Chapter 7

Empirical Study

This chapter deals with the analysis and revelation of the empirical study which leads to a congenial conclusion.

Operating Variables	Relational Analysis	Functional Analysis	Directional analysis	Analysis on grouping	Interactional Analysis	
					CDF	CCA
Exogenous Cases of significant correlations	x7,x9,x12,x14,x17,x19,x22,x24,x26,x27,x28 X1,x2,x3,x5,x10,x14,x15,x18,x19,x22,x25,x28 X7,x9,x16,x28	X3,x7,x17,x24,x26,x28 X16,x18,x22 X2,x6,x25,x27,x28	HDE:x22 and HIDE:x22 HDE:x9 and HIDE:x22 HDE:x2 and HIDE:x22	Factor 1, 2,3,4,5,6,7,8,9,10,11,12,13,14	X1,x4,x24,x2,x16,x8,x10,x11,x5,x23,x17,x15,x2 5,x9,x26,x7,x13,x3,x12,x18,x6,x28,x18 X25,x26,x8,x18,x10,x2,x11,x12,x5,x17,x4,x1,x2 7,x24,x7,x9,x23,x15,x13,x3,x6,x28,x16 X7,x24,x8,x1,x28,x6,x13,x3,x10,x11,x23,x4,x17 ,x16,x2,x26,x25,x9,x7,x15,x5,x8,x12	+x1,+x5,+x7,+x9,+x10,+x12,+x15,+x16,+x25,+x 26,+x28 -x2,-x3,-x4,-x6,-x8,-x11,-x13,-x17,-x18,-x23,- x24,-x27
Endogenous	y1 y2 y3	y1 y2 y3	y1 y2 y3		y1 y2 y3	+y1 and+y2 -y3

Fig. 7.1: Summary of the statistical analyses.

7.1. Descriptive Statistics

Table7.1.1.: Descriptive statistics of in dependent and depend invariables with respect to Mean, Standard Deviation of values and Coefficient of variance:

Serial Number	Variables	Range	Mean	SD	CV
1	Age (x1)	18-72	41.91	14.45	34.47864
2	No of children (x2)	0-5	1.83	1.11	60.65574
3	Number of farm work (x3)	1 -- 6	3.62	1.52	41.98895
4	working hour per day (x4)	3.5-7	5.41	0.92	17.00555
5	Incidence level of miscarriage (x5)	0 - 1	0.16	0.36	225
6	Number of animals reared (x6)	0 - 11	2.19	2.27	103.653
7	Height (ft) (x7)	4.5 - 5.6	4.98	0.28	5.62249
8	Weight (kg) (x8)	41 - 57	46.39	3.87	8.342315
9	BMI (x9)	14.4 - 29.25	20.26	2.62	12.93189
10	Cereals consumed per day (g) (x10)	300 - 450	363.34	38.54	10.60714
11	Protein consumed per day (g) (x11)	30 - 62	42.06	8.24	19.59106
12	Fruits consumed per day(g) (x12)	12.5 - 40	20.18	6.69	33.15164
13	Vegetables consumed per day (g) (x13)	123 - 201	159.47	19.75	12.38477

14	Total carbohydrate consumed per day (g) (x14)	320 - 480	383.52	39.87	10.39581
15	Fat takenper day (g)(x15)	15.5 - 34	24.5	3.97	16.20408
16	Breakfast time in a.m. (x16)	4 - 6.3	4.95	0.65	13.13131
17	Lunch time in p.m. (x17)	2 - 4.45	3.08	0.75	24.35065
18	Dinner time in p.m. (x18)	8 - 10. 45	9.3	0.65	6.989247
19	Calorie in carbohydrate per day(x19)	1280 - 1920	1534.09	159.49	10.39639
20	Calorie in protein per day(x20)	120 - 248	168.22	32.94	19.5815
21	Calorieinfatper day (x21)	139.5 - 306	220.51	35.74	16.20788
22	Total calorie per day (x22)	1598 - 2308	1922.82	163.15	8.484934
23	Size of holding in katta (x23)	1 -55	13.93	14.52	104.2355
24	Family income Per/annum(x24)	20000-75000	49033.3	11819	24.1046
25	Per capita income per annum (x25)	8000 - 27500	14368.2	5309.9	36.95591
26	Family expenditure per annum (x26)	15000 - 65000	43255.6	9456.7	21.8623
27	Per capita expenditure (Rs.) per annum (x27)	7500 - 25000	13500.5	6620.1	49.03611
28	Functional literacy (x28)	1 -- 5	206.13	1364.2	661.7911

1	Perceived physical problems (y1)	6 -- 10	8.1	1.91	23.58025
2	Psycho-social hazards(y2)	0 -- 13	4.76	2.73	57.35294
3	Frequency of Visit to doctor (y3)	2 -- 12	4.33	2.6	60.04619

Results:

Table 7.1.1.presents the distribution of variables in terms of mean, SD and CV. It has been found from the study that the mean **age(X1)** is 41.91 years and it ranges from 18 to 72 with standard deviation, 14.45 for the total distribution is taken for the study. Coefficient of variation of age is 34.48 per cent which show a moderate level of consistency in its distributive nature.

The independent variable, **number of children (X2)** of farm women has been found from the study that it lies within the range 0 to 5 with a mean value 1.83 and standard deviation (SD), 1.11 for the total distribution is taken for the study. Coefficient of variation of **number of children (X2)** is 60.65 per cent which shows a moderate level of consistency in its distribution.

The independent variable, **number of farm work (X3)** has been found from the study that it ranges from 1 to 6 with the mean 3.62 and standard deviation (SD), 1.52 for the total distribution has taken for the study. Coefficient of variation of **number of farm work (X3)** is

41.99 per cent which show a moderate level of consistency in its distribution.

The independent variable, **working hour per day (X4)** of farm women has been found from the study that the mean 5.41 and range is 3.5-7 with standard deviation(SD), 0.92 for the total distribution has taken for the study. Coefficient of variation of **working hour per day (X4)** is 17 per cent which shows a high level of consistency in its distribution.

The independent variable, **incidence level of miscarriage(X5)** has been found from the study that the range is 0 to 1 and mean 0.16 with standard

deviation(SD), 0.36 for the total distribution has taken for the study. Coefficient of variation of **incidence level of miscarriage (X5)** is 225 per cent which shows a low level of consistency in its distribution.

The independent variable, **Number of animals reared (X6)** by the farm women has been found from the study that the mean 2.19 and it ranges from 0 to 11 with standard deviation(SD), 2.27 for the total distribution has taken for the study. Coefficient of variation of **Number of animals reared (X6)** is 103.653 per cent which shows a moderate level of consistency in its distribution.

The independent variable, **Height (X7)** of farm women has been found from the study that the mean 4.98 and range of 4.5 to 5.6 with standard deviation (SD), 0.28 for the total distribution has taken for the study. Coefficient of variation of **Height (X7)** is 5.62 per cent which shows a high level of consistency in its distribution.

The independent variable, **Weight (X8)** of farm women has been found from the study that the mean 46.39 and ranges from 41 to 57 with standard deviation (SD), 3.87 for the total distribution has taken for the study. Coefficient of variation **Weight (X8)** of is 8.34 per cent which shows high level of consistency in its distribution.

The independent variable, **BMI (X9)** of farm women has been found from the study that the mean 20.26 with standard deviation (SD), 2.62 for the total distribution is taken for the study. Coefficient of variation of **BMI(X9)** is 12.93 per cent which shows a high level of consistency in its distribution.

The independent variable, cereals consumed (X10) by the farm women has been found from the study that the range is 300 to 450 mean 363.34 with standard deviation(SD),

38.54 for the total distribution is taken for the study. Coefficient of variation of **cereals consumed (X10)** is 10.60 per cent which shows a high level of consistency in its distribution.

The independent variable, **protein consumed (X11)** by the farm women has been found from the study that the mean 42.06 and range 30 to 62 with standard deviation (SD),

8.24 for the total distribution is taken for the study. Coefficient of variation of **protein consumed (X11)** is 19.59 per cent which shows a high level of consistency in its distribution.

