GAMBLER'S FALLACY:
A GAMBLER'S DILEMMA

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INTRODUCTION

The gambler's fallacy, also known as the Monte Carlo fallacy or the fallacy of the maturity of chances, is the mistaken belief that, if something happens more frequently than normal during a given period, it will happen less frequently in the future. It may also be stated as the belief that, if something happens less frequently than normal during a given period, it will happen more frequently in the future. In situations where the outcome being observed is truly random and consists of independent trials of a random process, this belief is false. The fallacy can arise in many situations, but is most strongly associated with gambling, where it is common among players.

THE QUESTIONS:

1. You are a huge football(soccer) fan.

You are planning to bet on a match between England and Brazil. You want to bet $1000 on England but you find out that England has not won a single match since last 5 games. Would you still bet on England?(There is a 50% chance that England will win)

2. You are a huge football(soccer) fan.

You are planning to bet on a match between England and Brazil. You want to bet $1000 on England but you find out that England has not won a single match since last 5 games you also find out that England has never lost against Brazil. Would you still bet on England? (There is a 50% chance that England will win)

METHODOLOGY & FINDINGS

The two different questionnaires were asked to a group of 20 students studying in University of Bridgeport participants on different times. Below are their responses.

Answers	Question 1	Question 2
Yes	2 *(10%)*	19 *(95%)*
No	18 *(90%)*	1 *(5%)*
Total:	20 *(100%)*	20 *(100%)*

Results

	0%	20%	40%	60%	80%	100%	120%
Question 2							
Question 1							

■ Yes ■ No
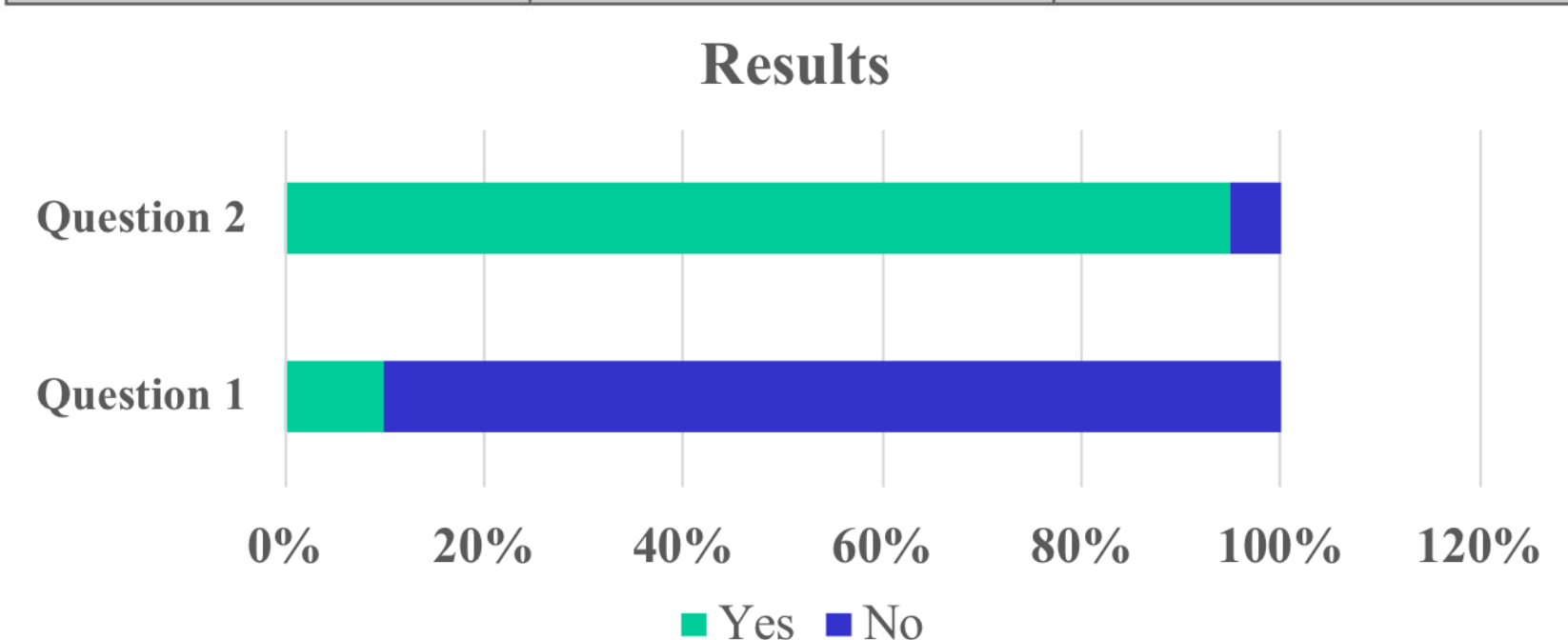
THE QUESTIONS:

Difference	85 %
95% CI	57.6030 to 93.3030
Chi-squared	28.248
DF	1
Significance level	P < 0.0001

The above table shows there is a huge difference between the two. No matter what the previous scores where, the probability of winning is still 50% but the students placed their bets based on the previous results.

POSSIBLE SOLUTIONS

The gambler's fallacy is a deep-seated cognitive bias and therefore very difficult to eliminate. For the most part, educating individuals about the nature of randomness has not proven effective in reducing or eliminating any manifestation of the gambler's fallacy. Participants in an early study by Beach and Swensson (1967) were shown a shuffled deck of index cards with shapes on them, and were told to guess which shape would come next in a sequence. The experimental group of participants was informed about the nature and existence of the gambler's fallacy, and were explicitly instructed not to rely on "run dependency" to make their guesses. The control group was not given this information. Even so, the response styles of the two groups were similar, indicating that the experimental group still based their choices on the length of the run sequence. Clearly, instructing individuals about randomness is not sufficient in lessening the gambler's fallacy.

REFERENCE LIST

Beach, L. R.; Swensson, R. G. (1967). "Instructions about randomness and run dependency in two-choice learning". Journal of Experimental Psychology. Retrieved on March 3rd 2018, from https://ipfs.io/ipfs/QmXoypizjW3WknFiJnKLwHCnL72vedxjQkDDP1mXWo6uco/wiki/Gambler's_fallacy.html