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Hypothesis Formula

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Introduction

In the present world research activity is the part and parcel of each, every systematic knowledge. Research activity has now become an integral part of all spheres of human kind. Research is a careful and scientific inquiry into every subject; subject matter valuable internal has which would be useful far further application. Today we live in a world that has a benefited greatly from progress male by the biological science and physical science. Scientific methods are applied with greater imagination to the behavioral asperse of culture.. In this paper main focus of discussion is that a statement about theory of possibility hypotheses.According to J.C. Town(1953) An independent variable is that factor manipulated by the experimenter in his attempt to ascertain its relationship to an observed phenomenon.

Formula Possibility of number of Hypothesis:

Independent Variable is also called as a 'factor'; its variation is called level. For example Gender Variable has two levels

i) Gender - Male and Female

So, it can be said that there are two level of male and female of variable of gender.

ii) Caste Variable has four levels : SC, ST, OBC and General

So, it can be said that there are four level of SC, ST, SEBC and other of variable of Caste.

Possibility of number of hypothesis for Only one independent Variable and its level. The possibility of number of hypothesis for only one variable with n number of level can be determined by the formula by :

$$\text{Total Number of hypothesis} = \frac{n(n-1)}{2}$$

Where n= number of level of given variable.

Table 1: Possibility of number of Hypothesis

Serial No.	Variable	Name of level	Number of level	Possibility of Number of Hypothesis	Total Number of Hypothesis
1	Gender	1.Male 2.Female	2	$\frac{2(2-1)}{2}$	$\frac{2(1)}{2}=1$
2	Class	1.Distiction 2.First 3.Second	3	$\frac{3(3-1)}{2}$	$\frac{3(2)}{2}=3$
3	Caste	1.SC 2.ST 3.SEBC 4.Other	4	$\frac{4(4-1)}{2}$	$\frac{4(3)}{2}=6$
4	Subject	1.Maths 2.Science 3.English 4.Gujarati 5.Hindi 6.Sanskrit	6	$\frac{6(6-1)}{2}$	$\frac{6(5)}{2}=15$
5	Variable	1,2,3,4,5,6,7, 8,9…n	n	$\frac{n(n-1)}{2}$	$\frac{n(n-1)}{2}$

From the above table 1, it can be conclude that the possibility of the Hypothesis can be determined by the above given formula for the one variable and number of its level.

- First example shows the only one Hypothesis possible if the only two level for one variable.
- Second example shows the only three Hypotheses possible if the only three level for one variable.
- Third example shows the only six Hypotheses possible if the only four level for one variable.
- Fourth example shows the only fifteen Hypotheses possible if the six level for one variable.
- Sixth example shows the only 'n(n-1)/2' number of Hypothesis possible if the 'n' level for one variable.

Possibility of Number of Hypothesis for two Different variable and its level:

The possibility of the total Number of Hypothesis for two Different variables and its level can be divided into two part, according to the number of two different variable with total number of level with M and N.

To understand the given example, let suppose that first variable is named as 'M' and the second one is named as 'N'. There are two possibility of the formula. If the level of the both variable are different then formula is applied for the (**M** X **N**) and the level of both variable are same (**M**=**N**) then formula is applied for (**M** X **M**) or (M^2) .

A. Possibility of Number of Hypothesis for two Different variable and its level (Level of both variable are different M X N) :

B. Possibility of Number of Hypothesis for two Different variable and its level (Level of both variable are same M X M) :

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A. Possibility of Number of Hypothesis for two Different variable and its level (Level of both variable are different M X N) :

Formula for the Possibility of Number of Hypothesis for two Different variable and its level (Level of both variable are different M X N) is given as follows.

$$\left[\frac{m(m-1)}{2}\times n\right]+\left[\frac{n(n-1)}{2}\times m\right]+\left[\frac{m(m-1)}{2}\right]+\left[\frac{n(n-1)}{2}\right]$$ Where, m= number of level of variable of M

n= number of level of variable of N

Above two parts of equation $\left[\frac{m(m-1)}{2}\right]+\left[\frac{n(n-1)}{2}\right]$ determined the main hypothesis of individual variable of M and N with reference to(M X N) and $\left[\frac{m(m-1)}{2}\times n\right]+\left[\frac{n(n-1)}{2}\times m\right]$ determined the combined total hypothesis with the level of variable of M and N.