The independent variable, **fruits consumed (X12)** by the farm women has been found from the study that the mean 20.18 and range 12.5 to 40 with standard deviation(SD), 6.69 for the total distribution is taken for the study. Coefficient of variation of **fruits consumed (X12)** is 33.15 per cent which shows a moderate level of consistency in its distribution.

The independent variable, **vegetables consumed (X13)** by the farm women has been found from the study that it ranges from 123 to 201 and mean 159.47 with standard deviation(SD), 19.75 for the total distribution is taken for the study. Coefficient of variation of **vegetables consumed (X13)** is 12.38 per cent which shows a high level of consistency in its distribution.

The independent variable, **total carbohydrate consumed (X14)** by the farm women has been found from the study that it lies within the range 320 to 480 and mean 383.52 with standard deviation(SD), 39.87 for the total distribution is taken for the study. Coefficient of variation of **total carbohydrate consumed(X14) is** 10.39 per cent which shows a good level of consistency in its distribution.

The independent variable, **fat consumed(X15)** by the farm women has been found from the study that the range is 15.5 to 34 and mean 24.5 with standard deviation (SD), 3.97 for the total distribution has taken for the study. Coefficient of variation of **fat consumed (X15) is** 16.20 per cent which shows a high level of consistency in its distribution.

The independent variable, **breakfast time (X16)** of the farm women has been found from the study that the range is 4 to 6.3 and mean 4.95 with standard deviation(SD), 0.65 for the total distribution has taken for the study. Coefficient of variation of **breakfast time (X16)** is 13.13 per cent which shows a good level of consistency in its distribution.

The independent variable, **lunch time (X17)** of farm women has been found from the study that the mean 3.08 and ranges from 2 to 4.45 with standard deviation (SD), 0.75 for the total distribution has taken for the study. Coefficient of variation of **lunch time (X17)** is24.35 per cent which shows a high level of consistency in its distribution.

The independent variable, **dinner time(X18)** of farm women has been found from the study that the mean 9.3 and range is from 8 to 10.45 with standard deviation (SD), 0.65 for the total distribution is taken for the study. Coefficient of variation of **dinner time(X18)** is 6.98 per cent which shows a high level of consistency in its distribution.

The independent variable, **calorie in carbohydrate consumed per day (X19)** by the farm women has been found from the study that the range is 1280-1920 and mean 1534.09 with standard deviation(SD),159.49 for the total distribution has taken for the study.

Coefficient of variation of **calorie in carbohydrate consumed per day (X19)** is 10.39 per cent which shows a high level of consistency in its distribution.

The independent variable, **calorie in protein consumed per day (X20)** by the farm women has been found from the study that the mean 168.22 and it ranges from 120 to 248 with standard deviation(SD), 32.94 for the total distribution has taken for the study.

Coefficient of variation of **calorie in protein consumed per day (X20)** is 19.58 per cent which shows a high level of consistency in its distribution.

The independent variable, **calorie in fat consumed per day (X21)** by the farm women has been found from the study that the range is 139.5 to 306 and mean 220.51 with standard deviation(SD), 35.74 for the total distribution has taken for the study. Coefficient of variation of **calorie in fat consumed per day (X21)** is 16.20 per cent which shows a high level of consistency in its distribution.

The independent variable, **total calorie consumed per day (X22)** of farmers has been found from the study that the range is 1598 to 2308 and mean is 1922.82 with standard deviation (SD), 163.15 for the total

distribution has taken for the study. Coefficient of variation of **total calorie consumed per day (X22)** is 8.48 per cent which shows a high level of consistency in its distribution.

The independent variable, **size of holding(X23)** of the family of farm women has been found from the study that it ranges from 1 to 55 and mean 13.93 with standard deviation(SD), 14.52 for the total distribution has taken for the study. Coefficient of variation of **size of holding(X23)** is 104.23 per cent which shows a low level of consistency in its distribution.

The independent variable **family income (X24)** of the farm women has been found from the study that, the mean value is 49033.33 and the range is from 20000 to 75000 with standard deviation (SD), 11819.29 for the total distribution is taken for the study. Coefficient of variation of **family income (X24)** is 24.10 per cent which shows a high level of consistency in its distribution.

The independent variable, **per capita income per annum (X25)** of the farm women has been found from the study that the mean 14368.23 and ranges from 8000 to 27500 with standard deviation (SD), 6620.12 for the total distribution is taken for the study. Coefficient of variation of **per capita income per annum (X25)** is 49.03 per cent which shows a moderate level of consistency in its distribution.

The independent variable, **family expenditure (X26)** of the farm women has been found from the study that the range is 15000 to 65000 and mean 43255.55 with standard deviation(SD), 9456.66 for the total distribution is taken forthe study. Coefficient of variation of **family expenditure (X26)** is 21.86 per cent which shows a good level of consistency in its distribution.

The independent variable, **per capita expenditure per annum (X27)** of the farm family has been found from the study that the range lies in between 7500 to 25000 and mean is 13500.5 with standard deviation(SD),6620.12 for the total distribution has taken for the study. Coefficient of variation of **per capita expenditure per annum (X27)** is 49.03 per cent which shows a moderate level of consistency in its distribution.

The independent variable, **functional literacy(x28)** of farm women has been found from the study that the mean 206.13 and ranges from 1 to 5 with standard deviation (SD), 1364.15 for the total distribution has taken for the study. Coefficient of variation of **functional literacy(x28) is** 661.79 per cent which is extremely inconsistent in its distribution.

The dependent variable, **perceived physical problems (y1)** of the farm women has been found from the study that it ranges from 6 to 10 and the mean 8.1 with standard deviation (SD),1.91 for the total distribution has taken for the study. Coefficient of variation of **perceived physical problems (y1)** is 23.58 per cent which shows a high level of consistency in its distribution.

The dependent variable, **psycho-social hazards (y2)** of farm women has been found from the study that the mean 4.76 and ranges from 0 to 13 with standard deviation (SD), 2.73 for the total distribution has taken for the study. Coefficient of variation of **psycho-social hazards (y2)** is 57.35 per cent which shows a moderate level of consistency in its distribution.

The dependent variable, **frequency of visit to doctor (y3)** of farm women has been found from the study that the mean 4.33 with the range 2 to 12 with standard deviation (SD),

2.6 for the total distribution has taken for the study. Coefficient of variation of **frequency of visit to doctor (y3)** is 60.04 per cent which shows a moderate level of consistency in its distribution.

7.2. Correlation Analysis

Co-efficient of correlation(r):Perceived physical problems(y1) vs. 28 exogenous variables(x1 to x28)

Coefficient of correlation (r) : Perceived Physical Problems (y1) vs. 28 exogrnous variables (x1-x28)
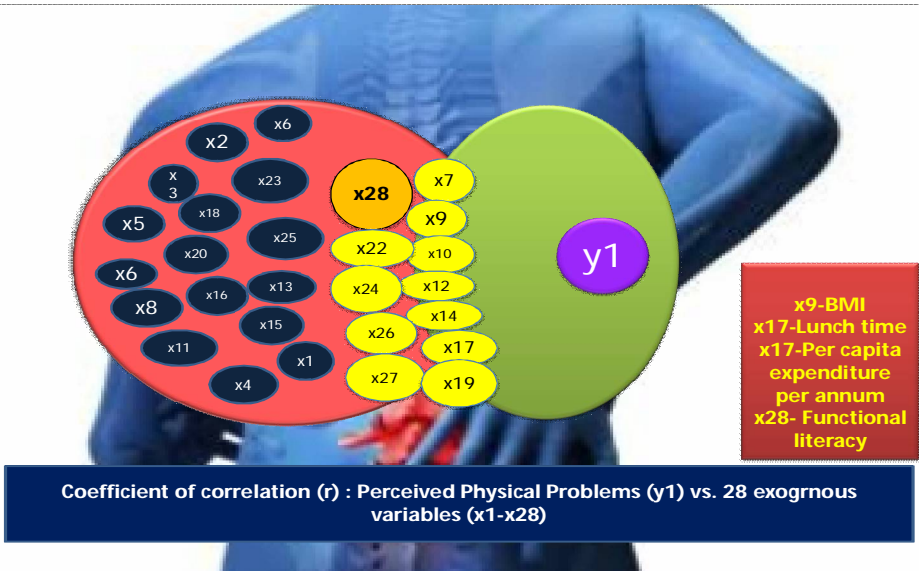
Model: 7.2.1.1

Revelation: The result evinces that, Perceived physical problems has been higher for those possessing lower BMI. So, lower BMI (Body Mass Index) or a poorer health status has been reflected through higher physical impoverishment.

