CHAPTER - V

STATISTICAL ANALYSIS

The present chapter deals with the analysis of the data and their discussion.

The objective of this chapter is to examine whether the celebrity endorser plays an important role in formulation of attitudes towards a brand as a result of positive attitude formation towards the advertisement.

Looking to the hypothesis, the data were analyzed using the most suitable statistical technique. The technique used for the analysis purpose is the Analysis of co-variance (abbreviatd as ANOCOVA) the technique is used to ensure that the results observed may be attributed to the treatment variable and to no other causal circumstances. For example, the researcher studying one independent variable, X, may wish to control the influence of some uncontrolled variables (sometimes called the co-variate or the concomitant variable), Z, which is known to be correlated with the dependent variable, Y, then the technique should be used for a valid evaluation of the outcome of the experiment. The test will enable the researcher to test the relative difference simultaneously and draw inferences about the samples.

While applying the ANOCOVA technique the influence of uncontrolled variable is usually removed by simple linear regression method and the residual sums of squares are used

to provide variance estimates which in turn are used to make tests of significance consists in subtracting from each individual score (Y_i) that portion of it Y'_i that is predictable from uncontrolled variable (Z_i) and then computing the usual analysis of variance on the resulting (Y-Y')'S, of course making the due adjustment to the degrees of freedom because of the fact that estimation using regression method required loss of degrees of freedom.

ASSUMPTIONS IN ANOCOVA

The ANOCOVA technique requires the assumption that there is some sort of relationship between the dependent variable and the uncontrolled variable, also the assumption that this form of relationship is the same in various treatment groups, other assumptions are -

1. Various treatment groups are selected at random from the population.
2. The groups are homogeneous in variability.
3. The regression is linear and is same from group to group.

The short-cut method for ANOCOVA is applied as follows:

The paired observations for two experimental groups is given in appendix - II

Hypothesis

Mean $\bar{X}_1$ is approximately equal to Mean $\bar{X}_2$ i.e., $\bar{X}_1 = \bar{X}_2$ (Experimental group 1 and experimental group 2) therefore both the Samples come from the same population. This hypothesis can be accepted if, and only if, the Computed value of the F ratio is the same or lower than the critical value for the same degrees of freedom.

It will be seen that there is abundant sense in rejecting the hypothesis in which case the alternative hypothesis stands.

Since the experimental data vehemently argued in favour of the differential effects on the audiences beliefs. The use of celebrity models in commercial Advertising is highly recommended.

There is abundant sinse in rejecting this null hypothesis because the observed value of the F ratio (The critical value) is much higher than the cut off point (The critical value) and so it resolved to reject the null hypothesis and accept the alternative hypothesis.

Null hypothesis H_0 : The means of the two samples come from the same population.

Alternative hypothesis H_A : The means of the two samples come from different population.

Y is considered to be the covariate (or concomitant) variable. It is required to calculate the adjusted total within groups and between group, sums of squares on X and test the significance of differences between the adjusted means on X by using the appropriate F-ratio. Also it is required to calculate the adjusted means on X.

Degrees of freedom associated with adjusted sums of squares will be as under :

Between	K-1
Within	N-K-1
Total	N-2

	Group I		Group II	
	X (Pre)	Y (Post)	X (Pre)	Y (Post)
Total	5835	8530	5490	7416
Mean	72.03	105.3	67.7	91.5

ANOCOVA TEST

$$\Sigma x = 5835 + 5490 = 11325$$

$$\text{Correction factor for X} \quad \frac{(\Sigma X)^2}{2}$$

$$= \frac{128255625}{81} = 791701.38$$

$$\Sigma y = 8530 + 7416 = 15946$$

$$\text{Correction factor for Y} = \frac{(\Sigma Y)^2}{N} = \frac{254274916}{162} = 1569598.24$$

$$\Sigma XY = \Sigma X.\Sigma Y = 11325 \times 15946 = 180588450$$

$$\text{Correction factor for XY} = \frac{\Sigma X.\Sigma Y}{N} = \frac{180588450}{162} = 11147435.519$$

$\Sigma X^2 = 128255625$ $\Sigma Y^2 = 254274916$ $\Sigma XY = 180588450$

Hence,

Total SS for X = ΣX^2-Correction factor for X

= 128255625 - 791701.38 = 127463923.611

$$\text{SS between for X} = \frac{(5835)^2}{81} + \frac{(5490)^2}{81} - \text{Correction factor for X}$$

= 420336.11 + 372100 - 791701.38

= 792436.11 - 791701.38

= 734.72

SS within for X = (Total SS for X) - (SS between for X)

