

Intelligence of Child Workers and Cohorts Attending School And an Exploratory Attempt at Educational Intervention To Child Workers

By

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C E R T I F I C A T E

This is to certify that the Thesis entitled "INTELLIGENCE OF CHILD WORKERS AND COHORTS ATTENDING SCHOOL AND AN EXPLORATORY ATTEMPT AT EDUCATIONAL INTERVENTION TO CHILD WORKERS" submitted to the Bharathiar University in fulfilment of the requirements for the Degree of Doctor of Philosophy in Child Development by Miss. T.V. YAMUNA, M.Sc., during the period of her study in the Department of Child Development, Sri Avinashilingam Home Science College for women (Autonomous), Coimbatore-43 is a bonafide record of the work done by her under my supervision from 1985 to 1988 and the thesis has not formed the basis for the award of any Degree/Diploma/Associateship/Fellowship or similar title to any candidate of any university.



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CHAPTER - I

INTRODUCTION

I. INTRODUCTION

"..... realise that destiny of our beloved land lies not in us, the parents, but our children".

- Mahatma Gandhi

Children are the nations' supreme asset. They are the harbingers of hope for the future. On the soundness of their mental and physical health depends the prosperity of India. Therefore their nurture and solicitude are everybody's responsibility (Devadas, 1987). Therefore it is essential to pay full attention to develop their mental and physical faculties in order they may become robust and creative citizens of the country (Banerji, 1987).

Epics of the Hindu religion portray the child's contribution to the family as an individual, in terms of participation in domestic chores. Young children in the families gathered fuel, fruits, vegetables, herbs and fetched water. They looked upon these activities as play, recreation and sex appropriate roles. To the crores of agriculturists, craftsmen, artisans, this tender age forms the foundation period to train and develop skills needed to pursue and master their profession.

Along with declining economic and social conditions of the century, there was a gradual but steady increase of work responsibilities assigned to children, who were considered as economic assets. These children worked along with parents and elders in their work areas.

The United Nations' Declaration of the Rights of the Child, 1975 (Principle 9), states that, 'The child shall be protected against all forms of neglect, cruelty and exploitation. The child shall not be admitted to employment before an appropriate minimum age'; he shall in no case be caused or permitted to engage in any occupation or employment which would prejudice his health or education or interfere with his physical, mental or moral development (General Assembly Resolution, 1386 (XIV)). In spite of this resolution, there are now 17.6 million children working in India (National Sample Survey). This is the largest number on this planet (Patil, 1986). According to the Census of India (1981), child work participation rate (main workers) for male children was nine per cent, and for female children five per cent in rural area; and four and one per cent for male and female children in urban areas respectively.

Poverty, unemployment or underemployment of adults are factors that drive children to work (United Nations, 1985). Ignorance leads parents to make their children work under inhuman conditions for a pittance (Bouhdiba, 1981). The earnings of the children, though meagre, help to bridge the gap between a bare subsistence and starvation (Giri, 1972) and it has become a bastion of survival of the masses, especially in towns and suburban districts of large cities. Other reasons for child labour are: large families, lack of sense of responsibility in the parents; immature parenthood or age long customs or economically overburdened parents, backwardness and breakdown of families. Illiterate parents, unaware of the value of schooling and child's education, encourage children to begin

traditional work at an early age (Dogramaci, 1985), in order to prevent them from indulging in antisocial activities (Khan, 1980 and Kulshreshta, 1978).

With no school within reasonable distance, some parents wish that their children should work to keep them occupied fruitfully. In most cases, children themselves feel obliged to work as they do very badly at school with no other alternative. Other reasons such as parental illness or death and migration are familial in nature (Mendelviech, 1980). Many schools that poorly adapt to the requirement of the societies they served, failed to provide adequate facilities for children who had fallen behind in their education to catch up contributing to child labour (United Nations, 1985). To Bequele (1985), child labour is due to poor enforcement machinery and poor labour inspection services, deterioration in employment, living standards and declining economic and social conditions.

Child workers are involved in numerous types of work. A large number of them are involved in agricultural work, the rest are in unorganised sectors (NIPCCD, 1984). Those children who are wage earners are found working in informal sectors where legal requirements such as taxes, social security, safety and health are not observed. Other concerns where children work are food, agarbathi, textile industries, tailoring, metal, wood-work shops, pottery and toy shops, shoe making, glass and construction works, tea shops, canteen/snack bars, printing press, workshops, shoe shining, hawking and

rag picking (Gathia, 1985). With fast spreading urbanization, industries in the small towns and semi-urban areas employ child workers in large numbers (News letter of the Asia Cultural Forum on Development, 1985). They include carpet, cloth weaving; beedi rolling; coir; leather and button making; match works; mica, bamboo work; waste paper reuse material such as envelope; slate pencil and brick manufacturing and host of jobs in other industries.

Most industries, being small and unregistered, make child workers work for ten hours a day and seven days a week. Work place is far from hygienic with hot, stuffy rooms that are ill-ventilated, ill-lighted and dirty. They sit on the cement floor or stand all day while working, are scolded/ beaten for slow work and for mistakes committed (Boonpala, 1986). Children who work in unregulated industries, do odd jobs and at times domestic work also. These children are openly abused (Sexena, 1968). Most of the employers seldom maintain record of the children employed. As a result, workers are underpaid inspite of overtime work input. Except for an yearly bonus, no other benefits are given to children (Kothari, 1983). Such working environment may have disasterous consequences on the well being and future of the child workers and their psycho-social development. Leisure, play and recreation are absolutely essential for healthy psycho-social development (Shah, 1985). Child workers who are deprived of educational opportunities have minimum

chances for vocational training, their physical and intellectual development gets hampered (Dayal, 1985 and Cheang, 1984). They remain unskilled labourers all their lives (Pant, 1965).

Mehta (1985) postulates the consequences of jobs accomplished in the streets in that it might expose the child to social evils such as crimes, drugs and prostitution. It is this radical transformation in the nature and forms of children's work with its concomitant harmful effects on the children concerned that makes child labour a pressing problem and a compelling cause for international concern (ILO, 1983). The effects of exertion, fatigue and overwork on the developing body is bound to hinder, counteract, retard (Challies and Elliman, 1979) or even halt growth and mental capacities (Modi, 1988). Bad working environment disturbs health, increases incidents of diseases and leads to poor working capacity (Bhargava, 1985).

Rodgers and Standings (1981~~4~~) suggest the need to study // the effect of child work on intellectual and physical development, sex roles and family structure of groups of specific category of workers. Naidu (1985) exhorts that child labour is a phenomenon which is likely to aggravate malnutrition and bad health among the child population and it is essential to study health needs of child workers in specific cottage industries.

Though there are studies done in the field, they do not pin point the impact of child labour on intelligence and social aspects of children involved in industries of specific nature. So, the present study was undertaken to explore the child labour situation in hosiery industries. This study aimed to examine specifically.

- Conditions under which children work.
- Intelligence of child workers.
- Health aspects of child workers.
- Social dimensions of child workers.
- Mothers' awareness about their child's employment.
- Possibilities to organise and evaluate educational intervention to child workers.

Limitations:

1. It was difficult to achieve optimum time for education intervention as employer was not willing to consider it as beneficial for his child workers.
2. Getting access to interview child workers and administer the Intelligence test was very difficult and demanded several attempts leading to a restricted number of final sample.

OPERATIONAL DEFINITIONS

The operational definitions for certain terms used in this study are as follows:

Cohort: Matched sample with respect to socio-economic status, age, sex and years or work experience belonging to the same cultural environment.

Child worker: An individual below 14 years old, having worked as full time worker in hosiery industry for not less than two years.

Part time child worker: An individual below 14 years, attending regular school having atleast two years of work experience in hosiery industry or related remunerative works either in the industry during vacation or at home during leisure time - every day; week ends or on holidays.

Non worker: An individual below 14 years attending regular school and never involved in remunerative work.

Industry: Refers to manufacturing units where knitted materials are tailored to make garments.

Literate: Children who had attended school for atleast two years and are able to read and write.

Illiterate: Children who are not able to read and write with or without attending school, and children who are capable of signing names only.

Workload at home: Includes all household tasks performed by the child per day and time consumed to perform the tasks.

Workload at industry: Includes all aspects related to remunerative work such as hours of work, overtime hours, distance to reach the industry, time taken, mode of transit, opinion about the distance and approach to work spot.

Working condition: Includes number of hours, days worked overtime hours and days service input referring previous day/week, distance travelled between home and industry, child's view regarding the distance and approach, mode of transit and time taken to travel.

Facility at the industry: Refers to the facility provided at working area, the physical set up and general facilities.

Social aspects: Includes type and number of play activities, friends of the samples and their status as child workers, part time child workers and non-workers.

Negative social aspects: Includes habits such as gambling, smoking and drinking.

Since the study had diversified samples, the following abbreviations were used:

Child workers	-	CWs
Male Child Workers	-	MCWs

Female Child Workers	-	FCWs
Part-time Child Workers	-	PCWs
Male Part-time Child Workers	-	MPCWs
Female Part-time Child Workers	-	FPCWs
Non Workers/School going Children	-	NWs
Male Non Workers	-	MNWs
Female Non Workers	-	FNWs
Mothers of the Male Child Workers	-	MMCWs
Mothers of the Female Child Workers	-	MFCWs

HYPOTHESES:

The hypotheses proposed in the study are enlisted below:

1. The remunerative work^{load} performed by child workers and part time child workers are equal (Sexwise).
2. Workload at home does not vary with socio-economic status, family size and ordinal positions.
3. The IQ of child workers and part-time child workers (Cohort I) are equal.
4. The IQ of child workers and non-workers (Cohort II) are equal.
5. The IQ of child workers and part-time child workers and non-workers do vary with length of service within the group.
6. The heights and weights of child workers and part-time child workers within the sex are equal.

CHAPTER - II

REVIEW OF LITERATURE

II. REVIEW OF LITERATURE

The literature available related to the theme of this thesis 'Child Labour and Intelligence' is reviewed under the following headings.

- A. Definition of child work/labour
- B. Magnitude of child labour
- C. Causes of child work/labour
- D. Working conditions
- E. Child work and health
- F. Child work and education
- G. Intelligence as related to SES and schooling
- H. Law and policy

A. DEFINITION OF CHILD WORK/LABOUR

'Child labour' signifies employment of children in gainful occupation or material contribution to the income of the family according to Encyclopedia of Social Sciences. Children's work refers to any activity done by them which either contributes to production, facilitates the work of others or substitutes for the employment of others (Schildkrout, 1981).

The National Child Labour Committee of the United States (1979) defines child labour as any work done by children that interferes with their full physical growth and development, their opportunities for a desirable minimum of education.

Kulshreshta (1978) defined child labour as employment of children in gainful occupation. This includes children working in industries, all forms of non-industrial occupations which are injurious to their physical, mental, moral and social development.

The Factories Act of 1881 defines child labourer as any person between the age of 7 and 12 years. The Factories Act 1891 raised the lower age from 7 to 9 and upper age from 12 to 14. Section (2) of the Factories Act 1948 considers that the labour contributed by the person below 15 years as child labour.

B. MAGNITUDE OF CHILD LABOUR

In 1971, there were 10.71 million child workers. They constituted about five per cent of the total labour force. The bulk of the child workers was in the age group 10-14 years with nearly 30 per cent boys and 20 per cent girls. Only three per cent of five to nine years old boys and girls were child workers (UNICEF, 1981).

The Census of India (1981), indicates that 13.6 million children being involved in work. About six per cent of the total work force consists of children below 14 years. Nine per cent of female working population were children against five per cent for males among male working force. A large

percentage of child workers were engaged in agriculture, cultivation, livestock, forestry and fishing. Of the total workers participating in household and other industries five per cent were children, about eight and three per cent were female and male child workers respectively. With these, India contributes largest child work force (UNICEF, 1984 and Gangrade and Gathia, 1983) to 55 million working child population, as estimated by International Labour Office (Dogramaci, 1985).

The 1981 census data enlists that in rural areas, the percentage, of child participation rate was four for males and two for females among literate children against 13 for males and six for females among illiterate children. While in urban area, it was seven for males and three for females among illiterates and two for males and one for females among the literates.

C. CAUSES OF CHILD WORK/LABOUR

The causes of child labour are many and varied. They are mainly rooted in inequality and poverty (Marwah, 1984; The Hindu, 1986; Verma, 1979 and Gupta, 1979 and Indian Council for Child Welfare, 1977). Children from poor families and with high fertility are compelled to join the labour force by the need to supplement the family income (UNICEF, 1984).

Children are employed because they are readily available to supplement the meagre family income (Punekar, 1977; Social Welfare, 1983 and UNICEF, 1984). According to Chan (1984) the causes of child labour are large family size and inability of parents to care for all children; lack of productive employment opportunities with minimum income for the adult household member; high drop-out rate among school children of the poor households; absence of compulsory education, inequality or absence of useful re-educational and retraining programme for drop-outs.

Patil (1986) estimated that 42 per cent of the working children were in employment due to stagnation of the child in the same class; loss of child's interest in studies; illiterate parents' desire to get children employed and trained in supposedly lucrative trades and occupations; desire to wean away the children from the influence of deviant children in the neighbourhood; child being idle at home, and the fear and threat of probable unemployment during adulthood. The study also revealed that five per cent of the child workers were in employment to become like their peers and be economically independent.

Perpinan (1986) echoes certain other reasons, viz., that children are easier to manage (Modi, 1988) and are more adept at certain jobs; do not complain against authorities and are unaware of legal rights. In addition, they can be controlled easily and made to produce more (Kanta, 1984; Burra, 1986 and Akhileshwari, 1988).

Children are active, agile and quick and feel less tired in certain tasks (Balachandran, 1986). They are the cheapest, most decile labour force available (Yoon, 1985) and the demand created by mushrooming of factories and small sized illegal industries leads to cheap and easily controllable labour. The other reasons attributed were rural poverty, lack of education at an early age, inadequate or inaccessible training institutions that compel children to enter the labour market prematurely (Udornsaki, 1984).

To Kogi (1986) unemployment and underemployment, precarious income, low living standards and insufficient opportunities for education and training are the basic causes for child labour. A study of child labour in Madras indicated that three-fourth of the child workers started working to supplement the family income, 23 per cent took up job on account of the death of their father and 17 per cent because parents compelled (George, 1977).

A study on working children in Bombay done by National Institute of Public Co operation and Child Development (1978) revealed that children were employed because they were quick and efficient (21%); more amenable to discipline (13%); better suited for some type of jobs (13%) and cheap labour (9%). Khan (1980) and Chickavenkateshaih's (1982) study revealed that the percentage of children employed was directly related to family income levels, with the highest percentage in lowest income group.

