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## RESEARCH ARTICLE

### CORRELATION OF STUDIED VARIABLES RELATED TO CHILD LABOR IN DUM DUM MUNICIPALITY OF NORTH 24-PARGANAS DISTRICT OF WEST BENGAL

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#### ABSTRACT

The energy, genius and mental faculty of every child should be properly channelized, trained and educated for the socio economic and politico cultural growth of the country. It is also the birth right of every child, who cries for justice from every nook and corner of the globe. Child labour is a very complicated development issue, affecting human society all over the world. In the present study Job pattern, Earning potentiality, Safety and comfort aggregate, Schooling concern, Health & hygiene concern and Awareness were taken as dependent variables for child labour in the purposively selected Dum Dum Municipality. Total 110 samples were studied. Presence of owner, Residence, Gender, Age, Caste, Education of the respondent, Religion, Family type, Family size and Family educational status are the nine independent variables. In this paper mainly the relation between dependent and independent variables is shown. Spearman and Pearson's correlation method and Canonical Correlation method is used as major statistical tool. Through the study, general socio-economic and technical profiles of the respondents were studied.

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## INTRODUCTION

Children are gifts of God. They are blooming flowers of the garden. It is our duty to protect these flowers of the garden from damaging effects of excessive exposure to heat, cold and rain. So, first priority in the scale of social justice shall be given to the welfare of children. It is therefore a duty, on the part of each member of society to protect those flowers from each and every kind of damaging effect. But working children are denied their right to survival and development, education, leisure and play, and adequate standard of living, opportunity for developing personality, talents, mental and physical abilities, and protection from abuse and neglect. Child labour is therefore the work, which involves some degree of exploitation i.e. physical, mental and economic. The problem of child labour therefore, does not constitute the age of child, but its exploitation and abuse. Child labor is a universal phenomenon. From time From time immemorial child labour has always existed under different names. Poverty, unemployment, under-employment, lack of social protection, large family, illiteracy and ignorance bad habits of a family's bread earners, child as cheap labor, absence of compulsory schooling, illness,

disablement or death of wage earner in the family are some of the causes and compulsions of child labour in India and in many other countries of the world. The paper contains mainly four separate sections. While section one deals with concept of child labor; section two concentrates on brief discussion of materials and methods used for the study. The third section contains results and discussion after proper statistical analysis. The final concluding section focuses on the overall result of the paper and also offers some suggestive measures for improvement of the present loopholes and gaps by identifying areas where immediate intervention is necessary to attain the basic objective of rural development.

#### Objectives

- To study the relation between dependent and independent variables of the study on child labor- whether they are negatively or positively correlated.
- To find out relation between a whole set of dependent variable with a whole set of independent variable used in the present study.

## MATERIALS AND METHODS

Methodology is documented process for management of projects that contains procedures, definitions and explanations

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of techniques used to collect, store, analyze and present information as part of a research process in a given discipline.

#### The ten independent variables selected for the study as follows:

Presence of owner, Residence, Gender, Age Caste, Education of the respondent, Religion, Family type, Family size and Family educational status.

#### The six dependent variables selected for the study as follows:

Job pattern, Earning potentiality, Safety and Comfort aggregate, Schooling concern, Health and Hygiene concern and Awareness.

For the measurement of variables, scales already available were used. See Table 1.

**Table 1. Variables selected for the study and their empirical measurements**

Variables	Measures
Independent Variables	
Presence of owner	Schedule Developed
Residence	Schedule Developed
Gender	Schedule Developed
Age	Schedule Developed
Caste	Schedule Developed
Education of the respondent	Pareek and Trivedi (1964)
Religion	Schedule Developed
Family type	Pareek and Trivedi (1964)
Family size	Pareek and Trivedi (1964)
Family educational status	Ray (1968)
Dependent Variables	
Job pattern	Schedule Developed
Earning Potentiality	Schedule Developed
Safety and Comfort aggregate	Schedule Developed
Schooling concern	Schedule Developed
Health and Hygiene concern	Schedule Developed
Awareness	Schedule Developed