= 128255625-734.72 = 128254890.3

Similarly we work out the following values in respect of Y

Total SS for Y = ΣY^2 - Correction factor for Y

= 254274916 - 1569598.246 = 252705317.75

$$\text{SS between for Y} = \frac{(8530)^2}{81} + \frac{(7416)^2}{81} - \text{Correction factor for Y}$$

$$= 898282.716 + 678976 - 1569598.246$$

$$= 1577258.716 - 1569598.246 = 7660.4691358$$

SS within for Y = (total SS for Y) - (SS between for Y)

$$= 252705317.75 - 7660.4691 = 252697657.28$$

then we work out the following values in respect of both X and Y

total same of product for XY $= \Sigma XY$ - correction factor for XY

$$= 180588450 - 1147435.519 = 1794410014.5$$

$$\text{SS between XY} = \frac{(5835)\ (8530)}{81} + \frac{(5490)\ (7416)}{81} - \text{Correction factor for XY}$$

$$= 614475.925 + 502640 - 1147435.519$$

$$= -30319.594$$

SS within for XY = (total sum of product) - (SS between XY)

$$= 17949441014.5 - (-30319.594)$$

$$= 179471334.1$$

ANOVA table for X, Y and XY can now be set up as shown below

ANOVA table for X, Y and XY

Source	d.f.	SS for X	SS for Y	Sum of product XY
Between group	1	734.72	7660.46	-30319
Within group	160	128254890 Exx	252697657 Eyy	179471334 Exy
Total	161	128255625 Txx	252705317 Tyy	179441014 Txy

$$\text{Adjusted total SS} = Txx - \frac{(Txy)^2}{Tyy}$$

$$= 128255625 - \frac{(197441014)^2}{252705317} - 127414325$$

$$= 841300$$

$$\text{Adjusted SS within} = Exx - \frac{(Exy)^2}{Eyy}$$

$$= 128254890 - \frac{(179471334)^2}{252697657}$$

$$= 128254890 - 84851122 = 43403768$$

Adjusted SS between groups =

(adjusted total SS) - (adjusted SS within group)

= 841300 - 43403768 = - 42562468

ANOVA table for Adjusted X

Source	d.f.	SS	MS	F-ratio
Between groups	1	-42562468	-42562468	155
Within groups	159	43403768	272979.673	
Total	160	841300		

CONCLUSION

At 1% level the table value of F or V1 = 1 and V2 = 159 is 6.63. The table value is less than the calculated value and accordingly we infer that F-ratio is significant at 1% level

which means the difference in group means is highly significant.

Adjusted means on X will be worked out as follows :

Regression Coefficient for X on Y i.e.,

$$b = \frac{\text{Sum of product within group}}{\text{Sum of squares within groups for Y}}$$

$$= \frac{197471334}{252697657}$$

$$= .7814$$

Deviation of initial group means from general mean (=161) in case of Y	Final means of groups in X (unadjusted)
Group I -55.7	72.0
Group II -69.5	67.7

Adjusted means of groups in X =

(Final mean) - b (deviation ofinitial mean from general mean in case of Y)

Hence,

Adjusted mean for group I =

(72.0)-0.781 (-55.7) =

72.0 + 43.50 = 115.5

Adjusted mean for group II =

(67.7) - 0.781 (-69.5) =

67.7 + 54.2 = 121.9

DIMENSIONAL ANALYSIS

The questionnaire has been devided into six different dimensions according to the relation of the statement to six attributes (dimensions) namely Taste, Fantacy, Occasion, Social status, Satisfaction and Patronage.

Further analysis has revealed that respondents have scored 45.30% on taste dimesion, 52.9% on the Fantacy dimension 40.9% on the occasion of usage dimension, 49,7% on the satisfaction and 42.83% on the patronage dimesion in the pre treatment measurement of the experimental group I i.e, celebrity treatment assigned group. While the score of the post treatment on each dimension was, 48.2% on the taste dimension 60.64% on the Fantacy dimension, 62.3% on the occasion of usage dimension 61.6% on the scocial status dimension and 71.45% on the patronage dimension. Table 5.1 shows the change in scoring on each dimension.

Table 5.1 The relative difference in scaning on each dimension for the celebrity group.

	Pre-treatment score in percentage	Post treatment score in percentage	Difference in scores in percentage
Taste	45.3	48.2	+2.9
Fantacy	52.9	60.6	+7.7
Occasion	40.9	62.3	+21.4
Social Status	50.3	61.6	+11.3
Satisfaction	49.7	80.6	+30.9
Patronage	42.8	71.4	+20.6

The table above shows that there was a significant change on the satisfaction dimesion which means that respondents callectively have moved up to 30% from their initial score, also there was average movement on the Taste, Fantacy and Social status dimesions indicating a change of 2.9% , 7.7% and 11.3% respectively.

In case of the experimental group II i.e. the non-celebrity assigned group, the analysis have revealed the following change in scores. Table 5.2 shows the relative difference in scoring on each dimension for the non-celebrity group.

Table 5.2 The relative difference in scaning on each dimension for the non-celebrity group.