D. WORKING CONDITIONS

Children employed in some of the unorganised industries work in ill-ventilated and overcrowded places under very unsanitary conditions (Giri, 1972; Sexena, 1968 and Prasad, 1982). Working place in match industry was appalling, says Kothari (1983). With cramped space, filthy floor and no ventilation (UNICEF, 1984) child workers were forced to work in unsuitable environments (Pitt, 1985) dangerous to their health, physical and mental development (Bequele, 1985). Review of studies on working environment under which children were expected to work in developing countries revealed that work place in Thailand were unhygienic, hot, stuffy, poor lighting and ventilation (Boonpala, 1986). Anti Slavery Society (1979) has reported that children in Hong.kong worked in overcrowded, under-ventilated and fire risk environment. A study in Kaula Lumpur (Chan, 1984) found children working in rooms which had poor ventilation and unsanitary environments.

Children work for almost 12 hours a day in match and fire works industries in cramped environment with hazardous chemicals and inadequate ventilation (Kothari, 1983 and Akhileshwari, 1988). In beedi industries, children of 8 to 12 years of age and sometimes even those between five and eight years put in long hours (UNICEF, 1984). Study on children of rural Karnataka exhibited the extent and nature of work done by its children. Children spent on an average

four hours a day, whether household work or direct productive work. The contribution of work increased with age (Kanbargi and Kulkarni, 1985).

About 31 per cent of children employed as factory workers mechanics, construction workers and weavers were putting in 10-11 hours of work per day (Anti Slavery Society, 1979). In power loom industry children worked for 16-24 hours (Barse, 1985), 12-15 hours in Aligarh Lock Industry (Burra, 1988), it was eight hours of work for children in Firozabad (The Hindu, 1987). Juyal (1987) reports that children in carpet industry worked for 9 to 12 hours a day. According to Kaur and Dillon (1987), mean hours of labour input was nine in Faridkot District. About 40 per cent of child workers studied in Bombay were putting in 12 hours per day (Mehta, 1985). Children working in Delhi spent about 10-12 hours a day (Indian Council for Child Welfare, 1977).

Studies done in developing countries also reveal similar working hours; Felsonthat (1985) reports that in Nepal children worked for 14 hours a day; in Taiwan, it was 12-14 hours (Bouhdiba, 1981), about 12-15 hours in Thailand (Child-Workers in Asia, 1987); a Bangladesh study revealed that children working in brick chip making worked for 12 hours a day (Nessa, 1987); child workers in Sri Lanka (Weeramunda, 1982) worked for 8-12 hours per day; studies in Hong Kong disclosed that 11 per cent of the work force

regularly worked for more than 75 hours a week; study on child labour in Columbia revealed that 40 per cent of children work 9 hours a day and 25 per cent - 13 hours a day (Anti Slavery Society Report, 1979).

A study done in Madras (George, 1977) revealed that 83 per cent of child workers received less than Rs.60/- per month. Children employed as factory workers, mechanics, construction workers and weavers received wages below Rs. 15/- per week (Anti Slavery Society, 1979). According to Balamani (1981), children working on 'piece rate' in hosiery industry received an average wage of Rs. 46 per week, while 'time rate' workers received Rs. 36 per week. The earnings of child workers was Rs. 15 in Calcutta (Sinha, 1988). In Eluru, child workers with 6-12 months experience in foundaries, smithy units and automobile shops earned Rs. 1.50 - 2 per day, while an experienced child earned Rs. 5/- per day (Jayaram, 1987).

The average earning of younger child (below 10 years) was Rs. 2/-, for an older child (above 10 years) it was Rs. 6-7 per day in Sivakasi match industry, according to Kothari (1983). Children performing beaming and spindling work in Bhiwandi power loom industry earned about Rs. 75-150 per week (Barse, 1985). In Faridkot District, child workers contributed about Rs. 15-45 per week to family income (Kaur and Dillon, 1987) and about Rs. 30 by Firozabad working children (The Hindu, 1987). The results of a recent study

in lock industry of Aligarh indicated that an average wage of a child without any experience was Rs. 12 and of an experienced child was Rs. 30-40 per week (Burra, 1988).

Some of the studies done overseas indicates the wage pattern as given hereunder. In Santiago, the income earned by children varied from \$1-3 per day and received not more than \$ 7 per week (Mendelievich, 1980). Weeramunda (1982) from Sri Lanka reported that the child workers there had an average income of Rs. 15 per day. Children of South Taiwan earned about \$ 12 per week (Bouhdiba, 1981). In Thailand, children earned about one third of an adult wage (US \$ 1) per day (Child Workers in Asia, 1987) amounting to about US \$ 7-15 per month (Boonpala, 1986). A Bangladesh study (Nessa, 1987) revealed that children involved in rickshaw pulling and brick chip making earned US \$ - 1/3 per day. Felsonthat (1985) reported that the child workers in Nepal involved in construction and portering earned about Rs. 20 per day.

On the whole, child workers in India and other developing countries work under environments that can be detrimental to health, toil for long hours and earn a very low wage.

Type of work done by child workers ;

In the developing countries child labour is most common in agriculture, in service and in industries. In agriculture, children either work on family plot or work for others.

They begin work with very light tasks and gradually progresses to heavier work (Castillo, 1985). In urban sector, children work in services - cleaning shoes, guarding parked vehicles, loading and unloading goods, carrying messages, selling magazines, food, lottery tickets and other goods; serve in tea/snack bars and also as domestic workers. Children are found working in cottage/small scale industries involved in packing, glueing, sorting, labelling, food industry, textile, tailor, leather, metal, pottery (Mendelievich, 1980), match works, stone breaking, brick kiln, automobiles and traditional handicraft (UNICEF, 1984), machine minding factories, rubbish collection (Shah, 1985), zari, carpet making and brass ware (NIPCCD, 1984). In small industrial enterprises in Taiwan children join up computer wires, weave sweaters, sew foot wear and implant hair on doll's head (Bouhdiba, 1981).

The activity pattern between male and female labour was broadly similar (Seal, 1980). In some sectors where the task requires skill, differences of sex have no influences on the jobs undertaken by children of both sexes employed on the sole criterion of personal ability (Gathia, 1985).

On the contrary, greater household work by girls and greater productive work by boys have been the trend in India. As for the time spent on work, girls put in longer hours than boys (Kanabargi and Kulkarni, 1985). The latter could be explained by the fact that relatively fewer girls go to

school as compared to boys. A study conducted in Nepal indicates that girls aged 5-9 do more domestic work and child are; participate in more conventional economic work in live stock and farm activities than boys; they worked for mean three hours per day and boys, two hours per day (Yoon, 1985).

Age at which children begin work :

The age at which children begin to work depends on tradition, the size of the undertaking and whether or not it is a family concern. Children may be apprenticed to a craft when they are six or seven years old. The higher the age group, the greater the proportion of children in that age group who go out to work. Thus most working children are between 13 and 15 years age group. The intensity and the duration of the work they perform increases as the years go by. In many regions a large number of children aged between 11 and 13 begin their working life (Ghai, 1985). A study on Bangalore 600 working children employed in various occupations, revealed that 65 per cent were in 10-12 years age group (Patil, 1986). A study by Chan (1984) on Kaula Lumpur child workers showed that 75 per cent of them belonged to 12-14 years age group. In Bolivia (Columbia), of all children aged 12-14 years those in full employment represented seven per cent in 1951 and 19 per cent in 1973 (Anti Slavery Society, 1979). The age of the female domestic servant hired varied between 9-10 years, 25 per cent of children began working between 6-9 years, 48 per cent between 10-12 years

and 27 per cent between 13-15 years, as revealed in a study by Singh, et al. (1978).

E. CHILD WORK AND HEALTH

Early enrolment to work has negative effects on the health of the child workers as findings of a study quoted by Rasagam (1987) on 500 school age children who had worked in carpet weaving industry for not less than six months and school going children (control group) indicate the heights and weights of school going children were better than working children.

A longitudinal study on 738 boys and 742 girls belonging to 12-18 years from rural Hyderabad pointed out that those with severe growth deficit in height for age at five years had significantly lower work capacity and earned less than others with normal growth at the age of five (NIN, 1980) and also had lower heights and weights during the study period (Satyanarayana, 1986).

A cross sectional survey on physical, health status of 863 males and 163 females employed in unorganised sector where 500 non-working school attending children formed control revealed that, when heights for age were compared with Harward Standard, about four per cent and 37 per cent of the working children were severely and moderately malnourished respectively. The proportion of the working children in

normal category decreased with increase in age. Nutritional status of female working children was significantly different from non-working female children, in that 33 per cent of the female child workers were in severe/moderate category against 16 per cent of their counter-parts (Naidu and Parasuraman, 1986).

According to Gopujkar and Dhole (1980), 86 per cent of child workers they studied did not possess good health and no difference between boys and girls with respect to their health was noted. However, more girls than boys were reported to have suffered from short duration illness. Eighty five per cent of parents perceived that their working children were healthy. Girls were perceived to be healthier than boys. No sex differences were found in the utilization of preventive measure like vaccine. Most of the parents of scrap collecting child workers complained of adverse effect of work on the health of their child, followed by those of casual and sales workers (Singh et al, 1976).

Rajmohan (1986) studied 200 children belonging to 11-18 year age group working in match industries and a control population of similar group with mean age 15 and 14 respectively. Total morbidity was 93 per cent in the experimental group and 75 per cent in the control group. Male group morbidity was 93 per cent, male control was 83 per cent, among females 93 per cent for experimental group whereas 71 per cent in controls. He concluded that total morbidity

detected among the study population was significantly higher than the control at all age groups.

Clinically, 56 and 42 per cent of school and working children respectively had no nutritional defects. The main health complaints of the working children were headache, blurring of vision, backache, abdominal pain, limb pain and respiratory tract infection as quoted by Rasagam (1987). A study done at Kenya on domestic child workers, revealed problems such as frequent headache, tiredness, frequent cries and sleep problems (Onyango, 1985).

Some of the features that lead to major health problems were excessive noise, hot, damp or dusty conditions, unhygienic conditions at work place, lack of running water, toilet facilities (Pitt, 1985) and lack of rest (Costa, 1988). Improper posture of the children while working developed deformities of the spine and pelvis (Manoharan, 1986).

As early as 1910, Mangold had observed that girls who were compelled to stand for hours at a time, besides acquiring flat-foot, placed excessive strain upon certain muscles. Constant sitting or standing or working in the same position prevented full and free development of the chest. He further stated that though at times children do not appear to be affected from factory life, they reap the results later.

F. CHILD WORK AND EDUCATION

According to recent ILO estimates, only a third of the children in 5-14 years old age group are admitted into schools. A large proportions of dropouts and irregular attendance were common feature. The general picture that emerge appears to be a very grim one for school children in the rural areas, lack of adequate facilities in schools; long distances to get to school and non availability of food. School leavers of free education are barely on the threshold of literacy, without any hope of following it up at a later stage (Ghai, 1985). NIPCCD's (1978) study of working children in Bombay listed the reasons for school drop-outs as parents inability to meet school expenses (30%); death/disease of parents (12%); pressure of household chores (7%) and lack of interest in studies/ill treatment by teachers (35%).

A nationwide study of 442 Public Schools' investigation on drop-out problem brought forth the main reasons such as parents being not able to bear education cost; requiring help in family chores; schooling not being useful; students being malnourished; migration; children having felt that they were too old; frequent non-attendance; illness and accidents (Khan and Berstecher, 1988). Several studies (Khan, 1984, Patil, 1986 and Krishnakumari, 1985) on child labour have pinpointed these reasons as factors leading to child labour. Balasuriya (1986) describes episodes of children not being able to study because the parents needed

them for work at home or elsewhere to augment the family income; parents not being able to afford lack of suitable school for the children.

It is neither the cost of education nor the conservative outlook of the parents that is the primary cause of the significantly lower percentage of female enrolment; rather, it is the family dependence on the girl's labour at home and in fields (Acharya and Bennet, 1982).

School attendance and child labour were related to each other. There was also a clear correlation between enrolment at school and decline in the volume of Child Labour (UN, 1985). It would contribute to prevent the exploitation of child labour, if educational system puts more emphasis on the development of those skills which, were likely to improve the child's future earning prospects.

Ghosh (1986) conducted a welfare programme for child workers in Calcutta. He opened 12 holiday schools and 3 part time classes that functioned only on Saturdays and Sundays. Totally 600 children were enrolled. Free books, educational aids, art lessons were given. Every child was given a glass of milk, 2 slices of bread; occasionally a fruit or sweet was given to children. Health care and medicines were provided. They were taken out on few field trips. Parent-teacher meetings were conducted. It was found that about 75 per cent were regular.

Part time classes between 7 and 10 p.m. were conducted by 201 men and 62 women teachers to 3,573 child workers in 5 project areas in Pune District for two years. The outcome showed that more girls than boys attended; pupils required an year to absorb good manners and self assurance; with 400-500 days attendance 38 per cent of the children attained highest level in languages; with 260-330 days of attendance most of the children could write simple descriptive paragraph and do oral arithmetic. In one year all children could read and write upto 100. Most children mastered additions and subtractions in about 300 learning days. Only 50 per cent managed multiplication and division with 260-330 days of attendance. About 24 per cent dropped out with reasons such as disinclination to continue, or indifference to parents, early marriage and migration of families (UNICEF, 1987).

A non-formal educational programme for children working in some Match Industries in Tamil Nadu was conducted for two hour sessions between working hours. Only 900 children were benefitted from this programme (Kothari, 1983). The instructor further reported non co-operative attitude of employers towards the programme.

G. INTELLIGENCE AS RELATED TO SES AND SCHOOLING

According to Thorndike (1913), there were three kinds of intelligence namely, the abstract, the machanical and the social. Terman (1916) defined intelligence as the ability to think in abstract terms.

In the words of Stoddard (1943), intelligence is the ability to undertake activities characterized by difficulty, complexity and abstractness and to perform these activities with economy or speed and with adaptiveness to a goal. Intelligence is the global capacity of the individual to act purposefully, to think rationally and to deal effectively with the environment (Wechesler, 1958). Cattall (1963) has suggested fluid and crystallized intelligence and capacity to perceive things and integrate them mentally and crystallized intelligence involves skills, abilities and understanding. Guilford (1967) envisioned an intellect model of 120 mental abilities made up of all combinations of operations, contents and products. It is the ability to benefit from experience, to learn new ideas or new sets of behaviour easily (Conger, 1977).

McCandless and Trotters (1977) believed that intelligence as an ability to process information efficiently, recall knowledge quickly and solve problems accurately regardless of the information or the specific problem involved.