The field investigation was carried out during April 2011 to June 2011 in Dum Dum Municipality of North 24 Parganas district. The district was selected purposively for the study considering the need for availability of data and usual limitations of a student research project. From each selected wards eleven respondents were selected purposively. In this process, 10 wards were selected from Dum Dum municipality. Hence, the total sample size was one hundred ten (110). The statistical methods used included Percentage Analysis, Mean, Analysis of variance, Co-efficient of correlation/Pearson's correlation coefficient

### Correlation study

Spearman Rank Correlation, Mann-Whitney U Test, Canonical Correlation Analysis.

## RESULTS AND DISCUSSION

The results of the study are discussed in this chapter after appropriate statistical analysis. In the present survey, Different job types, Earning, Safe and comfortable job environment,

Schooling, Health and hygiene and Awareness are dependent variables denoted by Y1, Y2, Y3, Y4, Y5, Y6 respectively. Nine variables (X1, X2, X3, .... X9) related to general profile of child labour are the independent variables.

### Correlation result on the basis of Pearson's Correlation Coefficient

From Table 2 it was clearly observed how dependent and independent variables of the study correlated with each other according to Pearson's correlation method. Table 2 shows that different Job Pattern was significantly positively correlated with Religion at 1% level of significance and significantly negatively correlated with caste at 5% level of significance. The survey shows that earning potentiality was positively significantly correlated with only presence of owner at 5% level of significance. It is found that Safety and Comfort aggregate was positively significantly correlated with only age at 1% level of significance.

According to the survey Schooling concern was positively significantly correlated with only caste at 5% level of significance. But it was negatively significantly correlated with religion and age at 1% level of significance and with presence of owner at 5% level of significance. It is found that Health and Hygiene concern was positively significantly correlated with presence of owner at 5% level of significance. The score was negatively significantly correlated with caste at 1% level of significance. According to the survey Awareness is positively significantly correlated with education and gender at 1% level of significance. It is negatively significantly correlated with Presence of owner at 5% level of significance.

### Correlation result on the basis of Spearman's Rho

From Table 3 it was clearly observed how dependent and independent variables of the study correlated with each other according to Spearman's Rho Correlation method. It was found that Job Pattern negatively significantly correlated with caste at 1% level of significance. The survey showed that earning potentiality was positively significantly correlated with presence of owner at 5% level of significance and with age at 1% level of significance. It was found that Safety and Comfort aggregate was positively significantly correlated with education at 5% level of significance and with age at 1% level of significance.

According to the survey schooling concern was positively significantly correlated with only caste at 5% level of significance. But it was negatively correlated with presence of owner at 5% level of significance and with religion and age at 1% level of significance. It was found that Health and Hygiene concern was positively significantly correlated with Presence of owner at 5% level of significance and negatively significantly correlated with caste at 1% level of significance.

According to the survey awareness was positively significantly correlated only with gender at 1% level of significance. The score was negatively significantly correlated with presence of owner at 5% level of significance and with family type and family size at 1% level of significance.

**Table 2. Pearson's Correlation Coefficient**

	Job pattern	Earning potentiality	Safety and Comfort aggregate	Schooling concern	Health and Hygiene concern	Awareness
Presence of owner	-0.045	0.607*	0.146	-0.269*	0.458*	-0.326*
Residence	0.113	-0.139	0.07	-0.095	-0.114	0.062
Gender	0.098	-0.122	0.087	-0.049	0.18	0.188**
Age	0.134	0.178	0.195**	-0.196**	-0.036	-0.118
Caste	-0.249*	-0.151	-0.118	0.304*	-0.218**	0.139
Education	0.157	-0.012	0.15	0.053	0.06	0.205**
Religion	0.208**	-0.049	0.122	-0.212**	0.136	0.001
Family type	0.078	-0.044	-0.036	-0.174	0.062	-0.184
Family size	0.078	-0.044	-0.036	-0.174	0.062	-0.184