	Pre-treatment score in percentage	Post treatment score in percentage	Difference in scores in percentage
Taste	42.2	46.5	4.3
Fantacy	48.4	54.3	5.9
Occasion	39.5	55.5	16
Social Status	8.1	61.1	13
Satisfaction	49.6	72.3	22.7
Patronage	38.4	57.9	19.5

These figures show that there was a high change in case of satisfaction dimension and patranage dimension which is common with the celebrity assigned group, it is also noticed that low change has occured on the Taste and Fantacy dimesions common to the celebrity assigned group.

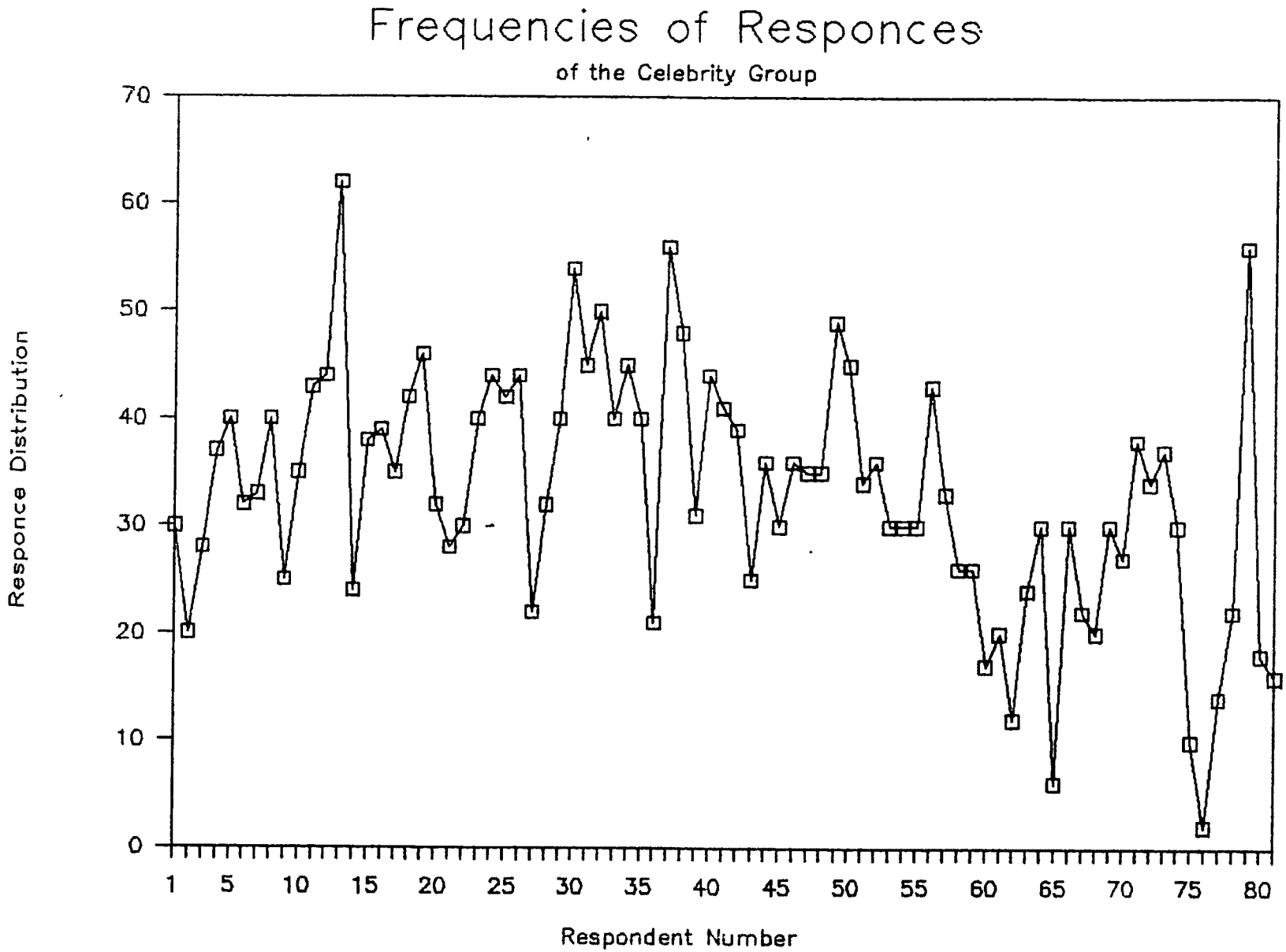
Graph 5.1 Explains the frequencies of responces for the celebrity group.

Graph 5.2 Explains the frequencies of responces for the non-celebrity group.