Sternberg (1982) proposes intelligence to be viewed in terms of information processing components such as meta, performance, acquisition, retention and transfer components. He has summerised the concept of intelligence as a large part on ability to acquire and think with new conceptual systems and to solve novel kinds of tasks. To Mussen et al. (1984), intelligence is a general competence - the

ability to learn a wide variety of intellectual skills such as verbal, numerical skills, ability to remember numbers and the ability to produce many solutions to anagram problems. Intelligence is a general ability that crosses many cognitive domains. According to Bhatia (1976) concept of intelligence symbolizes the totality of the cognitive functioning of the human mind in its various aspects and at its various stages.

From these definitions, it can be said that the basis of all Intelligence and all definitions of Intelligence, - the capacity to analyse and synthesize experiences.

SES and intelligence:

The concept of social disadvantages or low Socio-Economic Status (SES) implies those socio-genic factors which obstruct or prevent the natural development of the inner potentialities of the child. Social disadvantage is a deprivation and a handicap. It maims and mutilates the child, physically as well as mentally stunts his growth, hampers his/her talents and deprives him/her of self fulfilment. Singh's (1978) study reveals that the greater the degree of social disadvantage, the lower is the intelligence and the more inferior is the academic achievement. This social advantage/disadvantage consists of four factors namely income, caste status, sex and place of residence.

Jachuk (1984) investigated the differential ability pattern of advantaged and disadvantaged children with respect to level I (cognitive) and level II (associative). Abilities of Jansen models, home environment and caste were taken as indicators of social advantage and disadvantage. The sample consisted of 60 Brahmin and Harijan primary school children from poor or enriched home background. Results indicated significant differences between socially advantaged and disadvantaged samples in level II abilities only. Both home environment and caste effects were significant.

Mohanty (1980) studied 200 socio-culturally advantaged and disadvantaged 3rd and 4th graders. The performance of socio-culturally advantaged samples on all measures of socio-culturally advantaged tested was significantly better than those of their disadvantaged counterparts and this difference increased with age. Similar results were confirmed by Sans (1982).

Walker (1985) in his study of 188, 4th grade boys, belonging to low and middle SES groups found that the latter outdid the former on all subtests given. Basavanna and Rani (1984) based on their study of differential impact of social and economic disadvantages on intellectual abilities concluded that neither social nor economic handicap has a significant impact on basic intelligence.

Jehan and Ahmed (1980) studied intelligence of advantaged and disadvantaged children and found mean IQ of advantaged group much higher than the disadvantaged group. Parental education, occupation, income and living condition played a significant role in determining intellectual development. A study of 32 male and 28 female of high and low SES attending 3rd - 5th grade were given recall test. Results showed that cultural deprivation had a direct impact on the memory process and clustering ability (Hota, 1983).

Prakash and Sen(1986) examined the relationship between intellectual ability and socio-cultural background of 100 privileged (Caste-Hindu) and 100 under-privileged (Scheduled Caste) school children aged 10-15 years. The under-privileged scored significantly higher although there was no significant difference agewise between the groups. The most consistent finding of research on group differences was a positive correlation between IQ and SES. Higher Average IQ of children in higher social class have been the rule in these studies (Aiken, 1982).

Children from large families generally perform poorly on intelligent tests than their counter-parts from small families (Marjoribanks, Walberg and Borgen, 1975) and the first born siblings often have higher IQ than siblings born later (Zajonc and Markus, 1975). Several studies (Belmount and Moralla, 1973; Kallaghan and MacNemra, 1972 and Zajonc, 1972) have confirmed the older finding that mean intellectual ability declines as family size increases. They believe

that the quality of interaction among family members is one of the most important influences on children.

Family size may operate on intelligence at a biological level such as maternal health; at a cultural level - by deciding how much adult time is available for the children, what facilities and opportunities for play, recreation and stimulation are provided (Kirman, 1976; and Butcher 1968)

Munroe and Munroe (1983) studied the birth order effects on a sample of 1413 male high school students in rural Kenya. Variation from monotonicity included a reversal of the performance of ranks 1-3 over lower ranks and poor scores for those at ranks seven and lower. Family size was unrelated to test score performance. Samples in birth order 1-3 reported greater parental demands and maternal attributes to socio-cultural factors, that may have affected the quality of samples' intellectual environment.

Kirman (1976) and Butcher (1968) concluded that inverse relationship between birth order and intelligence could be due to parents spending more attention to their first child and that as the family size increases standards of living and opportunities will be reduced.

Schooling and Intelligence :

A great number of drop-outs than school-goers were Below Average in intelligence as shown by an investigation of Conger

(1977). One third of drop-outs and 10 per cent of school goers had IQ scores below 85, 15 per cent of drop-outs and 11 per cent of school-goers fell in 85-89 range. In contrast, 48 per cent of drop-outs had Average IQ (90-109) and six per cent had Above Average scores. These indicated that children with higher levels of intelligence continued schooling. However, intelligence level per se was not a decisive factor in many cases of dropping out of school. School difficulties, both academic and social, played a prominent role in the histories of most drop-outs. The typical drop-outs even though of average IQ, were two years behind in reading and arithmetic by the time they reached the seventh grade. It was found that performance grades of early drop-outs were significantly lower than later drop-outs.

Weiss (1980) studied literate and non-literate adults and their 13-16 year old sons who had 4-6 years school experience. Results showed considerable difference between non-literate elders and their sons in performance scores and the manner of executing tasks. It is suggested that a few years of schooling was sufficient to produce fundamental changes in cognitive strategies measured by the maze performances.

A study by Wu (1985) on the effect on intelligence of 42 first graders and 44 fourth graders included administration

of a series of problems as a means to arouse brain activity. These children were asked to solve one problem within 10 minutes each morning for 64 days, 43 first graders who did not participate in the event was taken as control group. Results indicated that mean IQ of the experimental first grade class increased by five points and that of the experimental fourth grade group increased by six points while the mean IQ of the control group remained the same. Thus reflecting stimulation to exercise brain activity increased the IQ.

Rutter (1985) reviewed school influences on cognitive development and concluded that what is needed for optimal cognitive development is a combination of active learning experience that promote cognitive competence together with social context in which the styles of interaction and relationships promote self confidence and an active interest in seeking to learn independently of formal instruction.

Minton and Schneider (1980) found difference between males and females on specific cognitive, perceptual and motor abilities. Females tended to be superior to males in verbal fluency, reading, comprehension, finger dexterity and clerical skills. Males tended to surpass females in mathematical reasoning, visual-spatial ability and speed and co-ordination of large body movements.

Wattanwaha and Clements (1982) studied 1201 male and 1145 female 7th - 9th graders for their spatial tasks. Analysis revealed that at each grade level, males significantly outnumbered females on 25 of 72 occasions and on no occasions did females significantly outperformed males. Sandu (1984) studied 505 male and 481 female children in the age level 12-15 years. The results indicated that boys performed better than the girls and all performances improved at each successive age level except 15 years. A study of differential intellectual functioning of 491 male and 508 female 7-18 year olds revealed that in terms of the coefficients of congruence of the principal axes, no dependence on sex was found (Lugomer and Zarevski, 1985).

H. LAW AND POLICY

There are several constitutional and statutory commitments to the abolition of child labour. The Indian Constitution incorporates several features in its provision for labour legislation. Article 24 of the Constitution stated that "No child shall be employed to work in any factory or mine or engaged in any other hazardous occupation". And article 15 also allows the Government to make special provisions to protect women and children.

The Directive Principles for State Policy Article 39 states that - 'the tender age of children should not be abused and citizens should not be forced by economic necessity to enter avocations unsuited to their age and strength. The policy

also directs that children be given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth be protected against exploitation, moral and material abandonment'. While Article 45 directs the state to ensure compulsory education for children below 14 years of age, Article 47 requires the state to raise the level of nutrition and standard of living of the people.

There are several Acts passed to curtail child labour. The five Acts concerning child labour in industries are the Children (Pledging of Labour) Act, 1933; The Employment of Children Act, 1938; The Apprentices Act, 1961; The Factories Act, 1948 and The Minimum Wages Act, 1948.

The Children (Pledging of Labour) Act, 1933 prohibits making agreements to pledge the labour of children below 15 years of age and the employment of children whose labour has been pledged under such an agreement. Such employment carries penalty of maximum fine of Rs. 200/-.

The Employment of Children Act, 1938 regulates the employment of children in certain industrial jobs. For contravention of provisions of this Act, punishment prescribed is simple imprisonment extendable to one month or fine upto Rs. 500/- or both.

The Minimum Wages Act, 1948 provides for the fixation of minimum wage rates for specific age groups and apprentices. It prohibits employment of children in Mines.

The Factories Act, 1948 which applies to establishment, with more than ten workers with power, or twenty or more workers without power. It specifies need for fitness certificate and that working hours should be 5 hours within a shift, with half an hour rest interval for children below 14 years. It stresses that no overtime and night work to be assigned to them. The Act lays down penalty for using false certificate of fitness or a certificate granted to another person and imposes a penalty of fine upto Rs. 50/- on a parent or guardian for permitting double employment of a child.

The Apprentices Act, 1961 provides for the regulation and control of training of apprentice in trades and for matters connected therewith. It restricts engaging persons below 14 years as an apprentice or to undergo apprenticeship training in any designated trade. In spite of these legal and constitutional provisions, child labour is widely prevalent in many industries.

Keeping in view the fact that immediate ban on child labour is not feasible, Government of India adopted The Child Labour (Prohibition and Regulation) Act, 1986. This prohibits employment of children in railway premises and port limits. The Act prohibits child's employment in Beedi making, carpet weaving, cement manufacturing, cloth printing, dyeing and weaving, manufacturing of matches, explosives and fire works, mica cutting and splitting, shellac and soap manufacture, tanning,

wool cleaning and building construction. However, it does not apply to a workshop wherein any process mentioned above is carried on by the occupier with the aid of his family. In order to safeguard children against exploitation, the Act specifies hours and periods of work, maintenance of record/register by the employer. On violation of the Act, individual shall be punishable with imprisonment for not less than three months, which may be extended to one year or fine which shall not be less than Rs. 10,000 which may extend to Rs. 20,000 or both.

As for the efforts made by the government of India towards the welfare of child workers much could be said. In 1983/84 the Ministry of Labour in collaboration with the ILO and UNICEF set up various projects in Sivakasi such as midday meals and pump sets for water. Central team from the Labour Ministry, Delhi visited Sivakasi in 1985, they found the projects not successful as there was no legal provision to force the employer to co-operate with these schemes and enable the children to benefit from them. Any pressure on the employer resulted in the child losing his job (Reddy, 1986).

The Ministry of Labour launched Rs. 13.89 crore National Child Labour Project with objective to raise the level of family income; give non-formal education; provide better health care to child workers; improve conditon of work and provide one meal a day (The Hindu, 1986).

The Government of India (1987) announced three point national policy on child labour to prevent exploitation of children and rehabilitate them after withdrawal from prohibited employment. The three points are - legal action plan, focussing of general welfare and development programme on child labour and their families.

A National Child Labour Programme (NCLP) was proposed to be launched in ten selected areas they are Match Industries in Sivakasi, Tamil Nadu; Carpet industry in Mirzaput-Bhadohi, U.P. and Jammu & Kashmir; Slate industry in Markapur, A.P. and Mandsaur in M.P.; Glass industry in Ferozabad, U.P.; Brass ware industry in Moradabad, U.P.; Diamond polishing industry in Surat, Gujarat and precious stone polishing industry in Jaipur, Rajasthan (Indian Express, 1987). Out of these ten areas, the first project has been taken up in Sivakasi for which the Government has released about Rs. 5.98 lakhs grant-in-aid. Long term objectives of this project are to eliminate child labour from match industries and protect children from exploitation. Short term objectives are to raise the family income level of the child workers by covering the families under poverty eradication programme; provide nonformal education; provide better health care to the child workers; improve the nutritional level by providing one meal a day and raising the general awareness and social consciousness of the people of that area (The Hindu, 1988).

A 50 per cent surcharge on match industry to raise funds for an integrated welfare programme for child labour has been mooted. The amount would be half a paise more per box. But the revenue thus raked in would be huge and would be exclusively used for programmes meant for the removal of poverty of child labour (Indian Express, 1986).

CHAPTER - III

METHODOLOGY

III. METHODOLOGY

This study has two different facets, the first being eliciting intelligence of child workers and cohorts attending school and the second being an exploratory attempt at educational intervention to child workers. The methodology followed for the first part was as follows:

- A. Settling the universe of the study
- B. Sample selection
- C. Preparation of tools
- D. Data collection
- E. Data processing and interpretation
- F. Organising and conducting educational intervention

A. SETTLING THE UNIVERSE OF THE STUDY

The Hosiery industries in Tirupur numbering 1614, registered under District Industry Centre (DIC), Coimbatore formed the frame of this study.

B. SAMPLE SELECTION

Following Systematic Random Sampling (Gupta, 1982), three per cent of the total number of registered industries, which numbered to 48, were selected (Figure -1).

