

## **A Study of Randomness and Interpretation in Tarot Practices**

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**Abstract:** Tarot is a tool for inner exploration that can guide a seeker towards the inner realms of their personality. In this work, an experiment has been conducted with The Original Tarot Standard: The Rider-Waite tarot cards. The aim of this experiment is to verify the randomness in the drawing of cards made by one professional and amateur practitioners. A total of 600 draws were made, 300 by each practitioner, in the absence of the invocation. Chi-square testing has shown that the draw is random in both vertical and horizontal distributions. The probability of the distribution has been fixed at a .95 level of significance. Calculated values of chi-square for both vertical (Grouped as Major Arcana, Cup cards, Sword Cards, Wand cards, and Pentacle cards) and horizontal randomness (Grouped as number and court cards) are less than the critical values. Calculated values are less than the critical values in both cases. Hence, the Null hypothesis is accepted, which proves that the nature of the drawing of cards is random for both the readers.

**Keywords:** Tarot cards, Randomness, Chi-square testing.

### **Introduction:**

Tarot are tools for guidance as they provide a pathway that shows the prints of the issues that most human beings can associate. These issues are emotions, materialistic gains, actions taken and thought process for growth. It is estimated that more than 400 different tarot decks exist today, representing ideas derived from different thoughts. Most of the Tarot cards have a pattern that has a symbolic meaning, these symbols are interpreted by an experiences reader who can relate the patterns, symbols, numbers and types of cards with situations of the querent's life and provide a reassurance or wisdom that is useful in decision making or selecting a positive outlook in that situation. Many Tarot readers believe in the power of intuition or higher consciousness while conducting reading. While others believe in mindfulness and interpretation of the cards while providing solution through Tarot reading. However, in both situations, any practitioner needs to make a draw from a tarot deck. Tarot cards are divination tools. Divination is a spiritual practice that connects with higher powers

to understand the future or get clarity about a situation or an event. Using intuitive methods like astrology, palmistry, or tarot cards, it helps to guide people and encourage positive changes in their lives. Before making a draw, it is important to seek guidance from Universal energy or divine. This process is known as invocation and in general practice, reading is conducted after prayer. In Tarot practice, this ritual helps to connect with higher consciousness that enhances the intuitive power of the reader. In this experiment, cards were drawn in absence of prayer. There are various methods of shuffling card while reading. A drawer can take as a single card or group of cards known as spread. Each card has its own interpreted meaning on the basis of symbols, representations, colors or patterns on the card. In this experiment, one card was selected for each draw. Two practitioners conducted the experiment independently 300 times over a period of one month. These draws were conducted in the normal state of consciousness and were not seeking any guidance during the reading. Total of 600 draws are conducted in this experiment, and through statistical analysis, it was proved that the cards are random in nature. However, this experiment does not discuss the nature of the cards that were drawn mainly.

#### **Defining the cards and patterns in The Rider-Waite tarot cards:**

The 78 cards in a Rider-Waite tarot cards represent many parts of life major events, daily situations, challenges, and personal growth. Each card has different symbols, and these symbols have meanings that need to be understood. This symbolic system helps to recognize repeating patterns and important lessons. All 78 cards have different meanings and symbols. Answers from Tarot are decoded using these symbols. For example, a card with a lot of green color shows prosperity or abundance. A card with many mountains shows difficulties. Each card has unique symbols that give guidance. It offers guidance, reassurance, and wisdom that is in harmony with universal laws. Tarot also encourages self-awareness, mindfulness, and making conscious choices that align with the higher purpose. Tarot provides clarity, confidence, and a deeper understanding of life's journey. A tarot reader can explain a person's past, present, and future, and can also guide them in making decisions for the future. Tarot also works like a mirror, reflecting strengths and weaknesses of querent and helping to improve oneself.