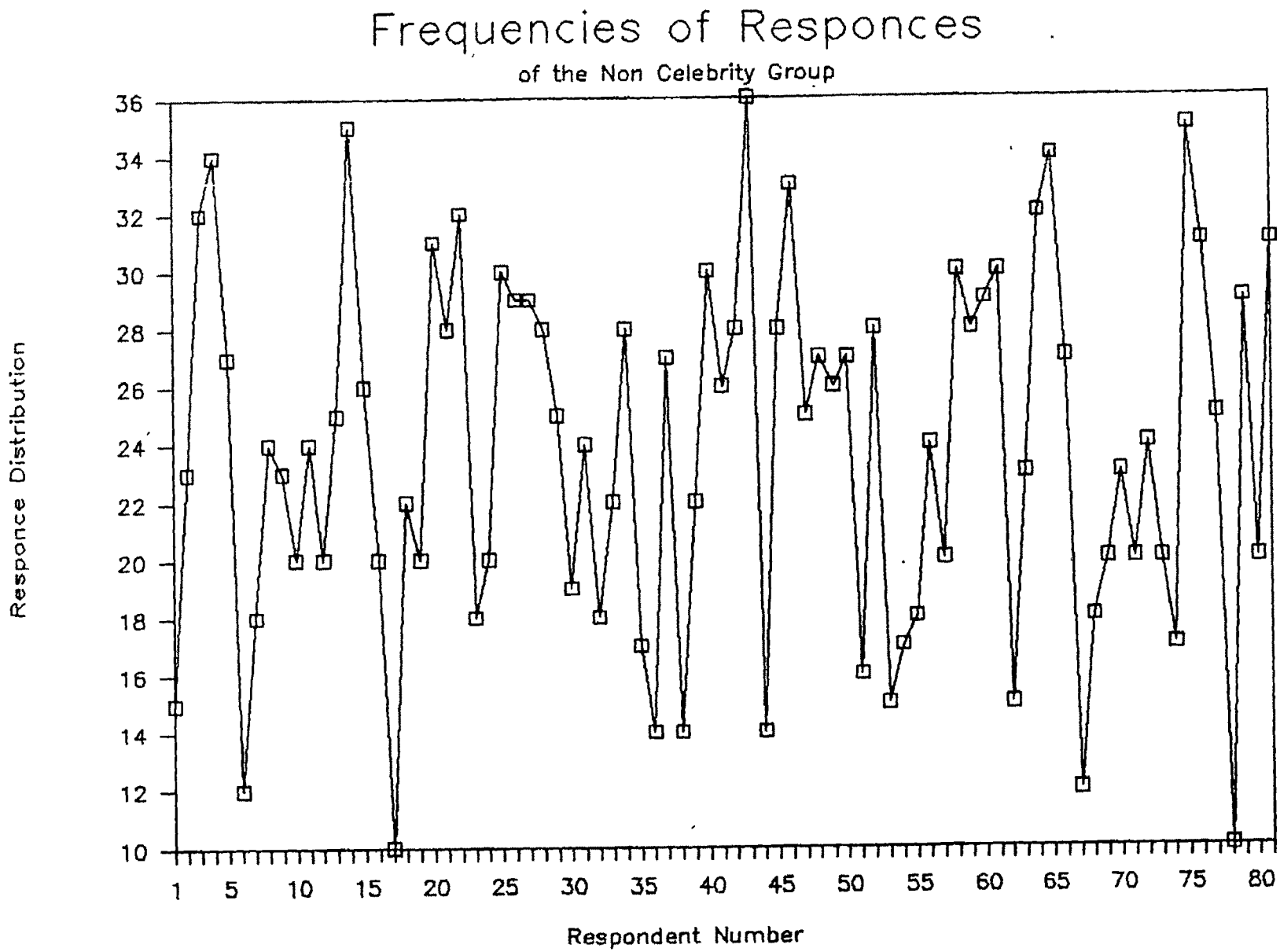
Graph 5.3 Explains the frequencies of responces for the celebrity and non-celebrity group.

Table - 5.3 & 5.4 depict the detailed relative difference in scoring on each dimension for the celebrity group (Pre and Post treatment).