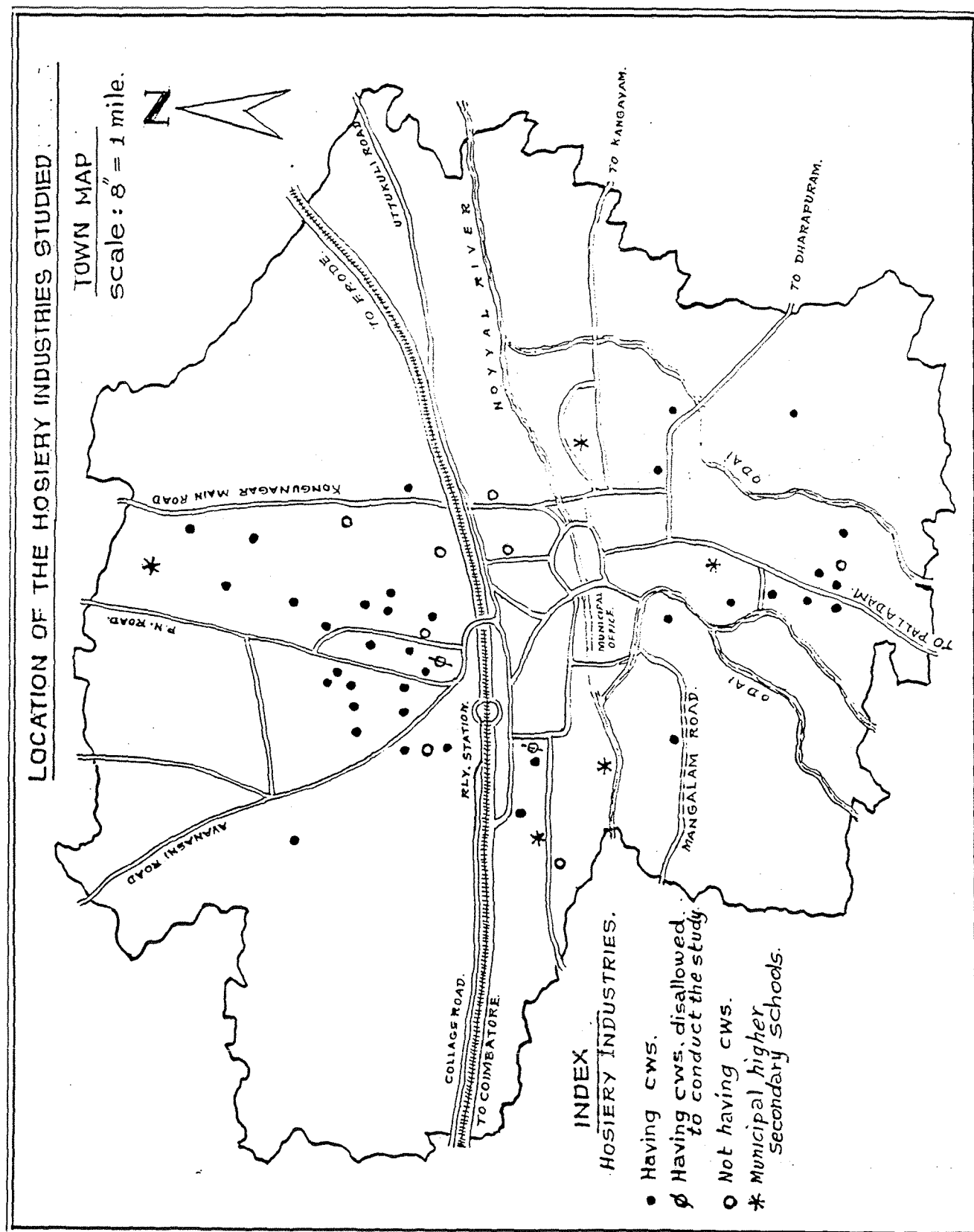


Figure-1

The Child Workers (CWs) who formed the core sample of the study were drawn from these 48 industries based on the fulfilment of the following criteria:

- The CW should have not less than two years of work experience in one or more industry.
- Since most of the Legislative Acts term children working below 14 years as child workers, it was decided that they should be below 14 years age range and since studies indicate the average age of a child worker as nine, the lower limit of the samples of age was kept as 11 years.
- One boy and/or one girl satisfying the above criteria to be included in the study from each industry.

The details of the hosiery units considered for this study were as follows:

1. Industries having FCWs:	36
a) Satisfying criteria	32
b) Not satisfying criteria	4
2. Industries having MCWs:	38
a) Satisfying criteria	36
b) Not satisfying criteria	2
3. Industries having CWs that denied permission to conduct the study	2

4. Type and number of industries

without CWs:	8
a) Knitting fabricating units	5
b) Cutting and packing units	2
c) Steam calendering unit	1

The sample for this study were drawn from the units having FCWs and MCWs, as detailed in Figure - 2.

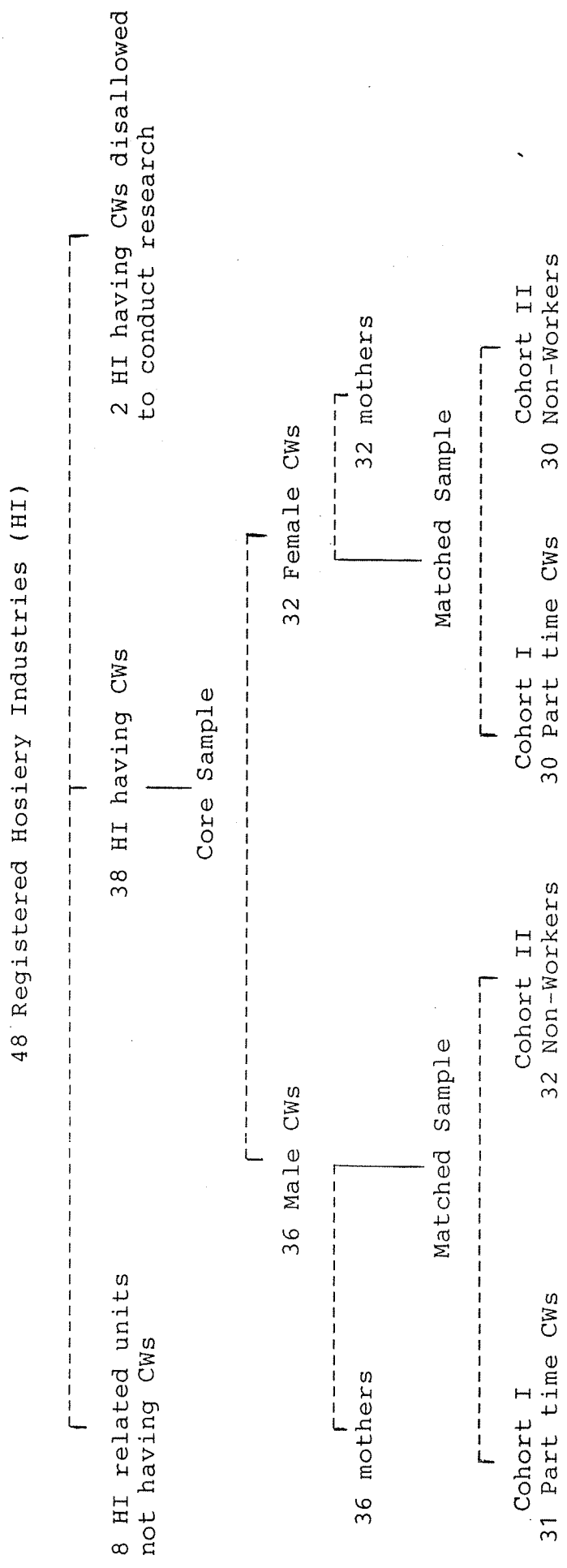


Figure - 2
SAMPLE SELECTION

Among the 48 industries selected, eight units did not have CWs, as work undertaken by these units did not require them and two industries refused permission to conduct the study. Thus, 38 industries having the CWs were chosen. Among them, 31 units contributed one boy and one girl satisfying the investigator's criteria, while five units contributed each one MCW, one unit provided one FCW. As seen in Figure - 2, 68 CWs (36 MCWs and 32 FCWs) formed the core sample of this study.

Cohort I:

Against the core sample CWs, Cohort I comprising of PCWs were selected by matching the sample with respect to SES, age and sex. However, the following points were considered in selecting the PCWs.

- The difference between the age and SES of a PCW and of a CW should not be more or less than three points.
- The length of service of the PCW should be the same or very close to that of the CW.

Statistical appraisal ('t' value = 0.1796) revealed the difference between the CWs and Cohort I as insignificant proving the correct matching between the two groups.

Cohort II:

The Cohort II consisted of NWs (school going children). The criteria set for selecting this group were the same as those of Cohort I but for the length of service.

The 't' values derived were 0.1356 and 0.5982 between the CWs and Cohort I, and between the Cohort I and II respectively indicating the comparability of the two groups.

The Cohort I and II were drawn from Municipal Higher Secondary School, Tirupur. The matched sample for children with age eleven plus, twelve plus and thirteen plus were drawn from sixth, seventh and eighth standards respectively avoiding the children repeating the same class.

Only mothers of the 68 CWs were approached to elicit background information and their awareness of child's employment, as the fathers were not easily available.

C. PREPARATION OF TOOLS

Taking into consideration the information gathered and experiences gained by the investigator during visits to hosiery industries, informal conversation with CWs; employers/contractors; school teachers and local residents, in order to elicit information from the CWs and their parents and Cohort I, a set of interview schedules were formulated. The tools developed were pretested on 10 per cent of the selected samples. The final set of tools were evolved based on the outcomes of the pretest.

The tools thus developed to study the different selected facets, methods followed to collect data, respondents and scores allotted were as under:

<u>Appendix No.</u>	<u>Aspects studied</u>	<u>Tools</u>	<u>Respondents</u>	<u>Maximum Score</u>
I	General family information	Interview schedule	CWs, Cohort I and II	..
II	Socio-economic status	a. Interview Schedule for illiterates b. Questionnaire for literates	CWS Cohort I and II	30 30
III	Working condition, facility at industry, workload at home, workload at industry, discipline	Observation-cum-Interview Schedule	CWs	39 17 34 81
IV	Schooling and education	Interview Schedule	CWs and Cohort I	..
V	Intelligence of children	Bhatia's Battery of Test of Intelligence	CWs cohort I and II	95
VI	Health Status a. Health problems and complaints b. Height c. Weight	Interview Schedule Flexible steel measuring tool Slide balance	CWs and Cohort I	..
VII	Social aspect, recreation and aspiration	Interview Schedule	CWs and Cohort I	..
VIII	Mother's awareness about Child's employment	Interview Schedule	Mothers of CWs	..

The basic details of the family such as religion, caste, type of family, age, educational, vocational status of parents and siblings; total family income; literacy level; length of service; type of wage; wage earned by the CWs and PCWs were elicited through an interview schedule (Appendix I).

The socio-economic status scale by Vendal (1981) developed on Coimbatore sample was modified so as to suit the cultural set up to which samples belonged in this study. This was used to assess SES of the children of this study. The aspects considered were parents' education and occupation total family income, number of persons in the family, family's possession of a house, cycle, chair and radio. The maximum total score attributed to this aspect was 30 (Appendix II).

Intelligence of children

A suitable test of intelligence, according to Bhatia (1955) is that it should test the cognitive mind, the power to 'grasp relations' or the 'capacity for abstraction' under appropriate circumstances together with and through the medium of such other cognitive mental activities as are natural to the social and cultural environment of those for whom the test is meant.

To assess intelligence of the three selected groups Bhatia's Battery of Performance Test of Intelligence (Bhatia, 1955) was used for the following three reasons:

1. It is time-bound, non-verbal performance test viable for use among both illiterate and literate samples.

2. This is the only performance test having conversion table separately for illiterates and literates.
3. It has five sub tests which measure specific and cognitive functionaries such as analytic-synthetic, abstract reasoning and spatial abilities i.e., 'g' and 'k' abilities and short term memory (Bhatia, 1988).
4. It has been standardised on Indian sample.

The test items of the battery are

- a) Koh's Block Design Test
- b) Passalong Test
- c) Pattern Drawing Test
- d) Immediate Memory Test
- e) Picture Completion Test

The total score allotted to these tests was 95. The procedure for testing and scoring are explained in Appendix - V and the details of the tests were as follows:

a) Koh's Block Design Test

Koh's Block Design Test which is in use in varying social milieu for half a century and acclaimed as the most effective tests of intelligence consists of 10 sub tests (Figure-3). The child was required to arrange the given blocks to form abstract designs as given in the cards provided. The maximum score possible was 25.

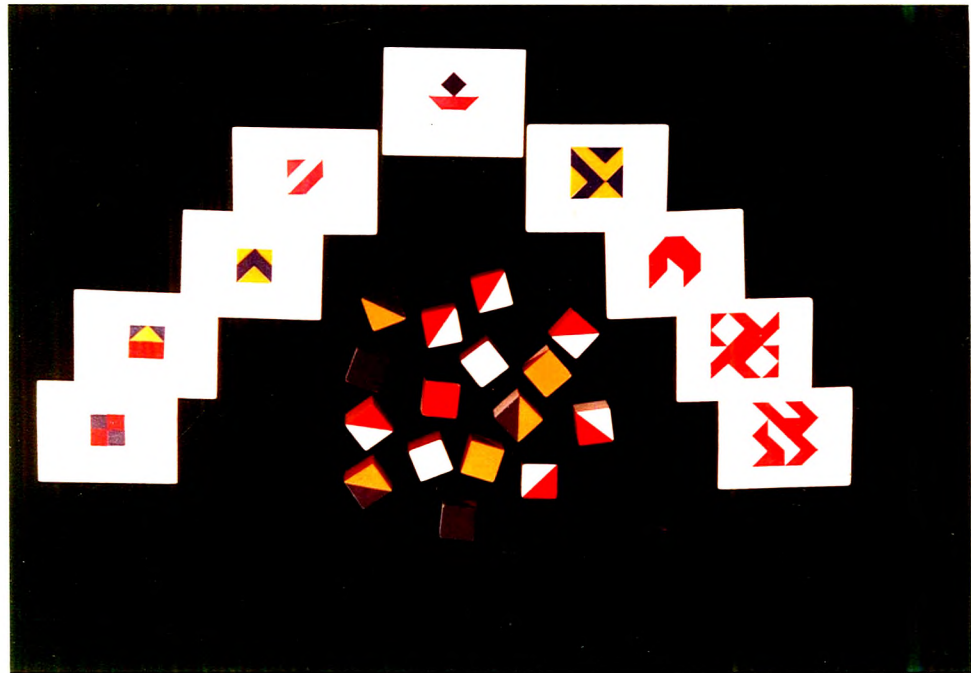


Figure - 3
TEST - 1 KOHS BLOCK DESIGN TEST

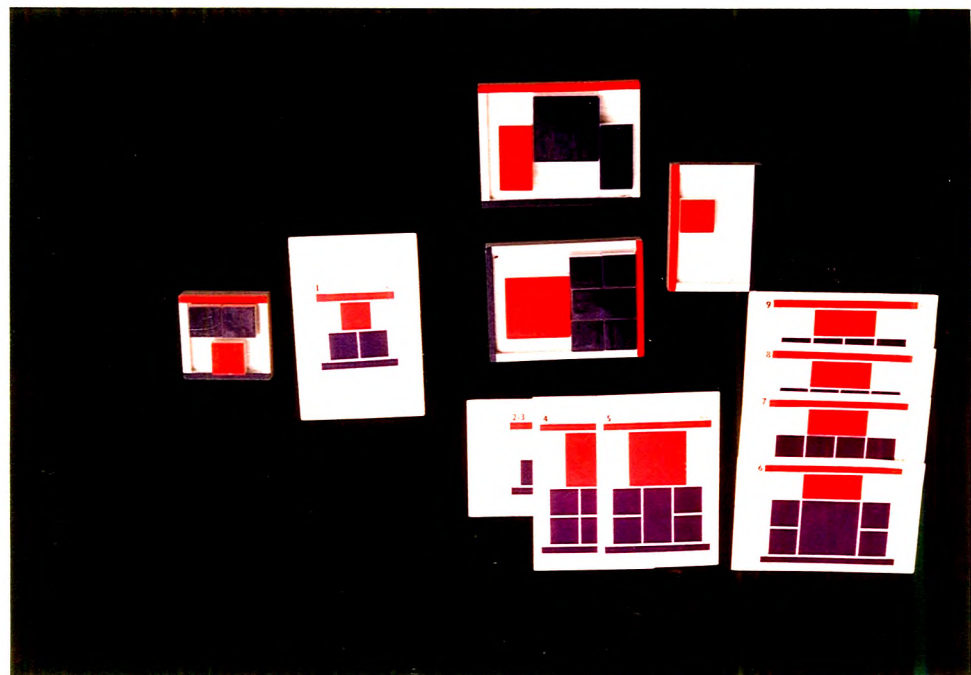


Figure - 4
TEST - 2 PASSALONG TEST

b) Passalong Test

The Passalong Test (Figure-4) Consisted of items that required the subject to pass along the blocks to solve the problem within the space provided in a box as given in the cards furnished, the maximum score possible being 20.

c) Pattern Drawing Test

Each pattern in the test (Figure - 5) was expected to be drawn without lifting the pencil and without overlapping the lines, and the test carried a weightage of 20 scores.