The variable, Lunch time, revels that in case it is delayed, the physical problem has gone up.

The variable, Per capita expenditure per annum, shows that for the respondents having less expenditure incurred after general maintenance including healthcare, the perceived physical problem logically has been up.

It is also discernible that functional literacy has recorded a significant but negative correlation to imply further that respondents having poorer functional literacy, are also possessing higher physical problems .

For the rest other variables viz. Height (x7), Calories consumed per day (x10), fruits consumed per day (x12), total carbohydrate consumed per day (x14) ,Calorie in carbohydrate per day(x19), total calorie consumption per day (x22), Family income per annum (x24) and family expenditure per annum (x26) have predicted the perceived physical problems in a positive and proportionate way to imply further that these variables have offered an apparently direct but substantive prediction of the dependent variable. **Co-efficient of correlation (r): Psycho-social hazards (y2) vs. 28 exogenous variables (x1-x28)**

Revelation: The result depicts that, psycho-social hazards has been higher for those who are engaged in less number of farm works because they have to face economic constraints and everyday family chaos and these in turn lead to considerable mental stress i.e. psycho-social hazards .

The variable Dinner time revels that in case it is delayed, it causes some physiological disorders viz. Gastric problems and it welcomes a lot of psycho-social hazard .

The variable per capita income per annum shows that respondents having lower income faces economic stress and then mental pressure to run their everyday household. As a result the psycho-social hazard logically goes up .

For the rest other variables viz., Age(x1), Number of children (x2), Incidence level of miscarriage (x5)Cereals consumed per day (x10), Total carbohydrate consumed (x14), Calorie in carbohydrate per day (x19), Total calorie per day (x22), and Functional literacy (x28) have predicted the Psycho-social hazards in a positive and proportionate way to imply further that these variables have offered an apparently direct but substantive prediction of the dependent variable .

Model:

7.2.2.1.

Coefficient of correlation(r):Psycho-social hazards(y2)vs.28exogenous variables (x1- x28)
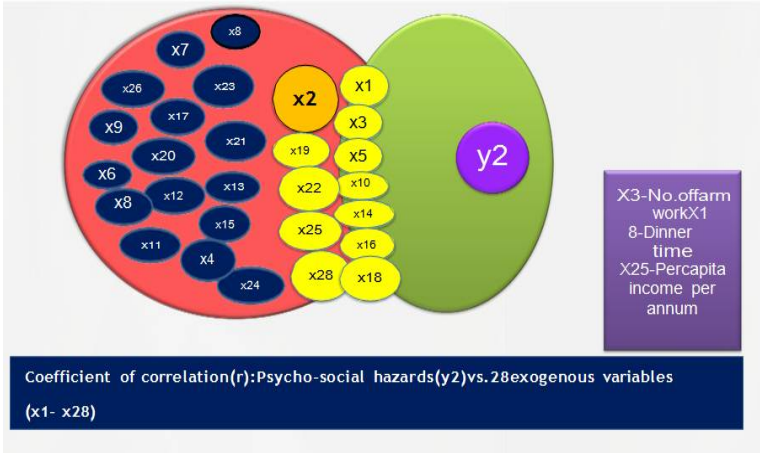
Co-efficient of correlation (r): Frequency of visit to doctor (y3) vs. 28 Exogenous variables (x1-x28)

Model: 7.2.3.1.

Coefficient of correlation(r):Frequency of visittodoctor(y3)vs.28independent variables(x1-x28)
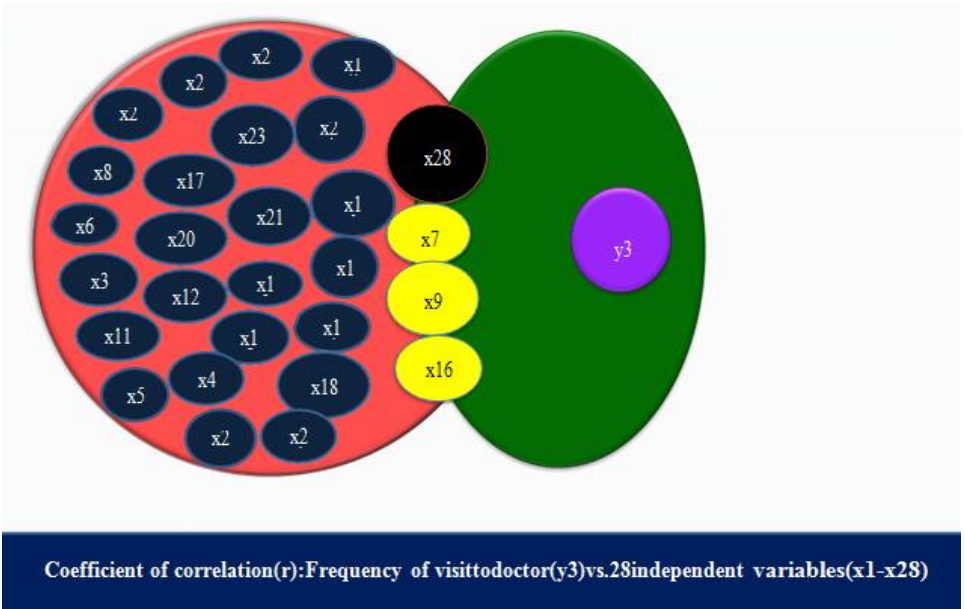
Revelation: The result revels that, frequency of visit to doctor has been higher for those having lower BMI (Body Mass Index) or an individual having poorer health condition is more prone to pay visit to the doctors frequently .

For the rest other variables viz. ,Height (x7), Breakfast time (x16) and Functional literacy (x28) have predicted the Frequency of visit to doctors in a positive and proportionate way to imply further that these variables have offered an apparently direct but substantive prediction of the dependent variable .

7.3. Regression Analysis

StepwiseRegressionAnalysis:Perceivedphysicalproblem   (y1)vs.   6causal variables(x3,x7,x17,x24,x26,x28)
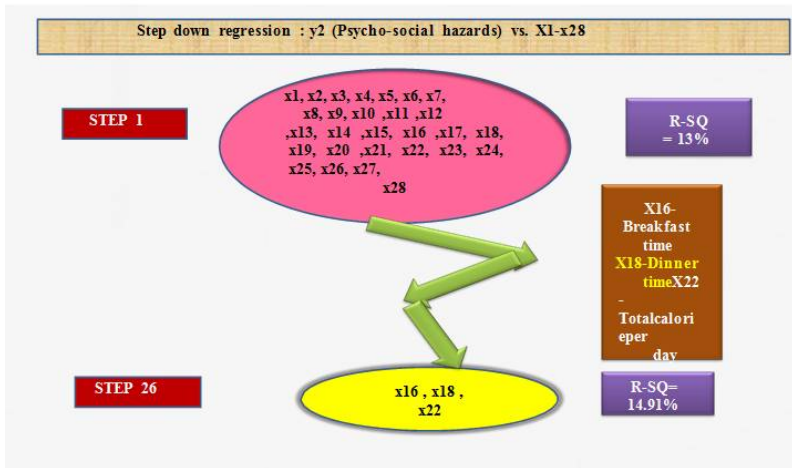
Revelation: This is interesting to observe that when the number of effective variables has been downsized through stepwise regression, the importance of causal variable family income per annum has been topped up. It can speak that income of a family is the ultimate contributor to the level of health and nutritional performance beyond other concerns and issues. Whenever these 6 variables acted isochronously, they together can explain 13.01 per cent of variance.

