Name _____ Date _____

Risk-Taking and the Monkey Economy

Humans are uniquely smart among all the other species on the planet. We are capable of outstanding feats of technology and engineering. Then why are we so prone to making mistakes? Why do we tend to make the same ones time and time again? When Primate Psychologist Laurie Santos from the Comparative Cognition Lab at Yale University posed this question to her team, they were thinking in particular of the errors of judgment which led to the recent collapse of the financial markets. Santos came to two possible answers to this question. Either humans have designed environments which are too complex for us to fully understand, or we are biologically prone to making bad decisions.

In order to test these theories, the team selected a group of Brown Capuchin monkeys. Monkeys were selected for the test because, as distant relatives of humans, they are intelligent and have the capacity to learn. However, they are not influenced by any of the technological or cultural environments which affect human decision-making. The team wanted to test whether the capuchin monkeys, when put into similar situations as humans, would make the same mistakes.

[A] Of particular interest to the scientists was whether monkeys would make the same mistakes when making financial decisions. [B] In order to find out, they had to introduce the monkeys to money. [C] The monkeys soon caught on, and as well as learning simple exchange techniques, were soon able to distinguish 'bargains' – If one team-member offered two grapes in exchange for a metal disc and another team-member offered one grape, the monkeys chose the two-grape option. [D] Interestingly, when the data about the monkey's purchasing strategies was compared with economist's data on human behavior, there was a perfect match.

After establishing that the monkey market was operating effectively, the team decided to introduce some problems which humans generally get wrong. One of these issues is risk-taking. Imagine that someone gave you $1000. In addition to this $1000, you can receive either A) an additional $500 or B) someone tosses a coin and if it lands 'heads' you receive an additional $1000, but if it lands 'tails' you receive no more money. Of these options, most people tend to choose option A. They prefer guaranteed earnings, rather than running the risk of receiving nothing. Now imagine a second situation in which you are given $2000. Now, you can choose to either A) lose $500, leaving you with a total of $1500, or B) toss a coin; if it lands 'heads' you lose nothing, but if it lands 'tails' you lose $1000, leaving you with only $1000. Interestingly, when we stand to lose money, we tend to choose the more risky choice, option B. As we know from the experience of financial investors and gamblers, it is unwise to take risks when we are on a losing streak.

Would the monkeys make the same basic error of judgment? The team put them to the test by giving them similar options. In the first test, monkeys had the option of exchanging their disc for one grape and receiving one bonus grape, or exchanging the grape for one grape and sometimes receiving two bonus grapes and sometimes receiving no bonus. It turned out that monkeys, like humans, chose the less risky option in times of plenty. Then the experiment was reversed. Monkeys were *offered* three grapes, but in option A were only actually *given* two grapes. In option B, they had a fifty-fifty chance of receiving all three grapes or one grape only. The results were that monkeys, like humans, take more risks in times of loss.

The implications of this experiment are that because monkeys make the same irrational judgments that humans do, maybe human error is not a result of the complexity of our financial institutions, but is imbedded in our evolutionary history. If this is the case, our errors of judgment will be very difficult to overcome. On a more optimistic note however, humans are fully capable of overcoming limitations once we have identified them. By recognizing them, we can design technologies which will help us to make better choices in future.

Name _____ Date _____

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1. What was the aim of the experiment outlined above?
A. To investigate whether monkeys could learn to use money
B. To investigate where human mistakes come from
C. To find out whether it is better to take risks in times of loss
D. To determine whether monkeys make more mistakes than humans

2 Where in paragraph 3 could the sentence below be best placed?
The team distributed metal discs to the monkeys, and taught them that the discs could be exchanged with team-members for food.
A
B
C
D

3. Which of the following statements is the best paraphrase of the highlighted sentence?
On a more optimistic note however, humans are fully capable of overcoming limitations once we have identified them
A. Hopefully, humans will soon be able to solve these problems.
B. Fortunately, humans can solve problems that we know about.
C. Luckily, humans do not have many limitations which have been identified.
D. We are happy to note that we can solve the problem which we have identified.

4. The words 'caught on' are closest in meaning to:
A. learnt
B. knew
C. completed
D. concluded

5. Which paragraph addresses why monkeys were chosen for the experiment?
A. Paragraph 2
B. Paragraph 3
C. Paragraph 4
D. Paragraph 5

6. What can be inferred about Laurie Santos?
A. She thinks that both humans and monkeys are greedy.
B. Her job frequently involves working with monkeys.
C. She believes that humans should never take risks.
D. She prefers monkeys to humans.

Name _____ Date _____

Risk-Taking and the Monkey Economy - Answers

1. **B**
2. **C**
3. **B**
4. **A**
5. **A**
6. **B**