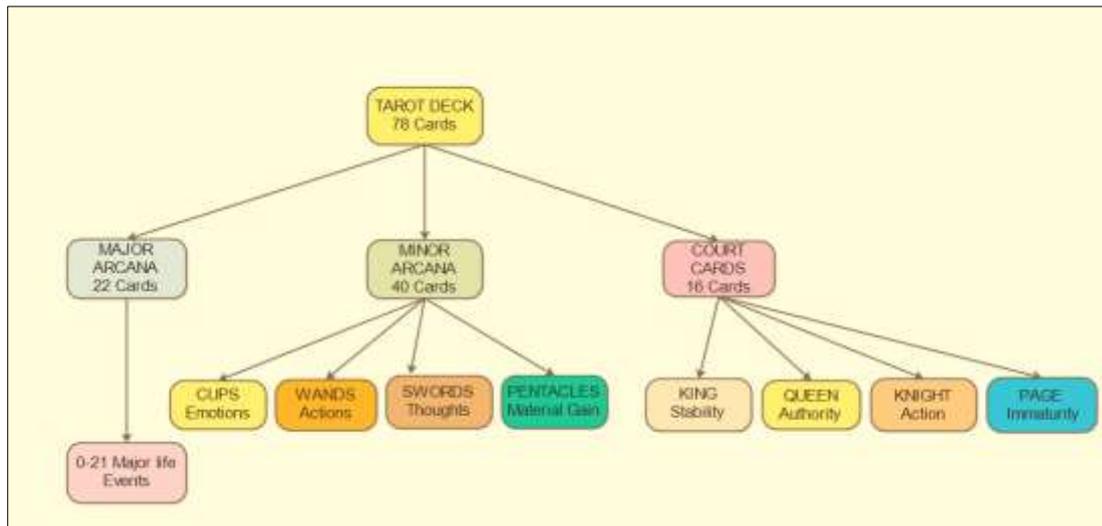


Figure 1: Classification of the Tarot cards

### Setting Hypothesis:

Tarot cards are popular means of divination across the globe. Even the societies that are believed to be highly scientific have seen a flourishing trend of Tarot. Over a million websites are available for online and face-to-face Tarot reading. Two approaches are followed while examining the phenomenon of Tart reading, first approach is claims about the paranormal forces that enhance the intuition of the reader and guide them during reading and other is non paranormal approach that explains that there is an underlying meaning in each card and by proper observation and experience, the patterns, symbols and colors in the cards, proper meaningful conclusion can be derived that can guide querent in the given situation. Tarot cards allow the reader to deeply penetrate the message conveyed by the drawn card and then explain it to the querent to show the opportunities, hidden motives and potential. In this work, a scientific approach has been applied that does not discuss the nature of the card, but only the result of drawing from the deck. This work is conducted to test the nature of draw in case of the draw conducted by a professional Tarot reader and amateur reader. Professional readers are more profound as they have more experience in reading whereas amateur readers may have less experience in reading.

In this work hypothesis is set as:

*Null Hypothesis:*  $H_0$ : Display of Tarot Card is independent of draw made by amateur reader and professional reader in absentia of invocation.

*Alternate Hypothesis H<sub>1</sub>*: Display of Tarot Card is dependent of draw made by amateur reader and professional reader in absentia of invocation.

An experiment is conducted and tested by chi square testing on the significance level of 95% to validate either of the hypothesis.

### **Research Methodology:**

This section covers the research methodology applied to conduct the test of randomness in the draw. As discussed, the Rider Waiter Tarot has 78 cards including 22 Major Arcana cards, 40 Minor Arcana cards and 16 court cards. Minor arcana and court cards are further grouped as Cups, Swords, Wands and Pentacles representing different perspectives of physical and psychological well-being.

### **Data set and Sample collection:**

An experiment is conducted for one month to collect data from 600 drawers. Two practitioners, A (Professional Tarot reader) and B (Amateur Tarot Reader) independently conducted a draw of 300 each. Timeline was distributed for a month so that the emotional and psychological state of the readers does not remain uniform across the complete experiment. Tarot readers believe in the power of intuition and universal energy and that is why it is mandatory to invoke divine blessings before Tarot reading. This experiment was conducted for scientific purposes; hence invocation was not done before any of the drawings. Table I shows the reading from cards drawn by readers A and B.

This data is observed and tested for the randomness of the cards. This data is also arranged for Minor arcana and court cards. The data has also been arranged in different formats as shown in Table II. All the minor arcana cards and court are numbered from Ace to ten such as ace of cups, six of wands, three of swords, page of pentacles etc. The experimental data was set up based on numbers assigned to the minor arcana cards and type of court cards. Same data is arranged in two ways for random testing.

### **Calculation of Chi-square (p) for the randomness testing:**

*Chi -square testing*: Chi square is a statistical tool to analyze categorical data and to find out the relationship between different variables in terms of observed data and expected value that fits in the distribution for the given level of significance. For Chi Square testing data must be

independent in nature and there must be large number of samples. It determines the nature of relationships between the samples. Chi square testing is conducted by taking the observed values and calculating the expected values from Table I and Table II.

Expected values are calculated from Table I shown in Table II. Expected values are calculated to test the hypothesis. Formula for Chi square is shown in equation (1):

$$\chi^2 = \frac{\sum (O_i - E_i)^2}{E_i} \quad (1)$$

O<sub>i</sub> is observed values

E<sub>i</sub> is expected values

C is the degree of freedom. Degree is freedom is calculated to confirm the validity of test. It ensures the minimum samples that are necessary to determine the independence between the samples.