The solitary contribution of these six variables have (13.01 / 46.50 * 100) = 27.97 percent.

Model: 7.3.2.1.
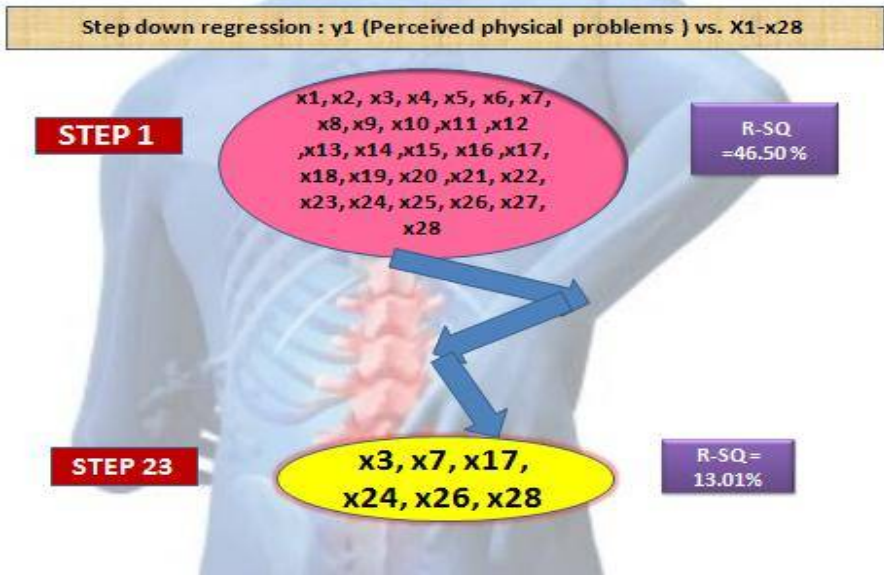
Table7.3.4.: StepwiseRegressionAnalysis:Psycho-social hazards(y2)vs.3 causal variables(x16,x18,x22)

Multiple R-sq = 15

F-value for R = 5.02 with 3 and 86 dfs

Revelation: The model presents the stepwise regression wherein 3 causal variables have been retained at the last step to imply their critical and effective contribution to the resultant behaviour of the variable y2(Psycho-social hazards). So, these 3 variables can be as important as in optimum resource allocation or strategic importance in management of mental health and psycho-social stress related to farm women.

This is interesting to observe that when the number of effective variables has been downsized through stepwise regression, the importance of causal variable Dinner time has been topped up. It can speak that Dinner time of a family is theimportant contributor to the level of health and nutritional performance beyond other concerns and issues. Whenever

these 3 variables acted isochronously, they together can explain 15 per cent of variance .

The solitary contribution of these three variables have (15 / 12.99 * 100) = 115.47 per cent .

Model:

7.3.4.1.

StepwiseRegressionAnalysis:Frequencyofvisittodoctor(y3)vs. 3causalvariables(x16,x18,x22)

Multiple R-sq = 28.75

F-value for R = 6.78 with 5 and 84 dfs

Revelation: The model presents the stepwise regression wherein 5 causal variables have been retained at the last step to imply their critical and effective contribution to theresultant behaviour of the variable y3 (Frequency of visit to doctor). So, these 5 variables can be as important as in optimum resource allocation or strategic importance in elucidating the frequency of visit to doctor to farm women.

This is interesting to observe that when the number of effective variables has been downsized through the stepwise regression, the importance of causal variable functional literacy has been topped up. It can

speak that functional literacy of an individual is the important contributor to the frequency of visit to doctor to maintain the level of health and nutritional performance beyond other concerns and issues. Whenever these 5 variables acted isochronously, they together can explain 28.75 per cent of variance .

The solitary contribution of these three variables have (28.75/ 78.16 * 100) = 36.78 per cent .

Model: 7.3.6.1.
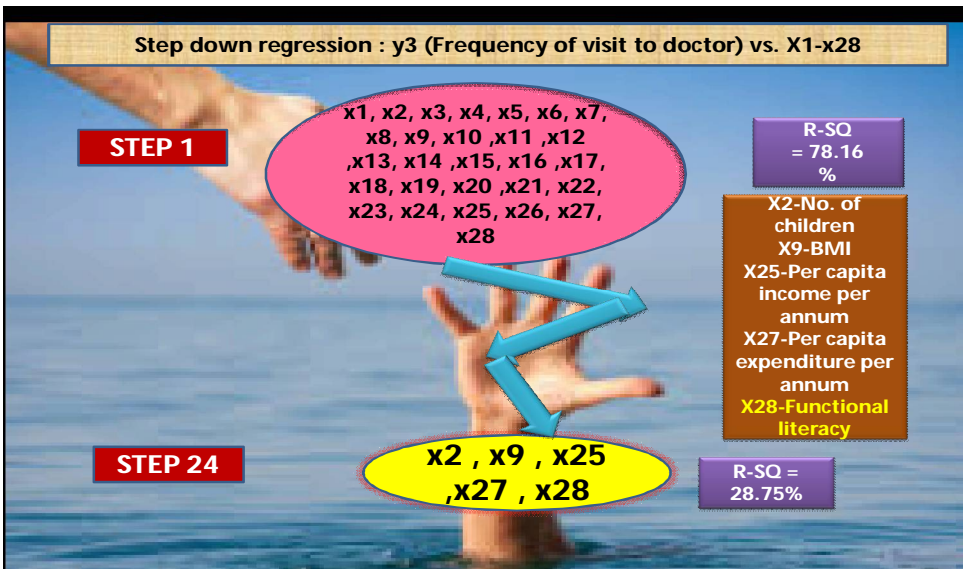
7.4.Path Analysis

Path Analysis: Direct, Indirect and Residual relationship Perceived physical problems(Y1)vs.28Independentvariables(x1-x28)

The model presents the Path Analysis: the decomposition of r values into direct, indirect and residual effect. The variable total calorie consumption per day has recorded both the highest direct and indirect effect. So, the functional and operational contribution of total calorie consumption has been the highest on Perceived physical problems (y1). So, this variable has earned the highest strategic importance in managing drudgery of farmwomen.

The variable x10 (cereals consumed per day) has exerted the highest indirect effect on y1 with highest frequency.

So, cereal consumption per day has got tremendous importance.

The residual effect being 0.4669, it is to infer that even with the combination of 28 exogenous variables 46.69 per cent variance in y1 (Perceived physical problems) cannot be explained .

Model: 7.4.1.1.

Path Analysis : Perceived physical problems (y1) vs. 28 independent variables (x1-x28)
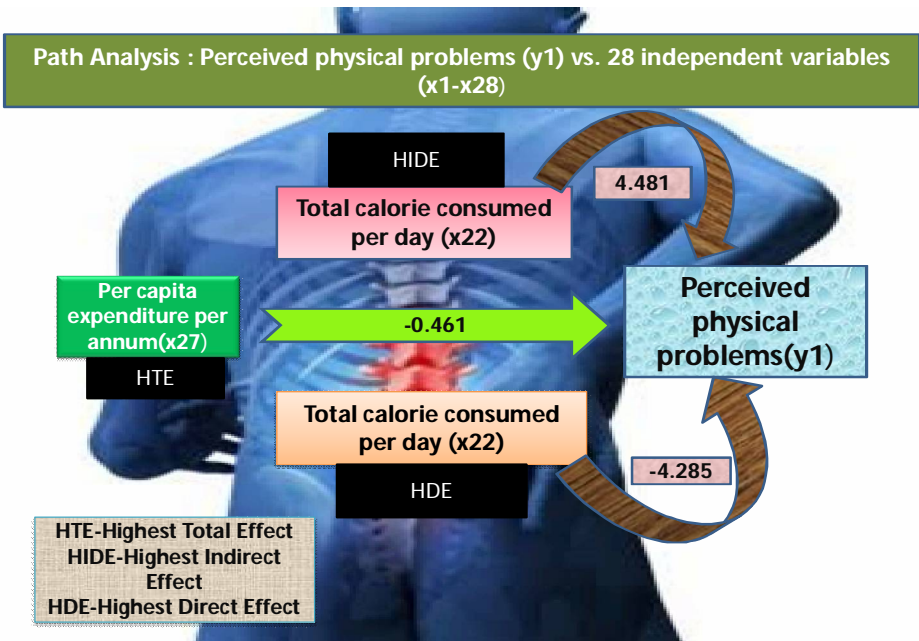
PathAnalysis:Direct,IndirectandResidual relationship Psycho-social hazards(Y2) vs.28Independentvariables(x1-x28)

Revelation:

The model presents the Path Analysis: the decomposition of r values into direct, indirect and residual effect. The variable number of children has recorded both the highest direct and indirect effect. When the number of children in a family increased, it is difficult to their mother to attain the farm work and caring of their children at the same time because they

spent maximum hour in the field. So, both the children and mother suffer from psycho-social hazards.

