

PROLONGED DEPRIVATION PROFILES OF SCHOOL GOING ADOLESCENT BOYS AND GIRLS

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India being a developing country, a considerable section of the population fail to mobilise from adequate resources of physical, social, mental and emotional support from their immediate environment and society at large. Prolonged deprivation from said facilities affects adversely physical growth as well as mental health of a school going young individual. Extent of deprivation of four groups (Urban boys, Urban girls, Rural boys and Rural girls) of secondary level students have been measured by Prolonged Deprivation Scale (PDS) developed by Misra and Tripathy (1977). Profiles of deprivation in 15 areas of four groups of students have been analysed. In most of the cases profiles differ significantly.

From the dawn of the civilization, amongst the innumerable factors socioeconomic conditions have been playing the most dominating role in determining the individuals behavioural pattern and other interactions. So the consequences of deprivation in these conditions are numerous and as a result of this deprivation various psychological functions are hampered and causes disorganization in individual's normal life. Certain deprivations are experienced by the individual either from his/her early childhood or for a short period of time in his/her life. The former is denoted as 'prolonged deprivation' (Misra and Tripathi, 1980). More or less all social sectors of people in developing country like India suffers deprivation of basic amenities like nutrition, housing condition, clothing, educational facilities, job opportunities etc. Glyn and Miliband (1994) found that sectors with wider inequality in income have more ill-health, social stress and crime which cramp economic growth. The evidence of wider gaps in income inequality between different family types, different economic status groups, different regions have been found in several studies (Walker and Walker, 1981; Berclay, 1995; Hills, 1995; Goodman *et.al.*, 1997; Hills 1998a). Scientific study of prolonged deprivation of school going adolescents assumes special significance in the contemporary world as the prolonged deprivation ascribed for school going pupils are one of the important conditions for socioeconomic development of the country (Gupta, 1994).

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In the present investigation the aim is to study the differences of the degree of prolonged deprivation of secondary level students by gender (boys and girls) and sector (urban and rural). Prolonged Deprivation Scale (PDS) developed by Misra and Tripathi (1977) provides information regarding fifteen areas of physical, social and emotional deprivation levels of the respondents. A 15 point profile of deprivation is computed for each group. Technique of profile analysis has been implemented to examine the differences between pattern to profiles of deprivation of 4 groups of students.

METHOD

Sample

The students who appeared in first school leaving examination *i.e.* Secondary Examination conducted by the West Bengal Board of Secondary Education (WBBSE) constituted the sample for this study. Secondary schools of each of 16 districts of West Bengal were stratified in to urban and rural sectors. One boys school and one girls school were selected randomly from each of the sectors of every district with a total of 64 Bengali medium schools. Out of these schools 409 urban boys (UB), 405 urban girls (UG), 310 rural boys (RB) and 329 rural girls (RG) were selected.

Measure

Prolonged Deprivation Scale (PDS) : The Bengali version of PDS was used to measure the level of prolonged deprivation. This test has 15 dimensions with a total of 95 items with five response categories indicating very low degree of deprivation (1) to very high degree of deprivation (5) for each item. The dimensions/ areas are (i) Housing condition, (ii) Home environment, (iii) Economic sufficiency, (iv) Food, (v) Clothing, (vi) Educational experiences, (vii) Childhood experiences, (viii) Rearing experiences (ix) Parental characteristics, (x) Interaction with parents, (xi) Motivational experiences, (xii) Emotional experiences, (xiii) Religious experiences, (xiv) Travel and recreation and (xv) Socio cultural experiences. A total deprivation score can be obtained through summing up the scores in the 15 dimensions mentioned above.

Analysis

The term profile is described as plotting of scores on a battery of tests in terms of a graph or profile (Nunnally, 1978). A great many current investigations, either in Psychology or in Education, deals with profiles of test scores (Ding, 2001). In the case of a group students, plotting of mean scores (in 15 dimensions of deprivation) in a graph is identified as profile of the said group of students. A number of techniques are available to examine difference or similarity of pattern/shape between two such profiles. Researchers select a set of techniques which is suitable for their purpose. The present study examines profiles of above mentioned four groups. Difference of profiles of two groups is tested at a time. Under the present circumstances, a set of six such analysis requires to be carried out.

The present study is intended to examine three hypotheses (Harris 1975; Rencher 1995).

(i) Hypothesis regarding general level of profiles.

(ii) Hypothesis regarding Parallelism of profiles.

(iii) Hypothesis regarding flatness of profiles.

Hypothesis regarding general level H_{01} :

This provides information regarding the equality of overall means of two groups. Let μ_1 and μ_2 are vectors of means of group 1 and group 2 students respectively, then

$$H_{01} : 1'\mu_1 = 1'\mu_2 \quad \dots(1)$$

H_{01} is tested by t statistics and given by

$$t = \frac{1'(\bar{y}_1 - \bar{y}_2)}{\sqrt{1'S_{p1}(1/n_1 + 1/n_2)}} \quad \dots(2)$$

where \bar{y}_1 and \bar{y}_2 are sample mean vectors, S_{p1} sample variance covariance matrix pooling both the groups, 1 is a vector of 1 s, n_1 and n_2 are number of students in group 1 and group 2 respectively.

Hypothesis regarding parallelism H_{02} :

This is to examine whether two profiles appear similar? More precisely, are they parallel? The two profiles are parallel when two slopes for each segment are the same. If means of variable i for two groups are denoted as μ_{1i} and μ_{2i} , then hypothesis of parallelism is expressed as

$$H_{02} : \mu_{1i} - \mu_{1,i-1} = \mu_{2i} - \mu_{2,i-1}, \text{ for } i = 2, \dots, 15 \quad \dots(3)$$

or

$$H_{02} : C\mu_1 - C\mu_2, \text{ where } C \text{ is a contrast matrix} \quad \dots(4)$$

Test of parallelism T^2 is given by

$$T^2 = (\bar{C}y_1 - \bar{C}y_2)' \left[\left(\frac{1}{n_1} + \frac{1}{n_2} \right) CS_{p1}C' \right]^{-1} (\bar{C}y_1 - \bar{C}y_2) \quad \dots(5)$$

with degrees of freedom $p - 1, n_1 + n_2 - 2$.