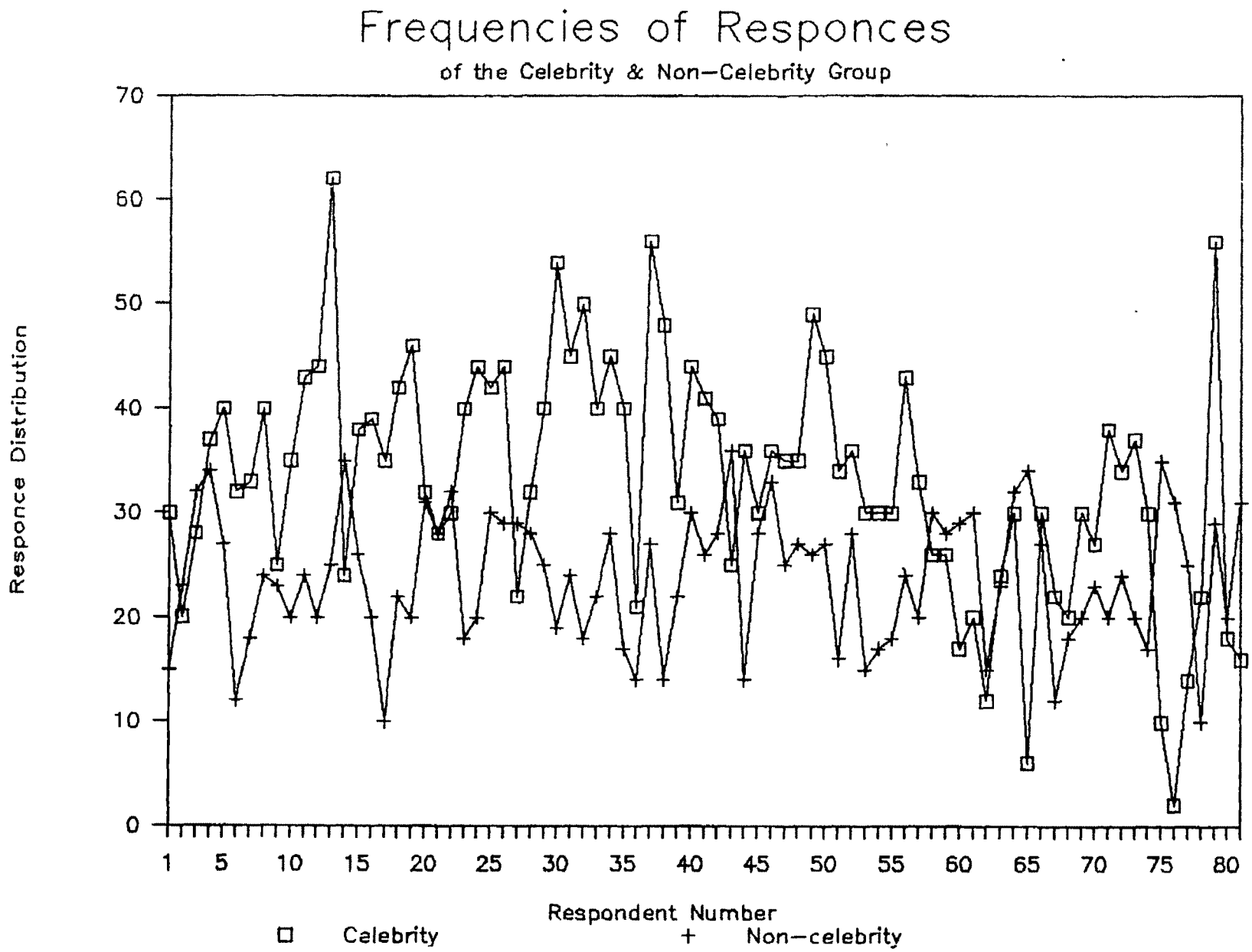
Table - 5.5 & 5.6 depict the detailed relative difference in scoring on each dimension for the non-celebrity group (Pre and Post treatment).



Graph 1 The frequencies of responses for the celebrity group



Graph 5.2 The frequencies of responses for the non-celebrity group



Graph 5.3 A combination of the frequencies of responses for the celebrity and non-celebrity group

Table 5.3 The detailed relative difference in scoring on each dimension for the celebrity group (pre-treatment)

(1) Pre Treatment Scores of Celebrity Group

Res.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Taste (T)	6	8	9	12	10	6	12	13	10	9	14	10	12	8	7	12	7	9	11	12	11	12	16	7	12	12	8	14	8	8	8	7	12	10	12	12	8	8	11	8
Fantacy(F)	5	7	10	9	12	7	9	12	8	8	14	12	9	8	8	9	7	8	12	9	9	11	10	8	12	8	6	12	6	8	9	8	9	7	12	10	7	8	10	9
Occasion (O)	20	29	23	21	8	27	21	21	28	22	16	20	21	26	13	21	19	17	16	23	20	22	17	13	8	22	19	22	28	26	25	13	21	15	8	15	29	22	15	15
Social Status (SS)	5	8	11	8	15	8	8	10	9	7	10	10	8	8	8	8	8	8	10	6	8	12	8	6	8	8	8	12	10	8	9	8	8	8	8	8	8	10	9	10
Satisfaction (SF)	24	20	20	11	15	10	13	18	20	10	12	20	13	22	8	13	15	8	6	13	16	19	10	8	10	10	10	21	18	12	10	8	13	8	10	10	10	16	9	6
Patronage (P)	30	23	24	12	10	22	12	16	30	29	16	16	11	16	28	12	11	18	6	15	28	25	11	18	12	14	17	15	20	16	14	18	12	7	10	15	13	16	15	13
	90	95	97	73	70	80	75	90	105	85	82	88	74	88	70	75	67	66	54	78	92	100	72	56	62	74	68	96	70	78	75	60	75	55	60	70	75	80	69	51