And the total calorie consumption per day has recorded the highest indirect effect because calorie is the last word to speak out .

The variable x22 (total calorie consumption per day) has exerted the highest direct effect on y2 with highest frequency.

So, total calorie consumption per day has got tremendous importance.

The residual effect being 0.6807, it is to infer that even with the combination of 28 exogenous variables 68.07 per cent variance in y2 (Psycho-social hazards) cannot be explained .

Model: 7.4.2. 1.
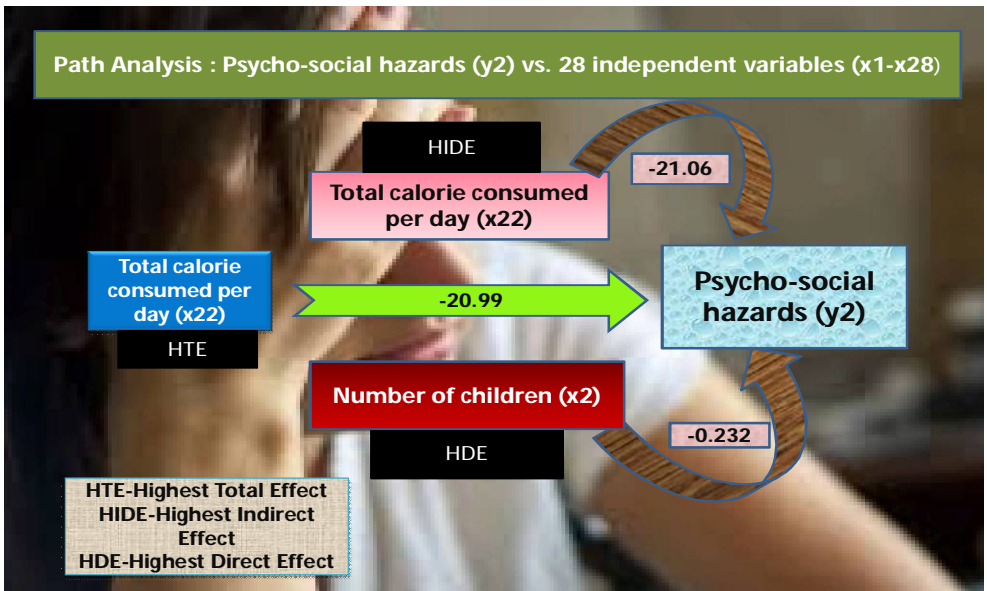
7.4 Path Analysis:

Direct, Indirect and Residual relationship Frequency of visit to doctor (Y3) vs.28Independentvariables(x1-x28) The model presents the Path Analysis: the decomposition of r values into direct, indirect and residual effect. The variable Body Mass Index (BMI) has recorded both the highest

directandindirect effect. Because, who are physically weak and have less weight and height mainly suffer from many physical problems and the frequency of visit to doctor is highest in case of them.
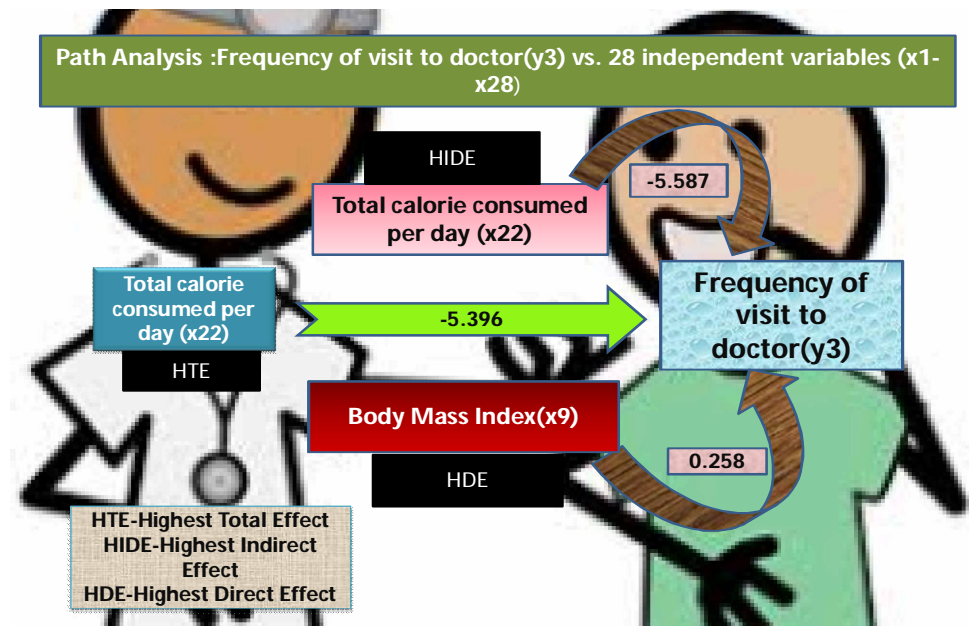
And the total calorie consumption per day has recorded the highest indirect effect because calorie is the most important component to eke out one's daily lives.

The variable x19 (calorie in carbohydrate per day) has got the highest indirect effect on y3 with highest frequency.

So, total calorie consumption per day has got great importance.

The residual effect being 0.5925, it is to infer that even with the combination of 28 exogenous variables 59.25 per cent variance in y3 (Frequency of visit to doctor) cannot be explained .

Model: 7.4.3.1.

Path Analysis :Frequency of visit to doctor(y3) vs. 28 independent variables (x1-x28)

HIDE

Total calorie consumed per day (x22)

-5.587

Total calorie consumed per day (x22)

-5.396

Frequency of visit to doctor(y3)

HTE

Body Mass Index(x9)

HDE

0.258

HTE-Highest Total Effect
HIDE-Highest Indirect Effect
HDE-Highest Direct Effect

7.5. Factor Analysis

Conglomerationof28 explanatoryvariablesinto14factors.

Revelation: Factor analysis reduces the information in a model by reducing the dimensions of the observations. This procedure has multiple purposes. It can be used to simplify the data, for example reducing the number of variables in predictive regression models. If factor analysis is used for these purposes, most often factors are rotated after extraction .

The models present the factor analysis for the conglomeration of apparently different variables (28 by count) into a small number of factors (i.e. 14) based on factor loading and respective Eigen values.
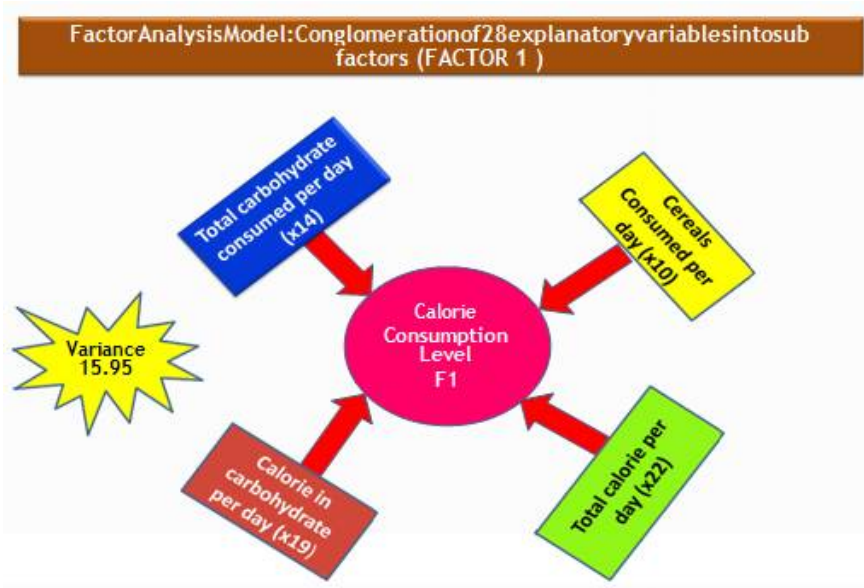
Model: 7.5.1.1.