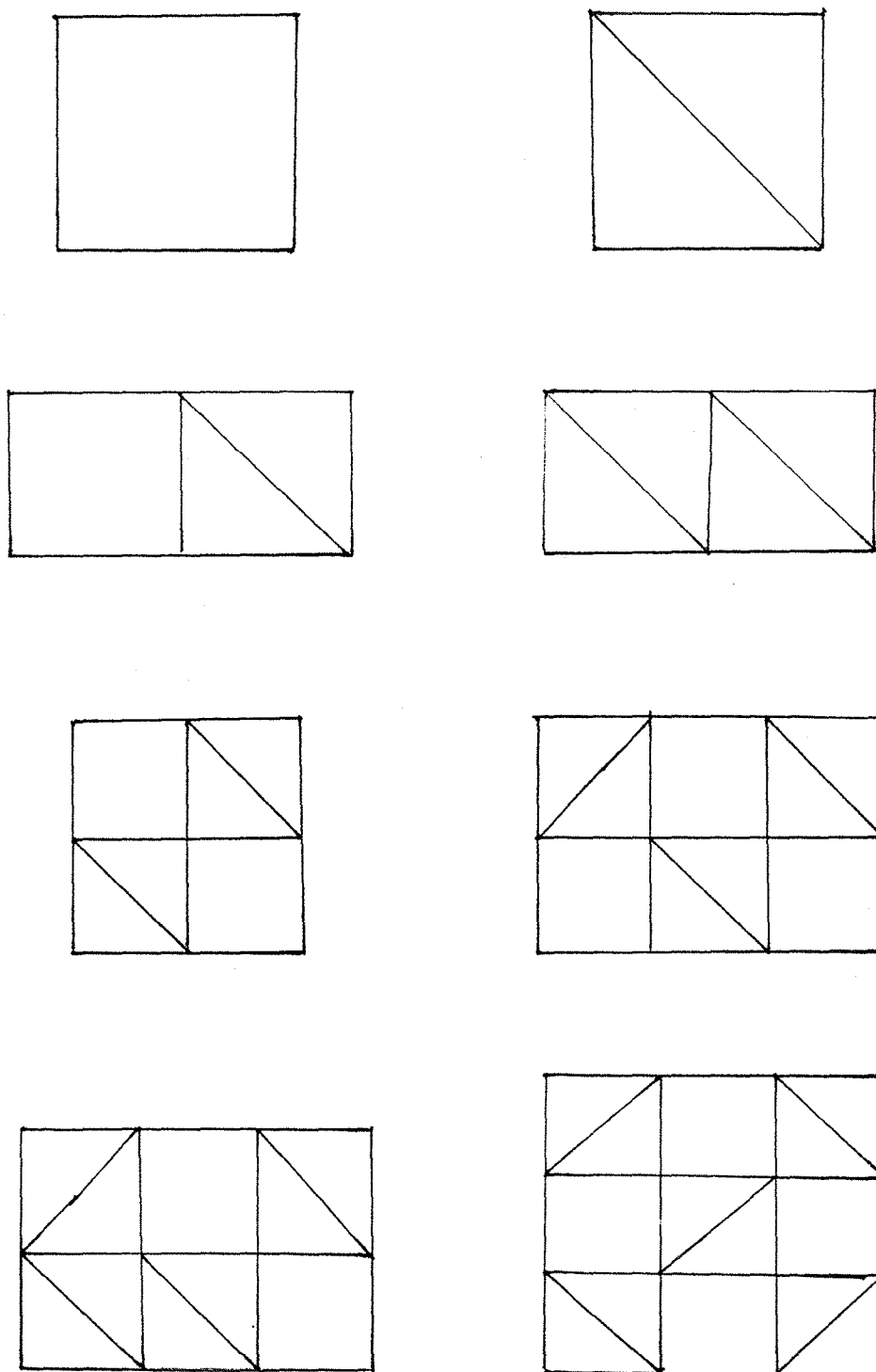


Figure - 5

TEST - 3 PATTERN DRAWING TEST

d) Immediate Memory Test

Immediate memory was assessed by asking the child to repeat direct and indirect sounds and digits that were read out by the investigator as enumerated below. The maximum score for this aspect was 15.

Sounds : Direct

1. Say: ba - ra; sa - ta; pa - la.
2. Say: sa - ba - ka; ta - pa - cha; la - ta - ra.
3. Say: ba - ra - cha - la; ta - la - pa - cha; ra - cha - sa - ka.
4. Say: ta - ka - la - pa - sa; ba - la - ta - ra - cha; ra - sa - ka - la - ta.
5. Say: ba - ra - ta - la - ka - pa; pa - cha - la - ra - ba - sa; ra - cha - ka - ta - la - ba.
6. Say: ra - cha - pa - ka - ba - la - ta;
ba - ra - ka - pa - ta - cha - sa;
ka - ba - ra - ta - pa - la - cha.
7. Say: pa - ba - sa - ka - ta - la - cha - ra
sa - cha - pa - la - ba - ka - ra - ta
ba - ra - cha - ta - ka - sa - la - pa

Sounds : Reversed

Repeat sounds backwards:-

(as ka - cha - ta; ta - cha - ka):

1. la - pa - cha - sa; ba - ka - ta - ra; sa - ra - cha - ka.
2. Repeat sounds backwards:-
la - ka - ta - ra - ba; sa - pa - ka - la - ta;
pa - cha - ra - ba - ka.
3. Repeat sounds backwards:-
ba - ra - ka - la - pa - sa; pa - la - ta - sa - ba - tha;
ra - pa - cha - sa - ka - la.

Digits : Direct

Two 4-7; 6-3; 5-8

Three 6-4-1; 3-5-2; 8-3-7

Four 4-7-2-9; 3-8-5-2; 7-2-6-1

Five 3-1-8-5-9; 4-8-3-7-2; 9-6-1-8-3

Six 4-7-3-8-5-9; 6-2-9-7-4-6; 7-2-8-3-9-4

Seven 5-3-4-7-9-2-6; 2-7-5-6-9-4-3; 9-4-3-8-7-5-2

Eight 7-2-5-9-4-8-3-6; 4-7-1-5-3-9-6-2; 4-1-9-3-5-8-2-6.

Nine 5-9-6-1-3-8-2-7-4; 9-2-5-8-4-1-7-3-6; 4-7-2-9-1-6-8-5-3

Digits : Reversed

Three 7-3-5; 5-3-7

Four 8-5-2-6; 4-9-3-7; 3-6-2-9

Five 8-1-3-7-9; 6-9-5-8-2; 5-2-9-4-1

Six 9-2-7-3-1-4; 6-4-2-5-8-3; 7-5-8-6-4-1

e) Picture Completion Test

This consisted of five sub test items (Figure 6). Each child was required to assemble the picture cut-outs within the given time limit. The test carried a maximum total score of 15.



Figure - 6
TEST - 5 PICTURE COMPLETION TEST

Each child was administered these tests in the order enlisted above following the procedure explained in the manual. The scores of all these tests were added to arrive at a total score. The total score was converted into IQ based on the given conversion table (Appendix V) against the subject's age level and educational status.

D. DATA COLLECTION

All the 48 hosiery units in Tirupur were visited with permission and an introductory letter from the President, South India Hosiery Manufacturers' Association, Tirupur to identify the industries having CWs. Employers of 40 industries that had employed children were informed about the nature of the study and time required. Thirty eight employers assured willingness to allow their CWs to spend few hours with the investigator and permit the child to accompany the researcher his/her home to interview the mother.

On receiving permission to conduct the study, the CWs fulfilling the criteria were identified, taking due precaution to exclude orphans, severely malnourished and the sick. In circumstances, where the industry had shifted or closed down, the existing industry on that address or place was selected. In cases where the CWs in that industry did not fulfill the criteria, neighbouring unit having atleast one eligible CW was selected.

The second visit was made to get more familiarised with the child and the employer. This opportunity was utilized to settle date and time to conduct the study with the employer and also to get an appointment with the child to visit his home to interview his mother.

During the third visit, Bhatia's Battery of Performance Test of Intelligence was administered to the CW and scores obtained were recorded. The test was conducted within the industry set up. Heights and Weights of the CW were recorded only once. The interview with the CW was conducted individually.

The date of birth of the child was recorded from the horoscope furnished by the mother during the house visit made on time and date that suited them. In cases where horoscope was not available, the name of the year, day and month specified by the mother as on Tamil Calender or with help of festival days and natural events (full moon and new moon) of the month (Appendix IX) of the Tamil Year was considered for calculating birth date and age.

The total number of visits made to each unit ranged from three to eight. The total number of hours spent irrespective of number of visits per CW varied from minimum of four hours to a maximum of eight to ten hours. The number of visits and duration spent in the industries to collect data depended heavily upon the type of work undertaken by the industry and its delivery schedules.

On obtaining permission from the Municipal Commissioner, Tirupur and Heads of the institution of Jaivabai Municipal Girls' Higher Secondary School, and Nanjappa Municipal Boys' Higher Secondary School, Tirupur were visited to collect SES information from Cohort I and II and the school records were referred to secure their birth dates. Intelligence scores were obtained by administering Bhatia's Battery of Performance Test of Intelligence, and information on their family background were elicited by interviewing. Details of working conditions, health, social aspects, recreation and aspiration were gathered only from Cohort I.

D. DATA PROCESSING AND INTERPRETATION

In order to facilitate easy handling and scoring, every item on the schedule was given a numerical value code, as shown in the Appendix I-VIII. The data were subjected to statistical test namely, Mann-Whitney 'U' test, Chi-square test, 't' test and Kruskal-Wallis test (Appendix XI).

1. Mann-Whitney 'U' test

To compare the scores of remunerative workload and workload at home between the male and female CWs and Cohort I, the Mann-Whitney 'U' test (Guilford and Fruchter, 1978) was carried out.

The formula employed was

$$U_{21} = n_1 n_2 + \frac{n_2 (n_2 + 1)}{2} - R_2$$

- U_{21} = The number of items an observation in the second sample precedes an observation in the first considering all pairs of observations one from each sample.
 U_{12} = Defined similarly as U_{21}
 U = Minimum of U_{12} , U_{21}
 n_1 = Value of first observation
 n_2 = Value of second observation
 R_2 = Sum of the ranks assumed by the second sample observation.

An observed value equal to or less than value given in table was declared to be significant.

2. Chi-square test of significance

To assess the dependability between length of service, facility at industry and remunerative workload, and between socio-economic status, family size, ordinal position and workload at home, Chi-square test (Elhance, 1984) was computed with the formula illustrated below

$$X^2 = \sum_{j=1}^r \sum_{k=1}^c \frac{(O_{jk} - E_{jk})^2}{E_{jk}}$$

in which

- O_{jk} = The observed frequency in the cell corresponding to the intersection of the j^{th} row and k^{th} column.
 E_{jk} = The expected frequency in the cell corresponding to the intersection of the j^{th} row and k^{th} column.
 r = The number of rows.
 c = The number of columns

The χ^2 values at 5% and 1% level of significance were 3.84 and 6.64 respectively. An observed value equal or greater than the χ^2 table value was determined to be significant.

3. 't' test of significance

To assess the significance of IQ scores between the CWs and Cohorts ($n > 30$) with reference to sex and length of service the formula given below was applied

$$S.E. \bar{X}_1 - \bar{X}_2 = \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$$

Where,

- $\bar{X}_1$ = The mean of the first sample
- $\bar{X}_2$ = The mean of the second sample
- σ_1 = The Standard Deviation of the first sample
- σ_2 = The Standard Deviation of the second sample
- n_1 = Sample size of the first group
- n_2 = Sample size of the second group

't' test of significance for small sample ($n < 30$) to compare mean heights and weights of the CWs and Cohort I was carried out with the formula given below:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S \sqrt{1/n_1 + 1/n_2}}$$

Where,

$$S = \sqrt{\frac{n_1 S_1^2 + n_2 S_2^2}{n_1 + n_2 - 2}}$$

The χ^2 values at 5% and 1% level of significance were 3.84 and 6.64 respectively. An observed value equal or greater than the χ^2 table value was determined to be significant.

3. 't' test of significance

To assess the significance of IQ scores between the CWs and Cohorts ($n > 30$) with reference to sex and length of service the formula given below was applied

$$S.E. \bar{X}_1 - \bar{X}_2 = \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$$

Where,

- $\bar{X}_1$ = The mean of the first sample
- $\bar{X}_2$ = The mean of the second sample
- σ_1 = The Standard Deviation of the first sample
- σ_2 = The Standard Deviation of the second sample
- n_1 = Sample size of the first group
- n_2 = Sample size of the second group

't' test of significance for small sample ($n = < 30$) to compare mean heights and weights of the CWs and Cohort I was carried out with the formula given below:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S \sqrt{1/n_1 + 1/n_2}}$$

Where,

$$S = \sqrt{\frac{n_1 S_1^2 + n_2 S_2^2}{n_1 + n_2 - 2}}$$

Where

- $\bar{X}_1$ = The mean of the first sample
 $\bar{X}_2$ = The mean of the second sample
 S_1 = The Standard Deviation of the first sample
 S_2 = The Standard Deviation of the second sample
 n_1 = Sample size of the first group
 n_2 = Sample size of the second group

The 't' values at 1% is 2.58 and at 5% is 1.96, an observed value equal or greater than the given table value was considered to be significant.