#### *Calculating the Chi-Square:*

Randomness is checked for the values of the major Arcana cards and the number of cards drawn for each of the cups, swords, Wands, and Pentacles. Expected values pertaining to the ‘A’ and ‘B’ is calculated in the Table I. Total samples taken are 600 in numbers and these values are further used to calculate the chi square.

**Table I: Observed Values and Expected Values including Major Arcana**

	Observed Value		Expected Value	
	A	B	A	B
<b>Major</b>	70	92	81	81
<b>Cups</b>	50	48	49	49
<b>Swords</b>	52	54	53	53
<b>Wands</b>	60	50	64.5	64.5
<b>Pentacles</b>	69	56	61	61
<b>Total</b>	300	300	300	300

#### *Value of Chi square (p):*

\Degree of freedom is calculated by using the formula in the equation (2)

$$\text{Degree of freedom} = (r-1) * (c-1) \quad (2)$$

where r is the number of rows and c is the number of columns.

For Table I, r = 5 and c=2, value of chi square distribution is calculated for the 5% level of significance using the formula CHISQ.INV (0.95,4) in MS Excel. The value of distribution using the function is shown in Table III. Values of chi-square is calculated from table III using the function CHISQ. TEST (Observed values, Expected values) in MS Excel. Calculated values are shown in Table III.

For Table II, r= 14 and c=4, value of the chi-square is calculated for 5% level of significance on MS Excel. Degree of freedom is 39. Calculated values are exhibited in Table III

### Result and Discussion:

Table III shows the calculated values of the distribution based on Table I. If the values of the distribution are greater than the calculated value, then it is said that distribution is random in nature. If it is less than the distribution is said to be non-random in nature.

**Table III: Calculated values of Chi square testing**

			<i>Table I</i>	<i>Table II</i>
<i>Values from the distribution</i>	<i>Function</i>	Parameters		
	CHISQ.INV	Probability	.95	.95
	()	Degree of freedom	4	39
		Critical Value( $\alpha$ )	9.487729	54.57223
<i>Calculated values</i>	CHISQ.TEST	(p)	p <sub>1</sub> =0.524214	p <sub>2</sub> = 0.26852
<i>condition</i>			$\alpha > p_1$	$\alpha > p_2$
<i>Remarks</i>			H <sub>0</sub> is not rejected	H <sub>0</sub> is not rejected

### Hypothesis testing:

Null hypothesis is rejected if the critical value for the chi-square test used for the testing of categorical data is less than the calculated value of the chi-square. Critical values are directly

read from the chi square distribution table which shows the critical values for the various degrees of freedom and significance levels as shown in equation (3)

$$\text{Calculated value (p)} > \text{CHISQ.INV (probability, dof)} \quad (3)$$

For the samples shown in Table I, the calculated value is 0.524214 which is much less than critical value of 9.487729 at 5% level of significance and 4 degrees of freedom. It proves that samples are random in nature and they are independent of the draw made by any of the Tarot reader A or B.

Null Hypothesis is accepted as the result shows that in both cases, sample data is random in nature. There is a large difference in the calculated values and the critical values. So, it can be concluded that draws in this experiment do not follow any pattern and even though tarot cards are useful interpreters of life events, they draw in independent of any fixed pattern. It also says that pattern of Tarot cards draw is not dependent on professional readers or Amateur readers, but professional readers have more experience and deeper connection with their intuition so they can interpret the cards profoundly for any given situation.

**Result Analysis:** Tarot reading is synchronized with intuition of the Tarot reader, that is why, divine blessings are invoked before reading. For this experiment, both the readers restrained themselves from invoking the blessings. Hence, it is still not known whether cards will show the random behavior in presence of divine blessings.

Also, the number and type of cards do not follow any fixed pattern, so randomness does not mean that readings are misinterpreted. For examples, the three swords represent sorrow and heartbreak whereas three of cups represent joyful events and merriness. So even if the cards are not random, they still hold meaningful information that can unlock the psychic details of querent.

### **Conclusion:**

Null hypothesis was set to prove that draw of any card in 78 cards of the Rider- Waite Tarot cards is independent of the professional or amateur reader. Total of 600 samples were tested to calculate the chi square values. Randomness is calculated in two combinations. In one combination all the Major Arcana cards, cup cards, sword cards, wand cards, and pentacles cards were grouped. Calculated value of chi-square is 0.524214 whereas critical value of chi

square 5% significance and degree of freedom =4 is 9.487729. Another combination of samples was tested for the number shown in the Minor Arcana cards and court cards. Calculated value of chi-square is 0.26852 whereas critical value of chi square 5% significance and degree of freedom = 39 is 54.57223. Calculated values are less than the critical values in both cases. Hence, Null hypothesis is accepted that proves that the nature of drawing cards is random for both the readers.

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