Factor 1 has accommodated 4 variables viz. Cereals consumed per day (x10), Total carbohydrate consumed per day (x14), Calorie in carbohydrate econsumedper day(x19) and Totalcalorie consumedperday (x22) with Eigenvalue 4.461 and variance 15.95 percent. Factor has been renamed as Calorie Consumption Level.

Factor Analysis Model : Conglomeration of 28 explanatory variables into sub factors (FACTOR 2)
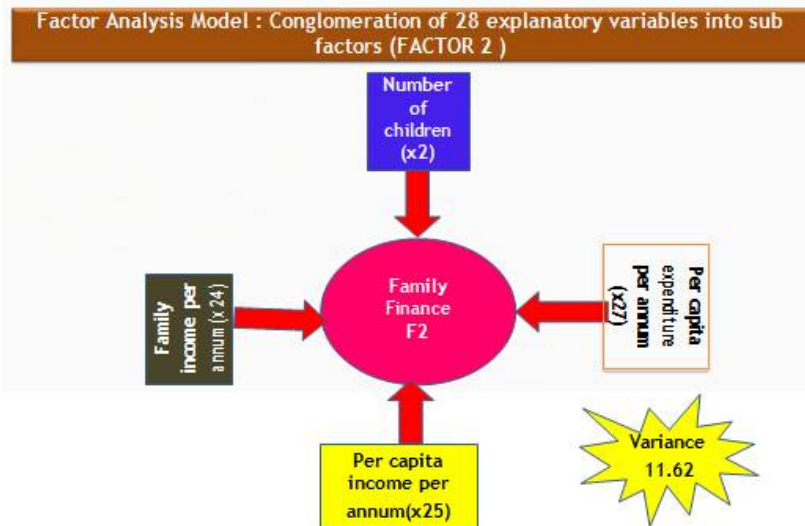
Model: 7.5.1.2.

Factor2hasaccommodated4variablesviz.Numberofchildren(x2),Familyincomepe rannum (x24),Percapitaincomeperannum(x25)andPer capita expenditureperannum(x27)withEigen value3.254andvariance11.62percent.Thefactorhasbeenrenamedas**FamilyFi nance.**

Model: 7.5.1.3.


Factor Analysis Model : Conglomeration of 28 explanatory variables into sub factors (FACTOR 3)
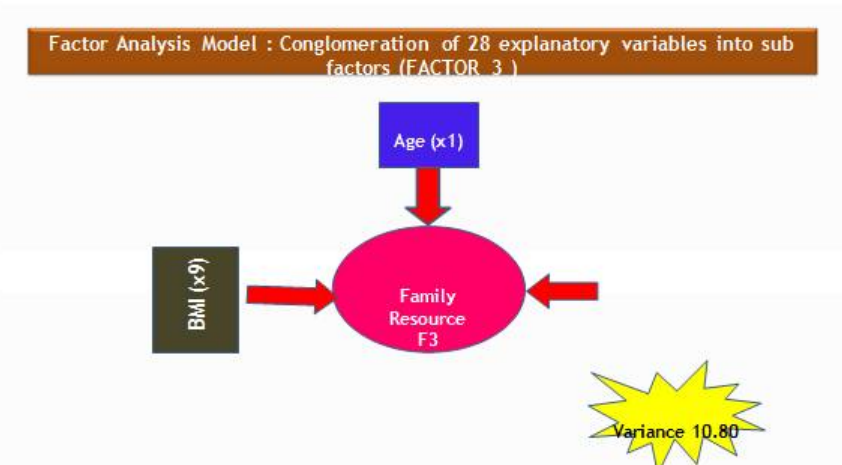
Factor3 has accommodated 3 variables viz. Age(x1) ,BMI(x9), size of holding(x23) with Eigen value 3.026 and variance 10.806 per cent. Factor has been renamed as **Family Resource.**

Model: 7.5.1.4.

Factor Analysis Model : Conglomeration of 28 explanatory variables into sub factors (FACTOR 4)
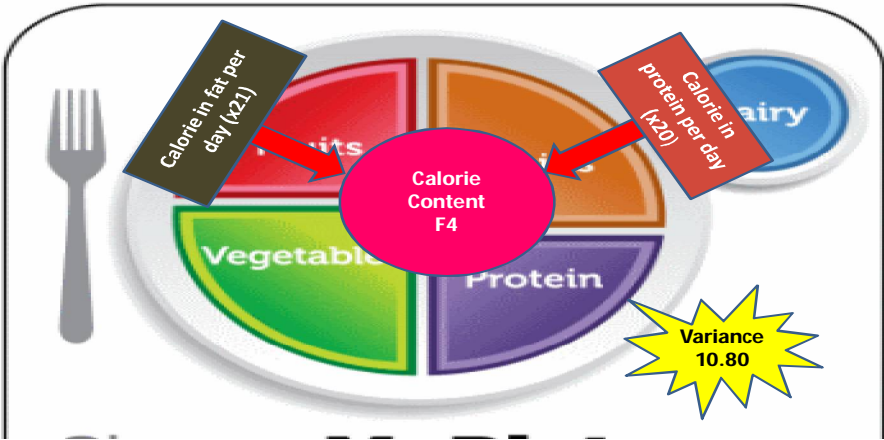
Factor4 has accommodated 2 variables viz. Calorie in protein consumed per day(x20), Calorie in fat per day(x21) with Eigen value 2.514 and variance 8.98 per cent. The factor has been renamed as **Calorie content**

Model: 7.5.1.5

Factor 5 has accommodated 2 variables viz .Height (x7), BMI (x9), Protein consumed per day (x11), Calorie in protein consumed per day (x20) with Eigen value 2.11 and variance 7.53 per cent. The factor has been renamed as **Protein Level.**
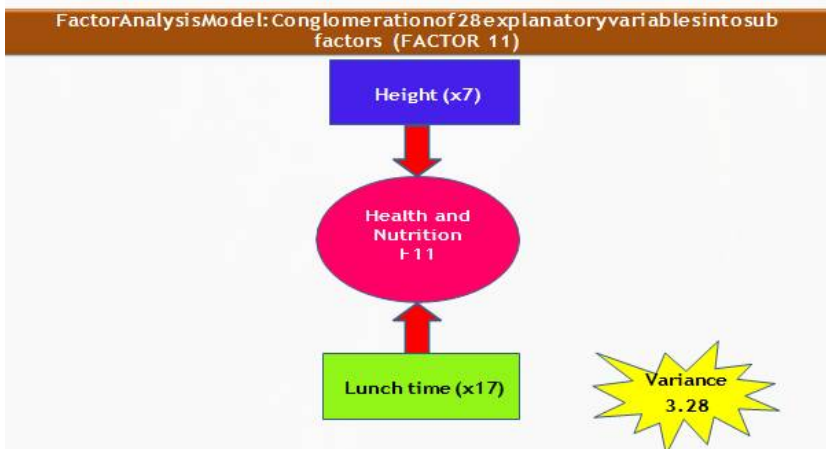
Factor 6 has accommodated only one variable viz. Functional literacy (x28) with Eigen value 1.865 and variance 6.66 per cent. So, the name would not be changed