(\*P < 5% level of significance, \*\* P < 1% level of significance)

**Table 3. Spearman's Rho**

	Job pattern	Earning potentiality	Safety and Comfort aggregate	Schooling concern	Health and Hygiene concern	Awareness
Presence of owner	-0.035	0.606*	0.11	-0.277*	0.473*	-0.299*
Residence	0.132	-0.148	0.09	-0.082	-0.121	0.046
Gender	0.088	-0.144	0.071	-0.046	0.169	0.205**
Age	0.122	0.220**	0.226**	-0.201**	-0.004	-0.124
Caste	-0.241**	-0.03	-0.158	0.307*	-0.208**	0.100
Education	0.172	0.086	0.260*	-0.07	0.161	0.14
Religion	0.216	-0.098	0.13	-0.214**	0.115	0.014
Family type	0.078	-0.036	-0.038	-0.186	0.078	-0.197**
Family size	0.078	-0.036	-0.038	-0.186	0.078	-0.197**

(\*P < 5% level of significance, \*\* P < 1% level of significance)

**Table 4. Result of Canonical Correlation Analysis**

Eigen values and Canonical Correlations						
Root No.	Eigen value	Pct.	Cum. Pct.	Canon Cor.	Sq. Cor	
1	1.39	68.33	68.33	.76	.58	
2	.25	12.35	80.69	.45	.20	
3	.23	11.39	92.08	.43	.19	
4	.11	5.57	97.65	.32	.10	
5	.04	2.10	99.74	.20	.04	
6	.00	.25	100.00	.07	.00	
Dimension Reduction Analysis						
Roots	Wilks L.	F	Hypoth. DF	Error DF	Sig. of F	
1 TO 6	.23	3.00	54.00	489.00	.00	
2 TO 6	.56	1.52	40.00	421.25	.02	
3 TO 6	.70	1.33	28.00	351.16	.12	
4 TO 6	.86	.87	18.00	277.67	.62	
5 TO 6	.95	.47	10.00	198.00	.90	
6 TO 6	.99	.13	4.00	100.00	.97	
Standardized canonical coefficients for DEPENDENT variables Function No.						
Variable	1	2	3	4	5	6
Job pattern	.03	.53	.39	.08	.75	-.26
Earning potentiality	-.67	.44	-.08	-.57	.34	.47
Safety & comfort aggregate	.17	.19	.06	-.83	-.37	-.69
Schooling concern	.0990	-.34	-.76	-.16	.63	-.78
Health and hygiene concern	-.49	.50	-.78	.62	.00	-.23
Eigenvalues and Canonical Correlations						
Root No.	Eigenvalue	Pct.	Cum. Pct.	Canon Cor.	Sq. Cor	
1	1.39	68.33	68.33	.76	.58	
2	.25	12.35	80.69	.45	.20	
3	.23	11.39	92.08	.43	.19	
4	.11	5.57	97.65	.32	.10	
5	.04	2.10	99.74	.20	.04	
6	.00	.25	100.00	.07	.00	
Dimension Reduction Analysis						
Roots	Wilks L.	F	Hypoth. DF	Error DF	Sig. of F	
1 TO 6	.23	3.00	54.00	489.00	.00	
2 TO 6	.56	1.52	40.00	421.25	.02	
3 TO 6	.70	1.33	28.00	351.16	.12	
4 TO 6	.86	.87	18.00	277.67	.62	
5 TO 6	.95	.47	10.00	198.00	.90	
6 TO 6	.99	.13	4.00	100.00	.97	

Continue.....