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Res.No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81			
Taste (T)	12	14	10	12	10	8	12	11	6	5	6	7	8	10	8	10	8	8	6	9	8	7	9	10	8	6	10	8	4	6	6	8	5	6	10	8	8	7	4	6	10	X_T = 9.06	45.30%
Fantacy(F)	10	10	12	10	7	9	12	10	7	7	7	7	8	9	8	7	7	6	5	9	7	6	8	9	8	9	8	7	7	6	7	8	7	7	9	7	8	8	5	7	9	X_F = 8.06	52.93%
Occasion (O)	22	20	20	10	15	15	8	9	9	11	9	21	25	20	25	20	20	22	17	20	20	18	25	20	25	10	10	16	16	10	9	25	11	9	11	20	28	23	10	9	10	X_O = 18.02	40.96%
Social Status (SS)	8	8	10	10	8	10	8	8	7	6	7	8	8	6	8	8	8	7	6	6	8	7	8	6	8	6	8	8	8	6	7	8	6	7	6	8	8	7	8	7	6	X_{SS} = 8.06	50.38%
Satisfaction (SF)	10	12	20	10	8	6	10	13	6	6	6	10	13	16	13	15	13	12	8	14	13	10	12	10	13	18	14	13	7	7	6	13	6	6	17	13	7	8	7	6	16	X_{SF} = 11.96	49.79%
Patronage (P)	15	17	18	10	10	6	10	12	27	20	25	25	28	17	18	12	9	12	10	23	10	20	10	17	22	21	18	10	8	19	25	18	10	25	12	11	22	21	8	25	17	X_P = 17.13	42.83%
	77	81	90	62	58	44	60	63	62	55	60	78	90	88	80	72	65	69	52	81	66	68	72	82	84	70	68	62	50	54	60	80	45	60	65	67	81	74	42	60	78		

Table 5.4. The detailed relative difference in scoring on each dimension for the celebrity group (post-treatment)

(2) **Post Treatment Scores of Celebrity Group**

Res.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Taste (T)	12	8	10	10	10	9	9	14	15	6	12	14	16	12	10	14	10	9	8	8	10	15	10	10	8	10	8	11	15	14	6	10	8	10	9	10	8	15	9	7
Fantacy(F)	12	8	11	10	11	9	10	13	15	10	9	13	14	12	12	12	9	7	9	9	8	14	11	10	7	11	9	14	15	13	10	10	8	9	7	8	7	15	7	6
Occasion (O)	31	27	28	20	30	31	28	38	32	38	40	40	42	27	30	32	20	30	21	31	36	38	22	28	38	28	21	38	32	38	38	20	27	20	30	10	38	32	30	30
Social Status (SS)	14	13	14	10	14	12	9	13	14	13	9	13	14	8	9	11	6	9	11	11	8	14	12	12	8	12	11	15	14	13	13	10	13	6	9	8	14	14	9	6
Satisfac-tion (SF)	25	24	25	16	20	25	20	21	23	23	20	21	22	24	18	20	16	20	20	25	20	22	22	20	15	22	20	20	24	21	23	16	24	16	20	22	22	23	20	15
Patronage(P)	26	35	37	34	25	26	32	31	31	36	35	36	38	29	29	25	31	33	31	26	38	35	35	30	28	35	21	40	30	33	36	34	35	29	25	21	36	29	25	31
	120	115	125	110	110	112	108	130	130	120	125	132	136	112	108	114	102	108	100	110	120	130	112	100	104	118	90	128	130	132	120	110	115	100	100	90	131	128	100	95

contd...

Res.No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81		
Taste (T)	10	9	10	8	7	9	9	8	10	10	8	8	10	10	13	9	8	8	9	7	8	6	9	8	9	9	6	8	9	6	9	8	14	13	12	8	8	6	8	12	8	X_T = 9.64	48.20 %
Fantacy(F)	11	8	12	10	8	8	9	8	8	10	11	8	9	11	13	8	7	8	8	6	8	10	8	9	9	7	5	8	8	10	10	9	14	12	8	7	8	5	8	8	6	X_F = 9.70	60.64 %
Occasion (O)	28	36	31	20	24	22	20	26	36	28	29	27	30	28	27	36	29	31	20	30	26	24	31	31	20	30	20	20	22	24	23	31	16	21	22	15	31	30	31	22	28	X_O =27.43	62.34 %
Social Status (SS)	12	10	11	10	9	7	8	8	8	12	8	8	6	12	8	10	8	7	7	6	8	8	7	11	8	9	5	8	7	8	11	11	10	10	8	7	7	8	7	8	10	X_{SS} = 8.06	61.65 %
Satisfac-tion (SF)	22	18	25	23	18	10	16	22	20	20	10	24	16	22	24	18	20	18	10	15	22	18	18	25	16	20	24	22	10	18	20	25	12	18	10	7	18	16	18	10	18	X_{SF} =19.39	80.81 %
Patronage(P)	35	39	26	27	22	24	33	26	29	30	28	39	39	35	25	34	26	23	24	34	14	14	23	28	28	25	30	16	24	15	25	30	16	16	15	25	23	30	26	18	24	X_P =28.58	71.45 %
	118	120	115	98	88	80	95	98	111	100	94	114	120	118	110	115	98	95	78	98	86	80	96	112	90	100	90	82	80	81	98	114	82	90	75	69	95	96	98	78	94		

Table 5.5 The detailed relative difference in scoring on each dimension for the non-celebrity group (post-treatment)

(3) Pre Treatment Scores of Non-Celebrity Group

Res.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Taste (T)	10	12	8	12	11	10	12	14	12	8	6	9	8	10	7	7	9	8	7	6	10	11	8	9	10	9	8	8	7	8	6	6	7	6	5	6	6	10	9	7
Fantacy(F)	7	10	9	12	10	10	10	10	10	9	5	9	6	9	7	7	6	6	5	7	8	7	8	10	7	7	7	6	6	8	8	7	6	7	7	6	7	9	8	7
Occasion (O)	15	10	15	8	9	12	10	20	22	28	17	20	19	21	16	18	23	27	14	16	10	15	26	30	20	15	20	22	28	25	20	21	18	16	11	10	9	20	25	21
Social Status (SS)	8	10	10	8	8	10	12	8	8	7	6	6	8	6	7	8	6	8	7	6	8	8	8	7	8	8	8	7	6	8	7	8	7	8	6	6	7	6	8	8
Satisfaction (SF)	8	10	6	10	13	9	8	12	10	18	8	14	10	17	12	8	15	14	20	18	12	8	22	20	15	8	13	12	14	13	10	9	10	7	6	7	6	16	12	10
Patronage (P)	7	10	6	10	12	7	10	17	15	15	9	22	19	12	20	7	16	15	22	21	14	7	20	24	15	7	10	12	14	18	13	19	20	8	10	20	25	17	10	15
	55	62	44	60	63	58	62	81	77	85	51	80	70	75	69	55	75	78	75	74	62	56	92	100	75	54	66	67	75	80	64	70	68	52	45	55	60	88	72	68

contd...

Res.No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81		
Taste (T)	7	8	7	6	6	7	8	8	12	10	8	6	8	8	6	10	8	6	8	7	7	7	10	8	8	8	11	10	6	12	6	8	9	16	12	8	8	12	7	6	10	X_T = 8.45	42.28 %
Fantacy(F)	8	7	8	6	6	6	7	8	10	12	9	7	7	9	7	8	8	7	7	7	5	7	8	9	8	10	7	8	10	9	10	6	8	10	8	7	7	8	5	7	7	X_F = 7.75	48.48 %
Occasion (O)	23	28	24	8	6	13	15	19	15	20	25	9	11	15	21	10	25	16	20	18	14	18	10	15	10	8	15	10	24	21	24	14	22	17	22	15	11	22	14	21	20	X_O = 17.40	39.56 %
Social Status (SS)	7	8	8	6	8	8	8	7	8	10	7	7	6	10	8	8	8	6	8	8	7	8	8	10	8	10	8	8	8	8	8	8	7	8	8	7	6	8	7	8	8	X_{SS} = 8.06	48.14 %
Satisfaction (SF)	8	7	9	7	7	7	5	9	10	20	22	6	7	6	9	12	13	18	13	8	20	8	12	6	12	10	8	12	28	13	28	8	10	10	10	7	7	10	20	11	15	X_{SF} =11.96	49.69 %
Patronage (P)	17	22	26	15	19	18	20	18	17	13	17	25	18	7	19	16	18	22	11	7	22	7	14	6	14	17	9	14	15	14	19	7	24	17	15	25	18	15	22	22	14	X_P = 17.13	38.42 %
	70	80	82	48	52	59	63	69	72	85	88	60	55	45	70	64	80	75	67	54	75	55	62	44	60	63	58	62	81	77	85	51	80	78	75	69	55	75	76	75	74		

Table 5.6 The detailed relative difference in scoring on each dimension for the non-celebrity group (post-treatment)