FactorAnalysisModel:Conglomerationof28explanatoryvariablesintosub factors (FACTOR 7)
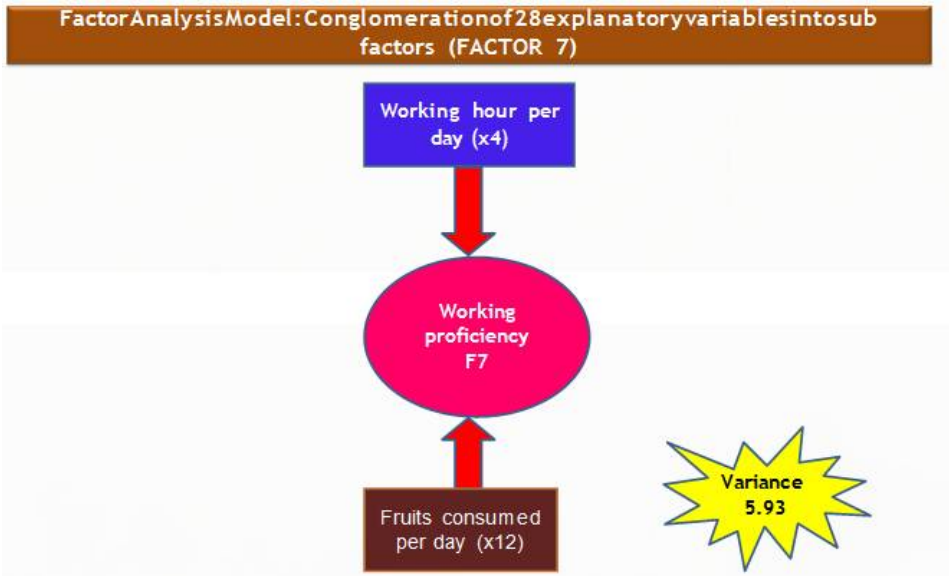
Model: 7.5.1.6.

Factor 7 has accommodated 2 variables viz. working hour per day (x4), Fruits consumed per day (x12) with Eigen value 1.66 and variance 5.93 per cent. Factor has been renamed as **Work Proficiency.**.

Factor 8 has accommodated only one variable viz. Dinner time (x18) with Eigen value 1.66 and variance 4.70 per cent. So, the name has not been changed.


FactorAnalysisModel:Conglomerationof28explanatoryvariablesintosub factors (FACTOR 11)

Model: 7.5.1.7

Factor 9 has accommodated 2 variables viz. Weight(x8) ,Breakfast time(x16)with Eigen value 1.185 and variance 4.23 per cent. Factor has been renamed as **Work Proficiency.**.

Factor 10 has accommodated only one variables viz. Vegetables consumed per day (x13) with Eigen value 0.957 and variance 3.41 percent. So,the name would not be changed**.**
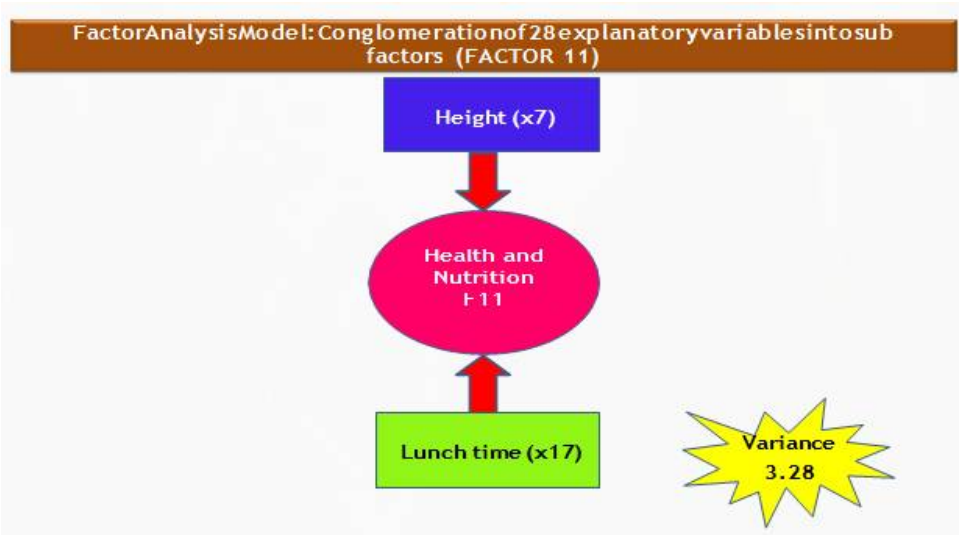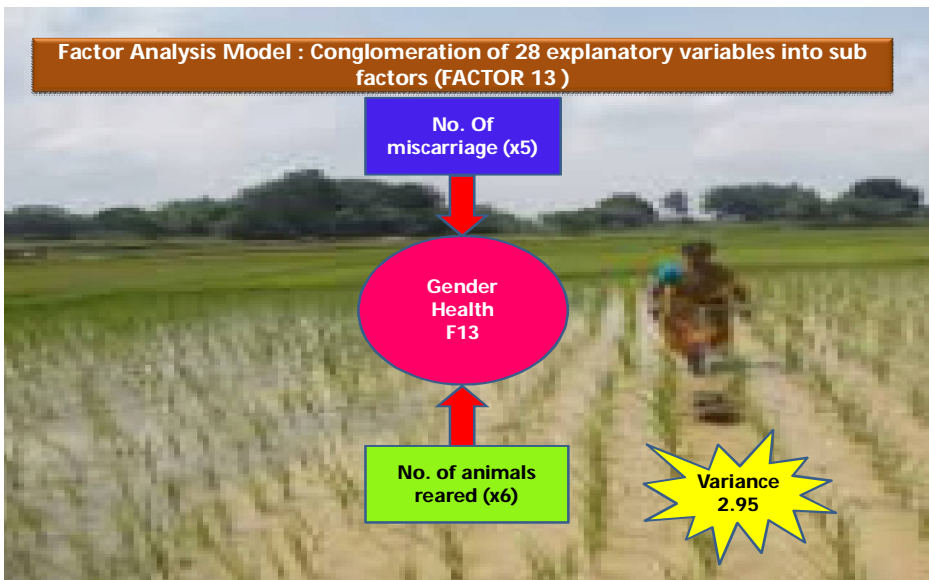

Model: 7.5.1.8.

Factor 11 has accommodated 2 variables viz. Height (x7), Lunch time (x17) with Eigen value 0.92and variance 3.28 per cent. Factor has been renamed as **Health and Nutrition.**
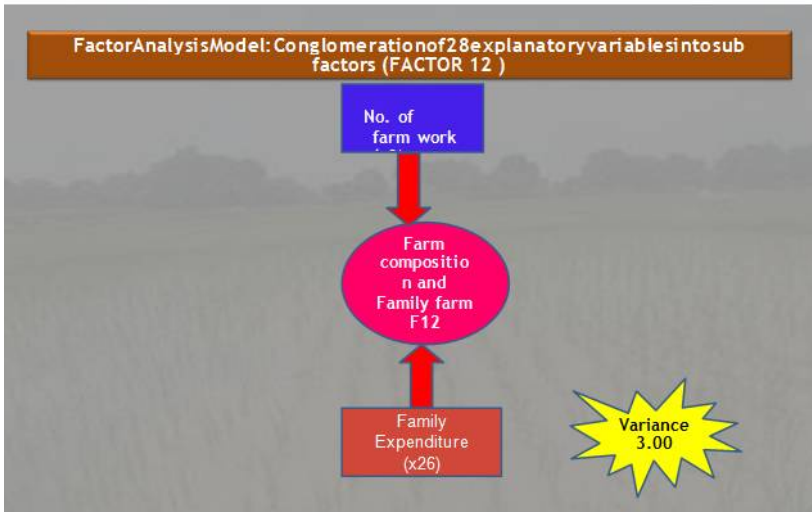
Factor 12 has accommodated 42variables viz. Number of farm work (x3), Family expenditure (x26)

withEigenvalue0.841andvariance3percent.Factorhasbeenrenamedas**Farmc ompositionand familyfarm.**

Model: 7.5.1.9

Factor 13 has accommodated 2 variables viz. Number of miscarriage(x5), Number of animals reared(x6) with Eigen value 0.826 and variance 2.95 per cent. Factor has been renamed as **Gender health.**

Factor 14 has accommodated only one variables viz. Fat consumed per day(x15)withEigen value 0.646 and variance 2.30 per cent. So, the name would not be changed.