4. Kruskal-Wallis test

The non-parametric test, Kruskal-Wallis one way analysis of variance by ranks (Ferguson, 1981) was applied to find the differences in performance scores between the three groups, sex-wise and experience-wise in the five sub tests of Bhatia's Battery.

The Kruskal-Wallis test formula applied was

$$\frac{\frac{12}{N(N+1)} \sum_{j=1}^k \frac{R_j^2}{n_j} - 3(N+1)}{1 - \sum T_j / N^3 - N}$$

in which

- K = The number of groups in the analysis
 n_i = The number of subjects in group j .
 N = The total number of subjects in the analysis

R_j^2 = The square of the total of the ranks for scores in group j.

T = $t^3 - t$, t in the number of tied observation in a set

Computed value equal or greater than the χ^2 table value at given degree of freedom was concluded to be significant.

F. ORGANISING AND CONDUCTING EDUCATIONAL INTERVENTION

An attempt to organise and conduct educational intervention to the CWS in their work setup was made. The objectives were to

1. Impart the three R's
2. Provide opportunities for self expression and enable them to enjoy recreational activities.
3. Explore the possibility of educational intervention to the CWS.

The methodology followed to organise and conduct were:

- a) Sample selection
- b) Preparation of tools
- c) Conducting the educational intervention to the CWS
- d) Evaluation

a) Sample selection

All the fifteen CWS who were in the age group of 8-15 years constituting three boys and twelve girls, were selected to participate in the educational intervention. These children

were from one of the hosiery industries included in the main study. They were selected from this industry for educational intervention for the following reasons:

- The employer permitted to conduct the programme
- The industry had sizeable number of CWs.
- The industry's environment, working condition, building were typical of a hosiery unit in Tirupur.
- The CWs participated in every task in the industry that required their involvement.
- The industry had regular inflow of work orders that assured steady working schedule throughout the year.
- Most of the CWs were from two neighbouring villages (Mannare and Chinnabommanayakanpalayam) situated 2-3 kilometers away from the industry.

• Five FCWs had never attended school, while the rest had attended school for a duration ranging from one to four years.

b) Preparation of tools

A primer illustrated in Figures 7-16 was evolved taking into consideration the elements indicated below:

- Existing primers for functional literacy.
- Observation of activities of the CWs at hosiery industry.
- Consultancy service from Adult Education Department.
- Background of the working children.
- Time availability.

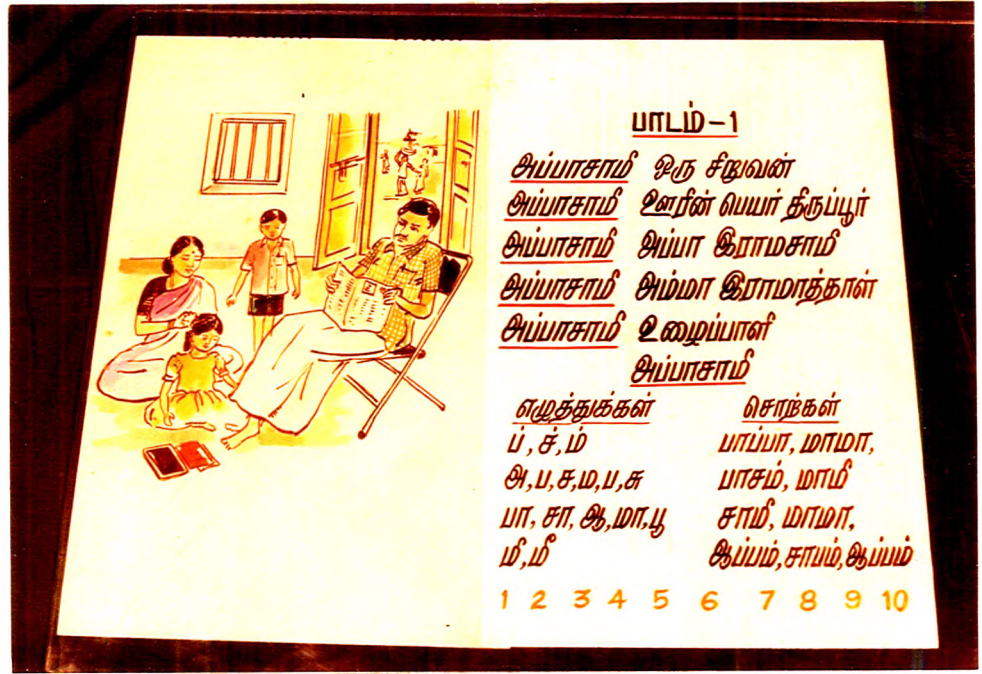


Figure - 7 : LESSON - 1

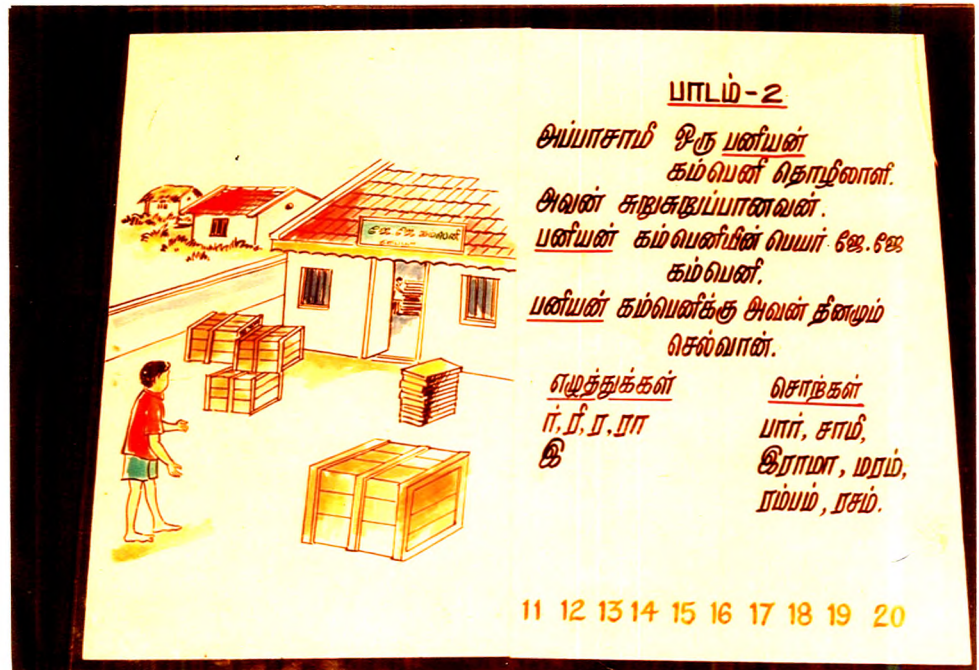


Figure - 8 : LESSON - 2

பாடம்-3

அய்யாசாமியின் தங்கை சரசு.
சரசு பெற்றோர்க்கு அவள் அன்பு மகள்.
அய்யாசாமிக்கு சரசு ஒரே தங்கை.
சரசு பெற்றோர்க்கு பனியன் தொழிலில்
உதவி செய்கிறாள்.

எழுத்துக்கள் **சொற்கள்**

க், ள், ச	கட, களம், கரம்,
ம், ந்,	காரம், கள்,
கா, மா,	காகம், மக்கள்,
ளா, தா	மகரம், மகம்
	கம்பம், கரகம்

21 22 23 24 25 26 27 28 29 30

Figure - 9 : LESSON - 3

பாடம்-4

அய்யாசாமி வீடு பனியன் கம்பெனி
அருகில் உள்ளது.
அய்யாசாமி வீடு சிறியது.
அய்யாசாமி வீடு மூன்று அறைகள் கொண்டது.
அய்யாசாமி வீடு சுத்தமானது, அழகானது.

எழுத்துக்கள் **சொற்கள்**

ல், ட், வ்,	வா, வான்
ட், வா, டா	வளம், வீரம், கடல்,
வீ, டீ, தீ	படம், படம்,
ர், கீ, சீ	பாடம், கலை,
வீ, பீ, லீ	சீட்டு, கட்டு, தட்டு,
பீ, ன், டு	பட்டு, காடு, மாடு.

31 32 33 34 35 36 37 38 39 40

Figure - 10 : LESSON - 4

பாடம்-5

தீர்ப்புப் பெரிய உள்.
அப்பாசாயின் சொந்த உள் கோவை.
சொந்த உள் இவருடைய அண்ணன் உள்ளார்.
அப்பாசாய் மாதம் ஒரு முறை சொந்த
உளுக்குச் செல்வான்.
சொந்த உள் இவருக்கு அவனைக் காண
சொந்தக்காரர்கள் வருவார்கள்.
இப்போது அவன் வசியது தீர்ப்பு.

எழுத்துக்கள்	சொற்கள்
உ, உ, ர்	உள்ளம், உருவு, உணவு,
ரீ, ரு, ரீ, ரு	உடை, உள், உள்வலம்,
	நகம், நர்
	உரம், உரல், உள்
	உடல்

41 42 43 44 45 46 47 48 49 50

Figure - 11 : LESSON 5

பாடம்-6

அப்பாசாய் ஏழு மணிக்கு வேலைக்குச் செல்வான்.
அப்பாசாய்க்கு நண்பர்கள் உள்ளனர்.
அவர்களுக்கும் உடன் வேலைக்குச் செல்வார்.
ஏழாம் நம்பர் பஸ்ஸில் அவர்கள் வேலைக்குச் செல் -
அப்பாசாய் ஒரு நாளில் ஏழு கடகு பனியன் - வாகனம்
தீர்ப்புவான்.
அப்பாசாய் வேலை முடிந்ததும் ஏழாம் நம்பர்
பஸ்ஸில் வீட்டுக்குத் திரும்புவான்.

