Debriefing for Gambling Task

This experiment probes how humans solve the so-called explore-exploit dilemma. This behavioral dilemma occurs whenever you make a choice between an option you know will be good and an unknown option that could be better or could be worse. For example, when you go to a favorite restaurant, do you always get the same thing (exploit) or try something new on the menu (explore)?

In this experiment we want to understand the factors that drive these decisions. To this end we measured your propensity to explore or exploit using a task in which you made choices between two one-armed bandits. In each game, before you made a choice, we gave you four example plays to manipulate how much information you had about each option – the more example plays you saw from one option, the more information you had about how rewarding it was on average. Conversely, you had less information about the option with fewer example plays.

Choosing the example with fewer plays could then be thought of as **exploring** that option. While choosing the option with higher mean reward is **exploiting**.

Previous work suggests there are at least two ways in which people explore. One type of exploration is where you explicitly choose an unknown option because it will give you information. In that sense your choice is directed towards the unknown option and hence we call this **directed exploration**. Another way in which you could explore, however, is simply to behave randomly – we call this **random exploration**.

First, we wanted to see how your explore-exploit behavior changed as a function of how many decisions you had to make. In games where you only had a single free choice, the best thing to do is to EXPLOIT the option with highest mean reward. In games where you had more free choices it can sometimes be better to EXPLORE.

Our **hypothesis** is that most people will increase both their directed and random exploration when they have more free choices than when they have just one.