7.6.Canonical Discriminant Function Analysis with Critical Variables:

In social sciences, the application of Canonical Discriminant Function co-efficients are applied to elucidate the discriminatory proficiency of the functioning variables in creating a chasms, high and low level of impacts, in predicted variable (y) .This is critically important when we are endeavouring to isolate some few causal variables with higher discriminant function .
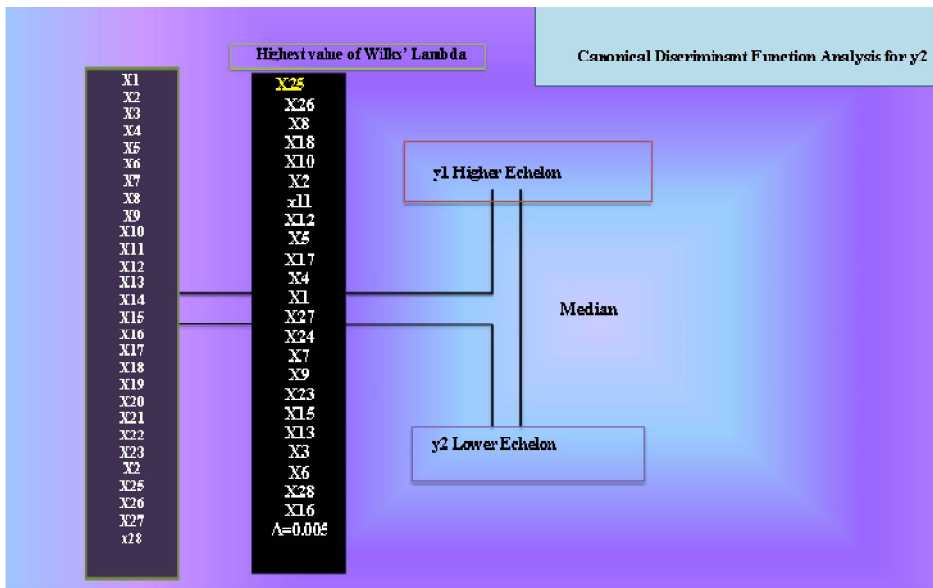
7.6.1. Discriminant function for y1
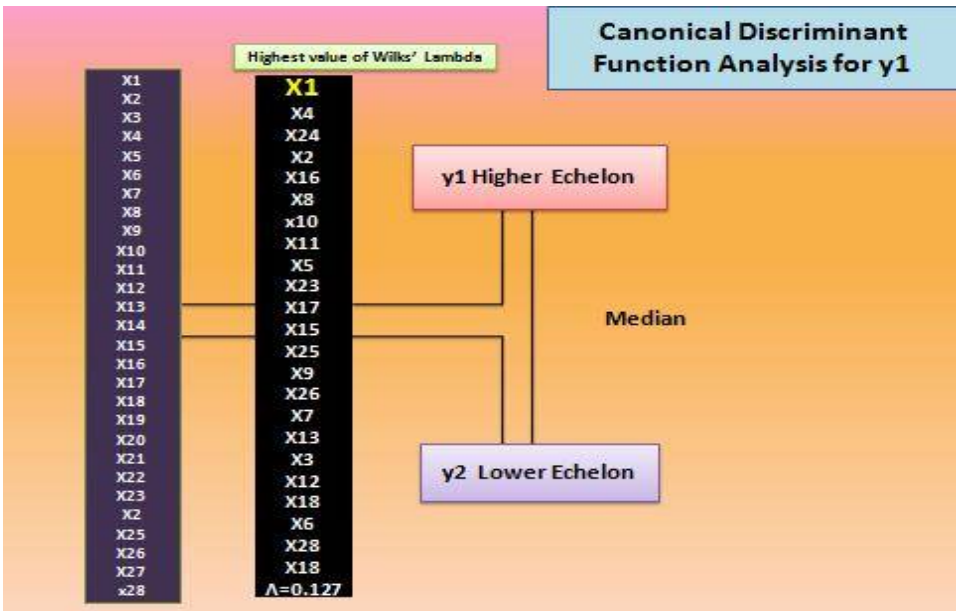
Model: 7.6.1.1.

The following variables have the ability to discriminate y1: x1,x4,x24,x2,x16,x8,x10,x11,x5,x23,x17,x15,x25,x9,x26,x7,x13,x3,x12,x18,x 6,x28,x18.

x1(Age) has the highest ability.

So, these have been the most critical variables.

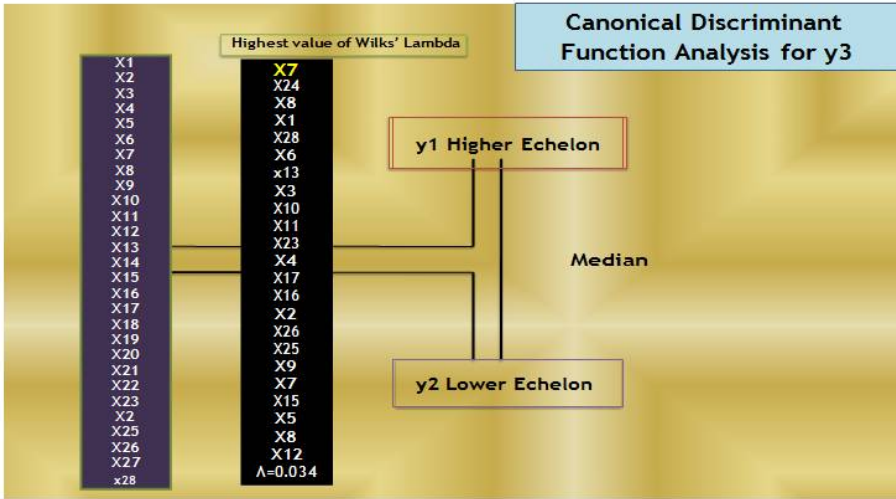### 7.6.2. Discriminant function for y2

Model: 7.6.2.1.

The following variables have the ability to discriminate y2: x25,x26,x8,x18,x10,x2,x11,x12,x5,x17,x4,x1,x27,x24,x7,x9,x23,x15,x13,x3,x 6,x28,x16 .

x25(Per capita income per annum) has the highest ability.

So, these have been the most critical variables .

7.6.3. Discriminant function for y3

Model: 7.6.3.1.

The following variables have ability to discriminate y3: x7,x24,x8,x1,x28,x6,x13,x3,x10,x11,x23,x4,x17,x16,x2,x26,x25,x9,x7,x15,x5, x8,x12 .

x7(Height) has the highest ability.

So,thesehavebeenthemostcriticalvariables.

7.7. Canonical Covariate Analysis

Revelation: The model presents the **Canonical Covariate Analysis** wherein two sets of variables (y and x) have recorded the respective choice and conglomeration along and across the line of interaction. It has been found that y1 and y2 have made an isochronous movement and recorded a clandestine selection of x variables (**+x1(0.229),+x5(0.156),+x7(1.249),+x9(1.153),+x10(0.215),+x12(0.180),+x 15(0.131),+x16(0.209),+x25(2.602),+x26(0.865),+x28(0.152)**) which are on the contrary, the variable y3 has got a precise selection of the following variables **-x2 (0.181) ,-x3(0.385), -x4(0.136), x6 (0.279),-x8 (0.689),-**

x11(0.164),-x13(0.021),-x17(0.222),-x18(0.109),-x23(0.013),- x24(0.647),-x27(3.045) .

So, perception of the Perceived physical problems (y1) and Psycho-social hazards (y2) have formed a diode to elicit a mutually reciprocated character of physical drudgery with psychological status amongst the farm women.

Model: