then select 3 pictures according to your ratings for keeping pictures. You will gain additional reward money if the pictures selected cause good outcomes, or alternatively you might lose money if the pictures do in fact cause bad outcomes. The amount you lose will be deducted from your total up to the limit of the minimum amount (\$15). For example, if 2 out of 3 pictures are the ones that cause a good outcome and 1 picture is the one that causes a bad outcome, then your bonus is \$0 ($\$10 + \$10 - \$50 = -\30), so your total amount is \$15(initial endowment)+\$0. If all 3 pictures selected are the ones that cause a good outcome, then your bonus is $\$10 + \$10 + \$10$, so your total amount is \$15(initial endowment)+\$30(bonus)! **So it is very important that you give ratings based on an accurate judgment about pictures in every round.**

Good luck!