Hypothesis regarding flatness of profiles H_{03} :

Concern of third hypothesis is to test the main effect : Are two profiles flat? Testing of the hypothesis assumes the average of the group means is the same for each variable which is expressed as

$$H_{03} : \frac{1}{2}(\mu_{11} + \mu_{21}) = \frac{1}{2}(\mu_{12} + \mu_{22}) = \dots = \frac{1}{2}(\mu_{1p} + \mu_{2p}) \quad \dots(6)$$

where p is the number of dimensions of deprivation i.e. 15.

This hypothesis is tested by T^2 and given by

$$T^2 = (n_1 + n_2) (\bar{C}y)' (CS_{PC}')^{-1} \bar{C}y \quad \dots(7)$$

with degrees of freedom $p - 1, n_1 + n_2 - 2$

Hypothesis H_{03} is important when H_{02} is found true.

RESULTS AND DISCUSSION

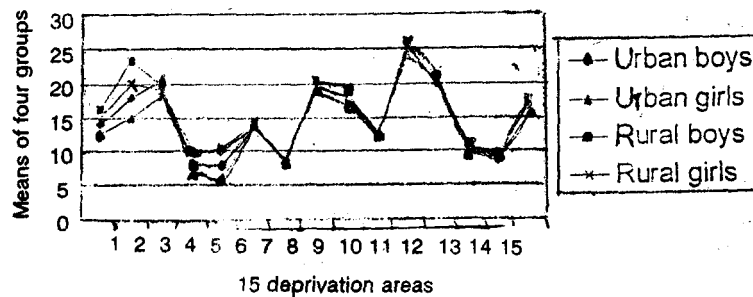
Average scores of four groups of students in 15 areas of deprivation have been presented in Table-1.

Table-1 : Shows Means of 15 Variables (Areas of Deprivation) of Students by Gender and Sector.

Deprivation areas (variables)	Urban Boys	Urban Girls	Rural Boys	Rural Girls
	(1)	(2)	(3)	(4)
(i) Housing condition	14.02	12.64	16.35	15.21
(ii) Home environment	17.95	14.91	23.40	20.08
(iii) Economic sufficiency	20.65	18.34	19.87	19.26
(iv) Food	8.09	6.82	9.94	8.19
(v) Clothing	7.83	5.90	10.45	8.08
(vi) Educational experiences	13.92	13.58	14.24	14.17
(vii) Childhood experiences	8.25	7.98	8.54	8.18
(viii) Rearing experiences	19.77	18.82	20.65	19.59
(ix) Parental characteristics	17.65	16.73	19.14	18.19
(x) Interaction with parents	12.15	11.91	11.94	12.43
(xi) Motivational experiences	25.22	23.97	26.02	26.28
(xii) Emotional experiences	20.10	20.64	21.09	21.77
(xiii) Religious experiences	10.43	9.55	11.10	10.43
(xiv) Travel and recreation	9.24	8.88	8.91	9.05
(xv) Socio-cultural experiences	16.72	15.42	17.79	17.56

Profiles of four groups corresponding to Table-1 are shown in Figure-1.

Profiles of four groups of students



Fig

It appears from Table-1 and Figure 1 that general levels of deprivation are approximately same in variables 6, 7, 8, 10, 13 and 14. The differences are considerable in the case of variable 2. Next to variable 2 the differences are considerable in variable 5. It also appears from the profiles that direction of increase/decrease in each segment are similar but rates of changes are different.

Results of profile analysis (a set of six by considering two groups at a time from four groups) regarding three hypotheses have been presented in Table-2.

Table-2 : Shows Results of Testing of three Hypotheses (H_{01} , H_{02} , H_{03}) for Each of Six Pairs of Groups.

Group	t value for H_{01} (general level)*	df	T^2 for H_{02} Parallelism*	df	T^2 for H_{03} Flatness*	df
UB × UG	7.321	812	138.66	14, 812	34829.34	14, 812
UB × RB	6.574	717	320.73	14, 717	28557.02	14, 717
UB × RG	2.628	736	163.16	14, 736	25927.88	14, 736
UG × RB	13.992	713	669.79	14, 713	33092.36	14, 713
UG × RG	10.164	732	225.44	14, 732	31095.32	14, 732
RB × RG	3.998	637	158.77	14, 637	23853.85	14, 637

It is evident from the results of Table-2 that all pairs of student groups differ significantly with respect to general level of deprivation. However, maximum difference is between urban girls and rural boys (Gupta, 2003). On the other hand minimum is between urban boys and rural girls (with respect to t value).

Each pair of profiles differ significantly regarding parallelism hypothesis (H_{02}). However, patterns of changes in each segment appear similar for profiles of all four groups. Differential rates of change in segments might have reflected in testing of parallelism hypothesis.

Simple inspection of the profiles indicates that none of the profiles is flat which is confirmed by testing H_{03} .

It is interesting to note that the rural boys indicate relatively level of deprivation in number of areas such as housing condition, home environment, food, clothing, childhood experiences, parental characteristics, sociocultural experiences etc. On the other hand urban girls are relatively fortunate in those areas.

Apparent similarity in the patterns of profiles have been rejected by rigorous testing. Students of secondary Education grouped by gender and sector differ with respect to prolonged deprivation.

*All values are significant at 1% level.

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