எழுத்துக்கள்	சொற்கள்
எ, ஏ, ஹ, ஹு,	எர், ஏல், எண்.
மு, ஸ், ந்,	எழுது
ழ்	எண்ணிக்கை

51 52 53 54 55 56 57 58 59 60

Figure - 12 : LESSON - 6

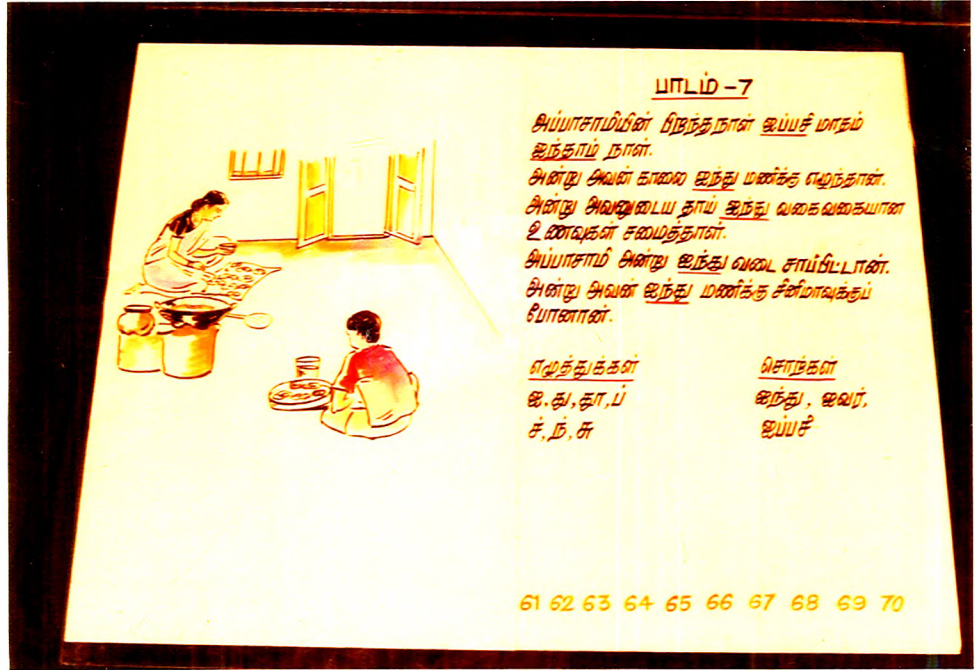


Figure - 13 : LESSON - 7

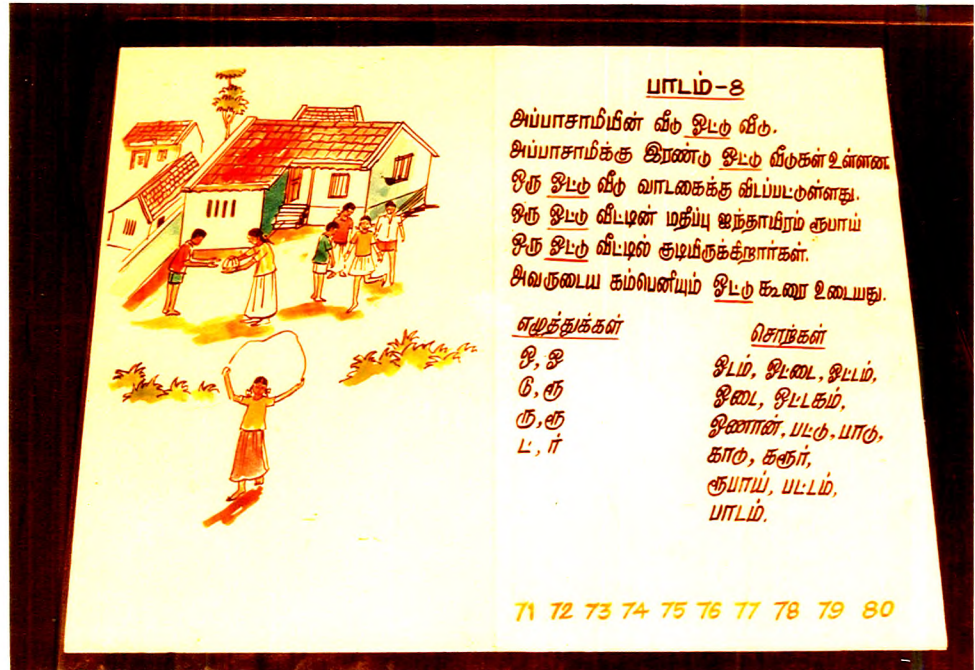


Figure - 14 : LESSON - 8

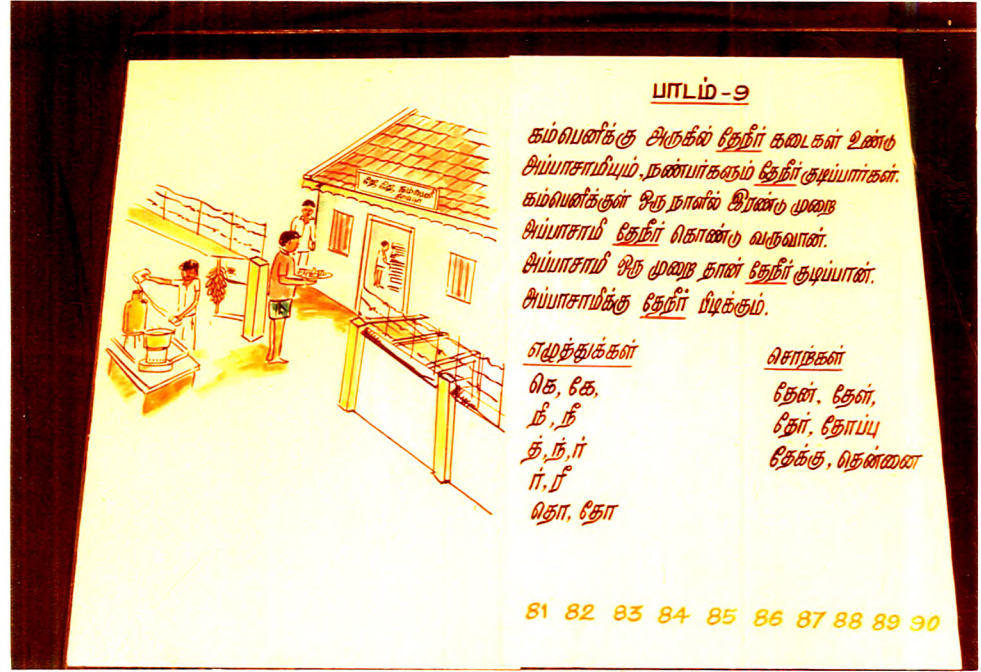


Figure - 15 : LESSON - 9

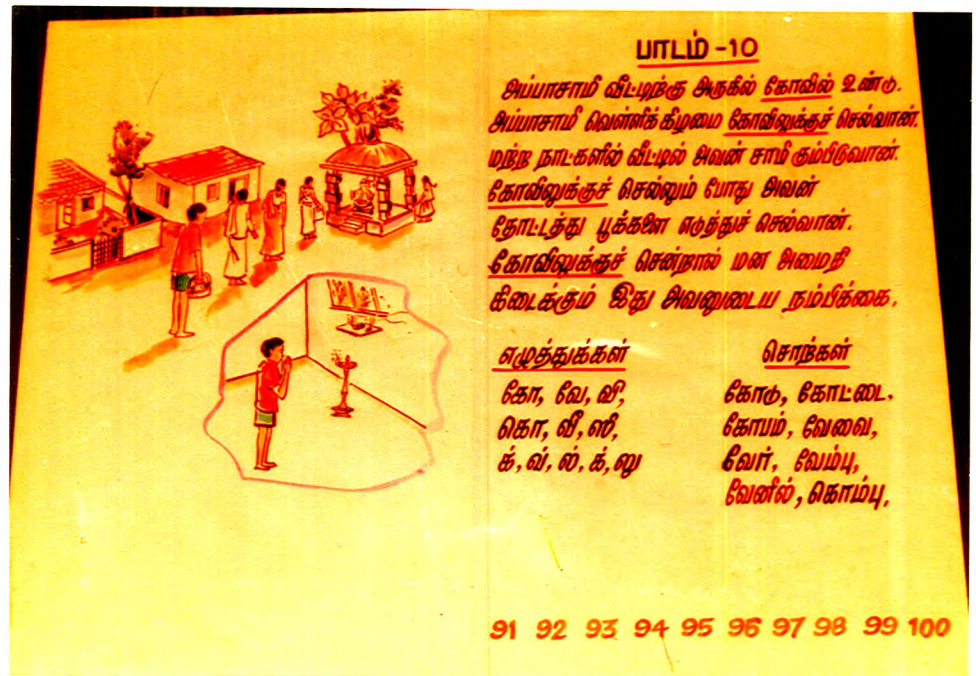


Figure - 16 : LESSON - 10

Geometrical cut-outs, flash cards, puppets, story books, charts, black board and chalk, note book, pencil and material/ items available within the industry set up was used as aids for teaching and to conduct recreational activities.

c) CONDUCTING THE PROGRAMME

After having worked along with the CWs for 15 working days in order to build rapport, 11 CWs were assessed for their educational level by way of ability to identify simple Tamil alphabets (Vernacular language), ability to write dictated alphabets, words and ability to read the first of the prepared primer. The educational intervention was conducted for a duration of seventeen weeks during one hour lunch break. Lessons from the Primer, informal talk, games, stories and other activities (Figures 17-19) constituted the programme component. The weekly programme carried out is given in the Table I.



Figure - 17
TEACHING WORDS



Figure - 18
READING EXERCISES



Figure - 19
GEOMETRICAL PATTERN MAKING

T A B L E I

EDUCATIONAL INTERVENTION PROGRAMME CONTENT

Week	Informal talk	Three R's		Story	Rhyme	Game	Other Activities
		I	II				
I	Personal cleanliness and grooming	Introduce lesson 1, alphabets and words ā, na, pa, sa, mi, ip, im, and amma, appa, pasam, mami, papa, sami.	Correct way of holding the pencil and writing free and guided scribbling and line drawing.	The clever crow, The Tortoise and The Rabbit, The Grapes are Sour.	Ondrupodu Dosai.	Passing the ball	Various ways water and a tumbler can be used.
II	Greeting elders, ways to address elders and others while communicating	Identification of letters and words learnt previous week, copy writing number: 1-50	Drawing lines, curves and slanting lines,	A Crow and a Fox, The Line and the Rat.	Ondrupodu Dosai. Mia Mama.	In and out, passing the ball	Conversation about daily activities and sharing experiences.
III	Consequences of eating food items exposed to flies and dust.	Introduce lesson 2, alphabets and words; ra, raa, e, ir, re and banian, per, sami, rama, maram, rambam, rasan. Addition sums with single digits.	Drawing lines with shape, curves, slants Copy write alphabets of individual child's own name.	Nariayya and Eliayya, The Tortoise and the Rabbit.	Mia mama, Chinna Chinna Kal Poruki.	..	Various ways a table, an elastic ribbon and a piece of cloth can be used.

Week	Informal talk	Three R's			Story	Rhyme	Game	Other Activities
		I	II					
IV	Values of vegetables, fruits and green leafy vegetables, need to prevent, discarding of food, left overs and spillages	Introduce lesson 3, alphabets and words: ik, in, su im, il, ka, the, na, ing, la, and Sarasu, magal, Thangai, cut, calam, karam, kaaram, kal, kagam. Number 50-100.	Copy writing alphabets of their names.	Gnanpalan ne Muruga, The Fisherman and the Gold fish	..	Calling out the number	Discussion on process of hosiery garment making and marketing.	
V	Importance of disciplined behaviour, verbal communication with fellow child workers.	Revision of lessons 1 to 3, identification of alphabets, reading words and sentences.	Copy writing the names, number: 1-10.	Grandma and the Pumpkin, Padagu.	Thwameva matha-chcha, Ondru podu Dosai, Mia mama	In (Vege-table) and out (Fruit) Sit and Stand	Drawing, making alphabets using geometrical Cut outs.	
VI	Importance of apologizing to elders and others. Expression of anger by speech than physical means.	Introduce lesson 4, alphabet and words iv, it, il, da, va, daa, ve, se, ree and veedu, waa, Numbers: 100-175, one and two digits addition sums.	Writing name, numbers: 10-20.	Singanum, Nariyum, Arive Thunai	Kondo Kondo Mithagi, Sarvamangala Thwameva matatchcha.	..	Pattern making with geometrical outcuts. Various ways a needle, a plank and a spoon can be used.	
VII	Water, air, tree and animals in the environment.	Continuation of lesson 4. Alphabet and words ree, kee, chee, pee, lee, in, do, and va, wal, valum, veeram, kadal, pattam, padam, kalam, seetu, kattu, thattu, pattu, kadu, madu, padam.	Introduce alphabets aa, pa, sa, mi.	Thukam-vara ville sirumi Mashavukku. The Stolen Sun	Police mama, Kola Construction of rhyme of similar nature such as teacher akka, tailor mama	Kola Mundri ka	Reading time on the clock.	

Week	Informal talk	Three R's		Story	Rhyme	Game	Other Activities
		I	II				
VIII	Hobbies-various types and its importance.	Revision, identification of alphabets and words from lesson 4 and 5. alphabets and words wu, we, rri, ra and wunam, vurawu, unavu, Uudai, Vur, Vruvalam, uram, ural, wu. Introduce lesson 6.	Identification of alphabets aa, pa, sai, mi and words appasami, pasam, sami. Introduce alphabets and word ba, ni, ya, in and banian.	Nariyum, Eliyum, Grandma and the Pumpkin	Mia mama, police mama	Calling the number	Reading time on the clock, drawing.
IX	Nursery, primary middle, higher secondary school and college education.	Continuation of lesson 6, alphabets and words, ye, ye, la, mu, lum, ish, ich and nagaram, nari, yeni, yedu, yelluvadu. Number 175-250. Identification and reading alphabets and words from lesson 6.	Writing words, banian, appa, amma, appasami, Number 20-40.	The Fisherman and the Gold fish, The Fox in a Cucumber Garden.	Police mama, Thwamevama-thachcha, survamangala mangalye.	Salai, In and out.	Making alphabets and other designs with geometrical cut outs.
X	Values of education, need to be aware of happenings around us.	Introduce lesson 7, alphabets and words, ai, thu, thoo, ip, ich, indh, su and aindu, aiver, aipasi, Addition sums 2 and 3 digits.	Numbers: 40-60 Words rasam, mama, pasam.	Comb of Golden Hue, The Clever Crow.	Chittukuruvi, mia mama.	Passing the ball.	Various ways pen, pencil and paper can be used.

Week	Informal talk	Three R's		Story	Rhyme	Game	Other Activities
		I	II				
XI	Various types of profession, vocation and qualification to profess in a field.	Revision of lessons 4-7.	Revision of alphabets and words. Number: 60-100.	Grandma and the Pumpkin, the Lion and the Rat.	Poone ki Poone ki, Kalyanam, Ondrupodu Dosai.	Passing the word clapping the number.	Use of fire and sunlight.
XII	Values of money, savings and ways to utilize money earned.	Introduce lesson 8, alphabets and words, o, oo, du, ruo, ru, it, and pattu, padu, kadu, karu, rupai.	One digit addition sum-alphabet and words ra, ir, ma, and rama, par, maram.	Emelya and the pike, A Greedy Dog.	Ondrupodu Dosai Poonai Kalyanam.	In(fruits) and out (Vegetable)	Drawing shapes and using guidelines pattern making with geometrical cut outs.
XIII	Consequences of excessive movie viewing	Introduce lesson 9, alphabets and words, k, ke, ni, nee, ith, dha and thaena, thail, thaere, thopu, thekku, thennai.	Alphabets and words ra, raa, ir, sa, ri, par, mami, maram.	The Duck and Golden Egg.	Thwameva matachcha	Passing the ball, In and Out	Discussion on school going children, working children in industries and in other jobs.
XIV	National festivals	Copy writing alphabets and words from lesson 9. Reading words and sentences from previous lessons.	Introduce alphabets and words e, tha, ka and karam, papa. Copy writing.	Krishna the Cap seller	Chittukuruvi Sarvanangala mangalye.	Naming the action	Drawing

Week	Informal talk	Three R's		Story	Rhyme	Game	Other Activities
		I	II				
XV	Importance of seeking medical help when sick intake of medicine as advised by doctor; resting and diet.	Introduce lesson 10. Words koodu, kotai, kopam, velai ver, venil, kombu, venbu.	Alphabets and words, il, ik, su, im, ma and kal, pasam, Sarasu.	Gananapalan ne Muruga	China China kal poorki, poonai kalyanam.	Clapping the number	Discussion about the function attended by the children
XVI	Sympathise, help others when in distress. Need to be courageous, bold to face problem and achieve goals.	Revision of lesson 8-10. Copy writing alphabets and words from lesson 10.	Revision of lesson Alphabets and words, wa, ta, taa, il, do and padam, pattam, kadal.	The Brave Little Dog Raju, A Crow and A Fox.	Poonai Kalyanam Chittu-kuruvi.	Kola Koleya Munderika Clapping the number	Various ways a thread, a rope and a stone can be used.
XVII	Learning about world around us through mass media. Ways to retain and improve reading and writing.	Revision of lessons 1-10, alphabets, words and numbers.	Revision of alphabets and words.	The Clever Crow, The Lion and the Rat, The Grapes are Sour.	..	Passing the ball, Kola Koleya Mundrika.	Various way parts of a coconut tree is used.

d) EVALUATION

Simple assessment of learning of the lessons were carried out on three occasions; initial, mid term and final during the seventeen week programme. Ability to read, identify alphabets, numbers and dictation were the modes of assessment for the Three R's. As for the creative and recreational activities, the assessment was made in terms of the number of children participated.

CHAPTER - IV

RESULTS AND DISCUSSION

IV. RESULTS AND DISCUSSION

This study consisted of two parts, the first part being an assessment of Intelligence of the child workers (CWs) and their Cohorts accomplished in 38 hosiery industries and the second part being an exploratory study of educational intervention to the CWs. The data collected through interview with the CWs for this part centered around socio-economic status (SES), family background, working conditions, schooling, health, social aspects, recreation and aspirations. The Cohort I (PCWs) was interviewed to gather family background information, SES, working conditions, health, social aspects, recreation and aspirations. The Cohort II (NWs) was interviewed to draw data on SES and family information. Parents' awareness about their children's employment were elicited by interviewing. Intelligence scores of the children were obtained by administering Bhatia's Battery of Performance Test of Intelligence individually to 66 CWs, 61 Cohort I and 62 Cohort II.

The second part of the study included educational intervention to 15 CWs in one of the industries studied for the first part. The programme aimed at improving their literacy level also provided opportunities for self expression through social interaction and recreation.

The findings of the first part of this study are discussed in the following paragraphs, under the headings listed below:

1. Socio-economic profile
2. Specific issues of the working children
3. Schooling and education
4. Intelligence
5. Health aspects
6. Social aspects
7. Mothers' awareness and
8. Evaluation of educational intervention to the CWs.

1. SOCIO ECONOMIC PROFILE

The socio-economic profile of the CWs and their cohorts are presented under the headings given below:

- 1.1 Religion and caste
- 1.2 Type of family and size
- 1.3 Parent's occupation
- 1.4 Family income
- 1.5 Educational level of parents
- 1.6 Ordinal position and
- 1.7 Status of siblings of the selected sample.

1.1 Religion and caste

Religion and caste of the CWs, Cohort I and II are furnished in Table 1.1.