Standardized canonical coefficients for DEPENDENT variables Function No.						
Variable	1	2	3	4	5	6
Job pattern	.03	.53	.39	.08	.75	-.26
Earning potentiality	-.67	.44	-.08	-.57	.34	.47
Safety & comfort aggregate	.17	.19	.06	-.83	-.37	-.69
Schooling concern	.0990	-.34	-.76	-.16	.63	-.78
Health and hygiene concern	-.49	.50	-.78	.62	.00	-.23
Awareness	.17	.62	-.29	-.43	-.14	.81
Variance in dependent variables explained by canonical variables						
CAN. VAR.	Pct Var DEP	Cum Pct DEP	Pct Var COV	Cum Pct COV		
1	33.22	33.22	19.33	19.33		
2	15.08	48.30	3.03	22.36		
3	14.25	62.55	2.68	25.05		
4	10.93	73.48	1.11	26.16		
5	16.06	89.54	.66	26.82		
6	10.46	100.00	.05	26.87		
Standardized canonical coefficients for COVARIATES CAN. VAR.						
COVARIATE	1	2	3	4	5	6
Presence of owner	-.97	.10	-.14	.18	-.44	-.28
Residence	-.07	.15	.50	-.39	-.45	-.23
Gender	-.09	.50	.41	.13	-.50	.50
Age	-.05	.06	.58	.38	-.17	.25
Caste	.58	.04	-.27	-.27	1.33	-.70
Education	-.08	.53	-.01	-.41	.69	-.69
Religion	.24	.39	-.04	.02	-1.13	-.43
Family type	-.12	.02	.44	.48	-.11	-.72
Family educational status	.10	-.33	.00	-.19	-.57	-.00
Variance in covariates explained by canonical variables						
CAN. VAR.	Pct Var DEP	Cum Pct DEP	Pct Var COV	Cum Pct COV		
1	6.03	6.03	10.36	10.36		
2	3.93	9.96	19.57	29.93		
3	2.50	12.47	13.31	43.24		
4	1.56	14.03	15.32	58.56		
5	.16	14.19	3.90	62.47		
6	.04	14.22	7.55	70.02		

Canonical Correlation Analysis Table 4 reveals that six canonical roots are extracted. Out of these two are significant and all these significant roots can explain 80.69 % of association between predictor and dependent set of variables.

In first canonical root in dependent set Earning potentiality and Health and hygiene concern are contrast with Safety and comfort aggregate and Awareness. Here the positively loaded Safety and comfort aggregate and Awareness are associated with Caste, Religion and Family educational status. Again negatively loaded Earning potentiality and Health and hygiene concern are associated with Presence of owner and Family type. In second canonical root in dependent set Job pattern, Safety and comfort aggregate, Health and hygiene concern and Awareness are contrast with Earning potentiality and Schooling concern. Here the positively loaded Job pattern, Safety and comfort aggregate, Health and hygiene concern and Awareness are associated with Education, Gender, Religion, Residence and Presence of owner. Again negatively loaded Earning potentiality and Schooling concern are associated with Family educational status.

### Summary and conclusion

The researcher had to face a lot of problems during survey. Interestingly, almost in all sectors the employers were aware of the law that prohibits the employment of children. Hence they worry about media attention, police case etc. They obviously were not willing at all to allow the child labor to talk with the researcher.

In few cases even when the children are allowed to interview, they are present throughout the conversation. The children said all positive aspects of their employer and workplace. Hence there was a possibility of strong bias. According to the present study, the main reasons of child labor are poverty and unemployment, urbanization, limited access to compulsory and free education. Existing laws or codes of conduct are often violated, inadequate laws and enforcement are often repressed workers' right, the global economy intensifies the effects of some factors. Study on determining the prevalence of child labor, estimating the no. of child labors employed in different sectors, examining the trend in employment of child labor, assessing and describing the nature of child labor needs to be undertaken for all sectors irrespective of rural and urban of West Bengal for further studies in future. For future study also the factors related to child labor - like the reasons for working, problems faced by the children, workplace condition, educational status as well as health status of the working children, awareness against child labor etc. needed to be studied in depth.

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