Table 2: Possibility of number of Hypothesis

Serial No.	Variable	Name of level	Possibility of Number of Hypothesis	Total Number of Hypothesis
1	Gender (1) Male (2) Female	Subject (1) Science (2) Drawing (3) English		
No Of Level	m=2	n=3	13	13

$$\left[\frac{m(m-1)}{2}\times n\right]+\left[\frac{n(n-1)}{2}\times m\right]+\left[\frac{m(m-1)}{2}\right]+\left[\frac{n(n-1)}{2}\right]$$

$=\{[2(2-1)/2]\times 3\}+\{[3(3-1)/2]\times 2\}+[2(2-1)/2]+[3(3-1)/2]$

$=\{[2(1)/2]\times 3\}+\{[3(2)/2]\times 2\}+[2(1)/2]+[3(2/2]$

$=\{[2/2]\times 3\}+\{[6/2]\times 2\}+[2/2]+[6/2]$

$=\{[1]\times 3\}+\{[3]\times 2\}+[1]+[3] \quad ==3+6+1+3==13$

Table 3: Probability of number of Hypothesis

P(1)	P(2)	P(3)		P(4)	TOTAL
M-F	S-D	M S-D	F S-D	S M-F	5
	S-E	M S-E	F S-E	D M-F	4
	D-E	M D-E	F D-E	E M-F	4
1	**3**	**3**	**3**	**3**	**13**

Table 4: Example for Probability of number of Hypothesis

Serial No.	Variable	Name of level	Possibility of Number of Hypothesis	Total Number of Hypothesis
1	Gender 1. Male 2. Female	Subject 1. Science 2. Drawing 3. English 4. Hindi	13	13
No Of Level	m=2	n=4	23	23

Table 5: Example for Probability of number of Hypothesis

P(1)	P(2)	P(3)		P(4)	TOTAL
M-F	S-D	M S-D	F S-D	S M-F	5
	S-E	M S-E	F S-E	D M-F	4
	S-H	M S-H	F S-H	E M-F	4
	D-E	M D-E	F D-E	H M-F	4
	D-H	M D-H	F D-H		3
	E-H	M E-H	F E-H		3
1	**6**	**6**	**6**	**4**	**23**

$$\left[\frac{m(m-1)}{2}\times n\right]+\left[\frac{n(n-1)}{2}\times m\right]+\left[\frac{m(m-1)}{2}\right]+\left[\frac{n(n-1)}{2}\right]$$

$=\{[2(2-1)/2] \times 4\} + \{[4(4-1)/2] \times 2\}+[2(2-1)/2] + [4(4-1)/2]$

$=\{[2(1)/2] \times 4\} + \{[4(3)/2] \times 2\}+[2(1)/2] + [4(3)/2]$

$=\{[2/2] \times 4\} + \{[12/2] \times 2\}+[2/2] + [12/2]$

$=\{[1] \times 4\} + \{[6] \times 2\}+[1] + [6] = = 4+12+1+6 = =23$

B. Possibility of Number of Hypothesis for two Different variable and its level (Level of both variable are same M X M) :

When two variables are same with reference to their individual level, the formula of Possibility of Number of Hypothesis for two Different variable and its level (Level of both variable are same M X $M=M^2$ is given as $= m(m^2-1)$, Where m = n = number of level

Suppose, n=3 and m=3

$$\left[\frac{m(m-1)}{2}\times n\right]+\left[\frac{n(n-1)}{2}\times m\right]+\left[\frac{m(m-1)}{2}\right]+\left[\frac{n(n-1)}{2}\right]$$

$= \{[3(3-1)/2] \times 3\} + \{[3(3-1)/2] \times 3\}+[3(3-1)/2] + [3(3-1)/2]$

$= \{[3(2)/2] \times 3\} + \{[3(2)/2] \times 3\}+[3(2)/2] + [3(2)/2]$

$= \{[6/2] \times 3\} + \{[6/2] \times 3\}+[6/2] + [6/2]$

$= \{[3] \times 3\} + \{[3] \times 3\}+[3] + [3] = 9+9+3+3 = 24$

Now according to the applying formula of $= m(m^2-1)$ [when,n=m]

As the stated example n=3 and m=3, So we can write that n=m=3, Putting this value of n=m=3 in the formula $m(m^2-1)$; it can be rewrite as: $= m(m^2-1) = 3(3^2-1) = 3(9-1) = 3(8) = 24$

So, it is noted that the formula of the calculating hypothesis is proved.

Conclusion:

This research article will helpful for the better to best implementation and interpretation of research findings in the field of psychology, education social science and specially statistics.

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