(4) Post Treatment Scores of Non-celebrity group

Res.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Taste (T)	12	10	16	14	13	10	14	10	8	9	12	8	8	7	6	12	8	8	7	7	6	8	8	9	8	6	8	8	9	8	7	7	9	9	7	8	7	10	10	9
Fantacy(F)	10	12	10	12	12	12	14	12	9	12	8	7	6	10	5	9	9	8	6	7	5	8	9	8	8	10	7	8	7	10	8	8	9	8	8	7	7	8	8	10
Occasion (O)	15	20	17	22	21	8	16	30	28	34	22	30	28	32	30	21	25	27	30	36	20	26	31	36	28	24	29	31	30	20	20	24	20	22	13	15	25	33	22	23
Social Status (SS)	8	10	8	12	10	15	10	9	12	8	8	12	10	10	8	8	7	8	6	7	5	8	11	10	9	8	8	7	9	10	8	9	8	7	8	7	10	10	10	11
Satisfaction (SF)	10	20	10	21	18	15	12	18	20	18	10	18	18	20	16	13	22	24	15	18	24	22	25	18	20	18	20	18	20	23	22	18	16	10	8	7	17	20	18	20
Patronage (P)	15	13	15	13	16	10	16	26	23	24	15	25	25	31	30	12	14	25	31	30	30	16	26	39	32	17	23	23	25	28	23	22	28	24	18	25	21	21	26	25
	70	85	76	94	90	70	80	105	100	105	75	100	95	110	95	75	85	100	95	105	90	88	110	120	105	83	95	95	100	99	58	88	90	80	60	69	87	102	94	98

contd...

Res.No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81		
Taste (T)	8	8	10	10	9	8	10	8	8	10	8	7	8	8	9	8	10	10	8	10	7	8	10	8	9	8	8	10	8	10	8	10	9	7	8	9	9	10	8	14	8	X_T = 9.30	46.54 %
Fantacy(F)	11	9	11	8	9	8	9	7	6	8	8	8	8	9	12	6	10	12	11	9	8	8	9	6	9	9	8	8	7	9	8	8	7	6	9	7	8	12	8	12	8	X_F = 8.69	54.32 %
Occasion (O)	22	30	28	10	20	26	20	29	28	36	27	24	16	20	20	21	28	30	29	18	38	12	15	19	34	21	16	18	38	20	31	13	30	30	31	30	22	20	28	22	27	X_O =24.45	55.58 %
Social Status (SS)	12	9	12	8	6	8	6	8	10	8	8	9	8	12	8	10	12	9	8	6	8	8	6	8	6	11	7	10	8	6	7	10	9	6	11	9	7	10	9	12	8	X_{SS}= 9.79	61.18 %
Satisfaction (SF)	19	20	22	12	14	22	16	20	18	20	24	18	14	10	15	18	20	18	10	16	16	22	16	10	14	20	13	15	15	16	18	15	20	15	25	20	10	20	20	21	24	X_{SF}=17.37	72.37 %
Patronage (P)	25	32	35	14	22	20	17	24	28	30	29	22	16	13	24	25	30	26	29	14	26	22	19	25	22	21	18	19	29	29	33	19	25	31	26	25	24	13	32	14	30	X_P =23.18	57.96 %
	96	108	118	62	80	92	88	96	98	112	104	88	70	62	88	88	100	105	95	83	105	70	85	76	94	90	70	80	105	100	105	75	100	95	110	100	80	85	105	95	105		

FINDINGS

Advertisements featuring celebrity figures produce consistantly more favourable impact than the noncelebrity advertisements, the mean score is higher for subjects exposed to the famous source ; the difference is significant respectively on dimensions like satisfiction,patronage, occasion of usage,social status, fantacy and taste, summing all 6 dimensions, the total celebrity score is significantly higher than the non celebrity score.

CONCLUSION :

The use of famous persons to endorse products is highly effective with all age groups the celbrity figure is perecived as more competent and trustworthy. Ads featuring a celebrity are more positively evaluated than the almost identical versions with non celebrity, particularly for the dimensions like patranage , satisfaction ,occasion and social status.

The image of the product tends to be more favourable when a famous endorser is shown.

The 6 basic dimensions underlying the beliefs structure were same in both the experimental groups though differ some what in relative importance among celebrity assigned experimental group and noncelebrity assigned group. Attitudes and beliefs of celebrity group and non celebrity group were significantly different with celebrity group having more

favourable attitudes towards the product advertised. From this it was Concluded that the celebrity figure has led to favourable change in beliefs and attitude towards the object of change which in this study was the a particular brand of softdrink.

LIMITATIONS OF THE STUDY

These results need to be interpreted bearing in mind the study's limitations , The recognition of these should help refine future research efforts . With regard to the generalizability , the findings of this study are limited to the celebrities and product endorsements tested in this research. Future research with other celebrities and products on services can shed light to the generalizability of these findings. While the sample of the present study was derived from several different sources , it still does not adhere to the strict conditions of probability sampling and such generalizations to other populations should be made with caution.

Despite the above limitations the research findings clearly demonstrate the role of celebrity on Consumer attitude & beliefs. Given the popularity of using celebrity models in advertising , the issue of celebrity spokesperson credibility should receive more attention from both advertising practitioners and researchers.