

The probability behind *Sho*

Karma Yoezer

October 2020

About

Sho is a Bhutanese-Tibetan Buddhist tradition of fortune prediction. The rules are very simple you pray and wish for something tangible or something with a clear outcome and then you roll three dice.

Each sect has their own version of numbers that are considered favorable towards achieving whatever one wished for and also numbers that are considered unfavourable. The fortune seeker gets to roll the dice three times if presented with unfavourable numbers.

The favourable numbers are called *sho zangmi* and the unfavourable numbers are called *sho mazangmi*.

The numbers that have been considered favourable in this paper are from *Dechenphug Lhakhang* at *Dechenphug*.

The Probability

The numbers that are considered favourable are: 3, 5, 7, 8, 9, 11, 13, 14, 17, 18

Let w be the set of all possible outcomes from the first die. $w = \{1, 2, 3, 4, 5, 6\}$

Let x be the set of all possible outcomes from the second die. $x = \{1, 2, 3, 4, 5, 6\}$

Let y be the set of all possible outcomes from the third die. $y = \{1, 2, 3, 4, 5, 6\}$

Let z be the set of all possible combinations when you roll the three dice together.

$$|z| = |w| \cdot |x| \cdot |y| = 6 \cdot 6 \cdot 6 = 216$$

Heres the [Link](#) for the combinations

Number of possible combination that result to 3: 1

Number of possible combination that result to 5: 6

Number of possible combination that result to 7: 15

Number of possible combination that result to 8: 21

Number of possible combination that result to 9: 15

Number of possible combination that result to 11: 27

Number of possible combination that result to 13: 21

Number of possible combination that result to 14: 15

Number of possible combination that result to 17: 3

Number of possible combination that result to 18: 1

\therefore Total Ways of rolling a *sho zangmi*(add up all the above combinations): 135

Probability of rolling a *sho zangmi*: $\frac{135}{216} = 0.625$

Total ways of rolling a *sho mazangmi*: $216 - 135 = 81$

Probability of rolling a *sho mazangmi*: $\frac{81}{216} = 0.375$

In order for the *sho* to declare that whatever endeavour you're pursuing is futile you need to roll a *sho mazangmi* 3 times in a row.

So let L be getting a *sho mazangmi*, so you would need to get this in order for the sho to say "what you're doing is ass dont do it": LLL

i.e. you have to get handed 3 L s in a row

Now lets find out the probability of actually getting handed the L 3 times a row:

probability of getting the L handed 3 times in a row =

probability of L · probability of L · probability of L

$$\text{probability of } L = \frac{81}{216}$$

probability of getting handed the L 3 times in a row =

$$\frac{81}{216} \cdot \frac{81}{216} \cdot \frac{81}{216} = 0.0527$$

There is only one way for you to get handed the L but there are multiple ways for you to get a *sho zangmi*

let W be getting a *sho zangmi*

Different ways to get a W :

W

$L W$

$L L W$

$$\text{probability of getting a } W(\text{first try}) = \text{probability of getting a } \textit{sho zangmi} = \frac{135}{216} = 0.625$$

$$\text{probability of getting a } L \text{ then a } W = \frac{81}{216} \cdot \frac{135}{216} = 0.234375$$

probability of getting a L , then another L then a W =

$$\frac{81}{216} \cdot \frac{81}{216} \cdot \frac{135}{216} = 0.087890625$$

\therefore Probability of getting a W (no matter how you got it) $= 0.625 + 0.234375 + 0.08789 = 0.947265$

Conclusion

So to conclude it is pretty dayum hard for the *sho* to actually tell you that you're gonna fail. Because as the sample size increases the average tends to get closer to the expected value (law of large numbers).

I think that you can actually take this probability in 2 ways:

One would be that well religion is kinda bullshit and especially rituals such as this are a way to scam people and give them self assurance when there is actually none.

The probability of success according to the *sho* is approx 94% which is a ridiculously high number for any endeavour.

And in a world where most people fail it is actually not representative of the world. Although it is important to note here that probability in the end is probability, it is not a deterministic system and this is just the odds of getting a *sho zangmi* or a *sho mazangmi* not what you would actually get if you did the *sho*.

So yeah TL;DR: you can assume *sho* is a scam.

But another way to look at this is that, well you never really fail if you keep on getting backup and doing it. I think the whole premise of allowing you 3 tries could be taken to mean that there really isn't a be all end all point. That you can keep on playing the game and doing what you do until you hit a *sho zangmi*.

But think im also taking this a bit too far.