TABLE 1.1
RELIGION AND CASTE

(Figure in percentage)

Particulars	CWs		Cohort I		Cohort II	
	FCWs	MCWs	FPCWs	MPCWs	FNWs	MNWs
	N=32	N=36	N=30	N=31	N=30	N=32
<u>Religion</u>						
Hindu	99	91	93	91	93	97
Muslim	6	6	7	6	..	3
Christian	..	3	..	3	7	..
<u>Caste</u>						
Forward caste	..	..	..	..	..	..
Backward caste	97	91	89	89	79	81
Scheduled caste	3	9	11	11	21	19

The majority (above 91%) of the CWs and Cohorts studied belonged to Hindu religion, particularly to backward caste; very few of them were from Muslim and Christian religion. The number belonging to scheduled caste was comparatively more in cohort II. Under-privileged children hailing from backward and scheduled caste appear to constitute the child work force.

1.2 Family type and size

Table 1.2 shows the family type and size of the three categories of children studied.

TABLE 1.2
FAMILY TYPE AND SIZE

(Figures in percentage)

Particulars	CWs		Cohort I		Cohort II	
	FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31	FNWs N=30	MNWs N=32
Family type						
Nuclear	94	89	77	81	83	75
Extended	3	8	13	13	10	19
Joint	3	8	10	6	7	6
Family size						
Less than 3	9	11	7	6	7	..
4 - 5	54	36	37	49	70	63
6 - 7	31	39	33	39	16	34
8 - 9	3	11	23	3	7	3
Above 10	3	3	..	3	..	..

A large number of the CWs studied were from nuclear families compared to their cohorts. The majority of the CWs and Cohorts were from families with 4-7 members. Parents of the CWs and Cohorts I might have motivated their children to work in order to meet the cost of living in Tirupur. The data shows that a good number of the Cohorts II were from smaller families. Perhaps that's why they were privileged to enjoy schooling.

1.3 Parents' occupation

Occupation of parents of the CWs, Cohorts I and II are presented in Table 1.3.

TABLE 1.3
PARENTS' OCCUPATION

(Figure in percentage)

Parents' Occupation	CWs				Cohort - I				Cohort - II -			
	FCWs		MCWs		FPCWs		MPCWs		FNWs		MNWs	
	N=32		N=36		N=30		N=31		N=31		N=32	
	F'*	M**	F	M	F	M	F	M	F	M	F	M
Wage labour	56	28	56	36	53	70	6	65	57	53	50	35
Salaried job	16	16	11	..	37	..	39	..	13	7	18	3
Business	16	9	11	3	10	..	39	..	23	3	3	..
Agriculture	..	3	3	3	..	..	3	..	..	..	3	6
Unemployed	4	44	19	55	..	30	19	35	..	37	..	56
Hosiery related	41	19	25	14	27	63	29	65	20	27	38	25
Non hosiery	47	38	53	28	73	7	52	..	73	37	44	13

* Father: ** Mother.

Over 50 per cent of the fathers of the selected children except MPCWs were involved in wage labour, the rest were placed in low paid jobs and petty business. Comparatively large number of them were in occupations not related to hosiery works.

Percentage indicating the mothers' involvement in wage labour connotes cotton waste preparation at home during their leisure hours. The mothers working as wage labourers ranged between 28 to 70 per cent. Nearly 45 per cent of mothers of the Cohort II working as wage labourers is an interesting feature to be noted.

1.4 Family income

The total family income per month of the children selected are putforth in Table below.

TABLE 1.4

FAMILY INCOME

(Figures in percentage)

Income in Rs.	CWs		Cohort-I		Cohort-II	
	FCWs	MCWs	FPCWs	MPCWs	FNWs	MNWs
	N=32	N=36	N=30	N=32	N=30	N=32
400 - 800	22	17	23	23	6	22
801 - 1,050	25	17	43	23	60	25
1,051 - 1,250	15	22	17	35	16	22
1,251 - 1,500	22	22	10	3	12	19
1,501 and above	16	22	7	16	6	12
Mean family income in Rs.	1181	1262	1026	1090	884	1139

The average family income of the FCWs and MCWs appear to be more than the Cohort I and II. The higher family income of the CWs may be attributed to the fact that almost all the family members including the children earned by being employed.

1.5 Educational level of parents

The educational level of parents of the CWs, Cohort I and II are presented in Table 1.5.

TABLE 1.5
EDUCATIONAL LEVEL OF PARENTS

(Figures in percentage)

Educational level	CWs				Cohort I				Cohort II			
	FCWs N=32		MCWs N=36		FPCWs N=30		MPCWs N=31		FNWs N=30		MNWs N=32	
	F* M**		F M		F M		F M		F M		F M	
	F*	M**	F	M	F	M	F	M	F	M	F	M
Illiterate	28	72	25	72	30	67	19	36	17	47	13	47
Primary education	50	16	36	17	33	13	26	52	43	27	34	31
Secondary education	10	9	17	5	20	13	40	6	7	23	25	6
Higher education	6	3	5	3	17	7	19	6	26	3	22	16
Has no father/ mother	6	..	17	3	..	..	6	..	7	..	6	..

* Father; ** Mother.

Illiteracy was the highest among mothers of the CWs. Fathers of all the three groups had at least primary education comparatively in large numbers than mothers. Parents of the Cohort II had better education compared to other groups. Their higher educational level might have motivated them to send their children to school rather than to work, though their family income was lower than that of other two groups (Table 1.4). While a study done by Naidu (1985) revealed inverse relationship existing between father's educational level and child labour, apparently this study ^{also} indicates a negative trend.

1.6 Ordinal position

Table 1.6 reflects ordinal position of the CWs. Cohort I and II.

TABLE 1.6
ORDINAL POSITION

(Figures in percentage)

	CWs		Cohort I		Cohort II	
	FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31	FNWs N=30	MNWs N=32
First	28	14	44	26	47	19
Second	38	34	10	30	37	41
Third	28	19	23	16	11	25
Fourth	3	16	10	19	3	9
Fifth	3	8	7	6	..	..
Sixth and above	..	9	6	3	..	6

The ordinal position of more than one third of the CWs was second. One fourth of the selected FCWs were the first and third borns. More of FPCWs (44%) were the first borns followed by the second birth order (30%). Similar trend was noticed with the Cohort II.

Observed high concentration of the first and second birth order among the CWs Cohort I indicates that being older children they are expected to bear the responsibility of augmenting family income. Data on the third and above ordinal position impresses that even later borns are not spared from being a supplementor of family income, in the context of Tirupur culture.

1.7 Status of siblings of the selected sample

The following Table indicates the status of siblings of the CWs, Cohort I and II.

TABLE 1.7
STATUS OF SIBLINGS

(Figures in percentage)

Particulars	CWs		Cohort I		Cohort II	
	FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31	FNWs N=30	MNWs N=32
Having brothers involved in						
- hosiery related work	28	42	20	40	6	29
- Other than hosiery work	19	28	10	16	13	10
- getting educated	40	25	37	38	60	58
- None of the above	13	14	13	3	3	13
Having sisters involved in						
- hosiery of related work	44	47	23	19	3	13
- Other than hosiery work	9	19	7	3	6	10
- getting educated	25	22	53	40	47	52
- None of the above	16	8	..	..	6	13

The FCWs and MCWs had more siblings working as compared to Cohort I and II. The Cohort II had fewer working siblings than the Cohort I. Among all the groups, it is but natural that the Cohort II had more number of siblings getting education. And the number of siblings getting education was double in the Cohort I than in the case of the CWs. The investigator's observation revealed that the siblings who were neither working nor studying were found to be over/under age groups of schooling and so remained at home helping in household chores.

Obviously the home environment with insufficient per capita income and siblings working outside the home could be a contributive factor for the younger siblings to get involved in work.

2. SPECIFIC ISSUES OF THE WORKING CHILDREN

This section contains information related to specific issues of children such as

- 2.1 Type of work performed
- 2.2 Quantum of work done
- 2.3 Working hours and days
- 2.4 Reasons for joining job
- 2.5 Remuneration received
- 2.6 Facilities at the industry
- 2.7 Mode of transit
- 2.8 Distance, CWs' opinion about the distance

2.9 CWs' opinion about their work, time allocated and liking towards the job

2.10 Disciplinary action

2.11 Remunerative workload

2.12 Influence of certain factors on remunerative workload and

2.13 Workload at home

2.1 Type of work performed

The type of work performed in by the CWs and Cohort I at industry and at home respectively that fetched monetary return are recorded in the following Table.

TABLE 2.1

TYPE OF WORK PERFORMED BY CWs AND COHORT I

(Figures in percentage)

Type of work [*]	CWs		Cohort I	
	FCWs	MCWs	FPCWs	MPCWs
	N=32	N=36	N=30	N=31
Checking damage and preliminary finishing	87	86	10	13
Folding sleeve	69	67	7	3
Bundling	47	..	..	13
Making cotton waste	..	..	80	77
Stitching (tailoring)/labelling	12	5	..	..
Packing, making box and preparing gum	6	5	..	6
Fetching tea/coffee	..	36	..	..

^{*}Refer glossery (Appendix X)

Almost an equal number of the FCWs (87%) and MCWs (86%) were involved in checking damage and preliminary finishing and about 68 per cent of the CWs in folding sleeve, while only the FCWs(47%) were involved in bundling.

Specific tasks were assigned to the CWs depending upon the length of service he had and skills mastered. New hands at initial stage were made to 'bundle' material, run errands and do odd job viz. making boxes, preparing gum, fetching tea/coffee. The second stage of work was checking damage and preliminary finishing, and folding sleeve took the third stage next to which was final, tailoring. Most of the sample selected were found to be doing the first tasks enlisted in the table that required certain amount of experience and skills. The reason for the CWs to fall in this category may be because the samples having two years of work experience were chosen.

The CWs were the key persons whose assistance at these critical stages helped the adult workers to continue in their production, lack of such assistance jeopardised the continuity of work resulting in huge pile of pieces of cloth, that may lose its identity sizewise.

2.2 Quantum of work done

Total amount of work done by the working sample and consequences they faced for incomplete work at the end of the day are shown in Table 2.2.

TABLE 2.2
QUANTUM OF WORK DONE

(Figure in percentage)

S.No	Particulars	CWs		Cohort I	
		FCWs N=36	MCWs N=36	FPCWs N=30	MPCWs N=31
1.	Quantum of work done the previous day;				
	No account	66	50	17	10
	Banian piece checked (in dozen)				
	50 - 60	19	16	..	..
	40 - 50	..	5	..	..
	30 - 40	9	8	..	..
	20 - 30	..	11	..	..
	10 - 20	6	8	..	..
	Quantum of cotton waste made				
	1/4 kg	..	..	10	16
	1/2 kg	..	..	37	35
	3/4 kg	..	..	..	3
	1 kg	..	..	17	10
2.	Consequence faced when day's work remain incomplete:				
	- Stay back to complete work	47	39	..	6
	- Carry over to the next day	50	55	40	29
	- Shared with co-workers	3	5	58	65

Responses with reference to unaccounted quantum of work done indicate that the CWs were on 'time rate' basis. While those CWs who specified quantum of work performed reveal that

they were on 'piece rate' payment scheme and also had chances for working in the industry on that day. The children belonging to Cohort I had chances of working along with other family members, and hence the quantum to work done could not be screened.

On an average, 17 per cent of the CWs checked 50-60 dozens of banian and 36 per cent of the Cohort I produced half a kilogram of cotton waste per day. In general, 'piece rate' workers stayed back to complete work, while 'time rate' workers either shared their work with others or carried it over to next day. However, the CWs reported that some employers insisted time rate workers also to stay back in order to complete the work in the industry.

2.3 Working hours and days:

Table 2.3 documents number of days worked; overtime work and number of hours worked per week/day.

TABLE 2.3
WORKING HOURS AND DAYS

(Figures in percentage)

S.No	Particulars	CWs		Cohort I	
		FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
1.	Number of days worked				
	Six	85	94	3	19
	Seven	9	3	60	52
	Five	6	3	..	..
	Two	..	..	20	19
	Only during vacation	..	..	17	10
2.	Number of days worked as overtime				
	Five to six	41	33	..	..
	Three to four	31	47	..	..
	One to two	25	14	..	..
	Nil	3	6	..	..
3.	Number of hours worked				
	8 hours - (1 shift)	6	22	..	..
	12 hours - (1 1/2 shifts)	94	86	..	..
	16 hours - (2 shifts)	28	39	..	..

The Table indicates that 90 per cent of the CWs worked on all six working days of the week, while 60 and 52 per cent of the FPCWs and MPCWs respectively worked on all seven days in a week. About 20 per cent of the Cohort I worked only on Saturdays and Sundays.

Seventy-two per cent of the FCWs and 80 per cent of the MCWs had worked overtime for more than three days in a week. More number of the FCWs (94%) worked for 12 hours (1 1/2 shift) than the MCWs (86%), who worked for 16 hours (2 shifts). This may be because the CWs and their parents had not bothered long hours of work and late return home. It may be noted that irregularity in the total time put in by the CWs for work depended on type and number of orders received by the industry; duration needed for completion and the CWs' willingness to work overtime. Another interesting feature indicated that the parents had aspired and attached preference for the industries that worked for more than one shift for their wards.

It was observed that there existed eagerness to work long hours to earn more both by the parents and the CWs, who disregarded the probable impact of such work. As stipulated in Minimum Wages Act 1948 and The Factories Act 1948, it is essential to ensure compulsory minimum (protective) wages and specify working hours and disallow the children to perform overtime work or more than specified duration.

2.4 Reasons for joining job

The reasons for joining jobs as put forth by the CWs and Cohort I are recorded in Table 2.4 and Figure 20.

TABLE 2.4

REASONS FOR JOINING JOB

(Figures in percentage)

Reasons	CWs		Cohort I	
	FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
Parent compulsion	75	67	80	74
Child's option	25	33	17	26
Economic need	59	53	73	77
Dislikes school	31	50	..	..
Failed in school examination	34	56	..	..
Siblings work	28	8	40	16
Friends work	19	17	17	10

Parent compulsion appears to be the predominant reason with the CWs and Cohort I to perform remunerative work. While more than 50 per cent of the CWs gave economic need as one of the reasons, nearly 75 per cent of the Cohort I pinpointed the same cause.

Over 50 per cent of the MCWs and about a third of the FCWs had developed dislike towards school. Stagnation in school due to failure in examination and the inevitable economic need could have been the dominant reason for the parents to compel their children join work force. While the CWs' own experiences in school, inability to qualify for promotion to the next higher grade might have discouraged them to continue schooling. As

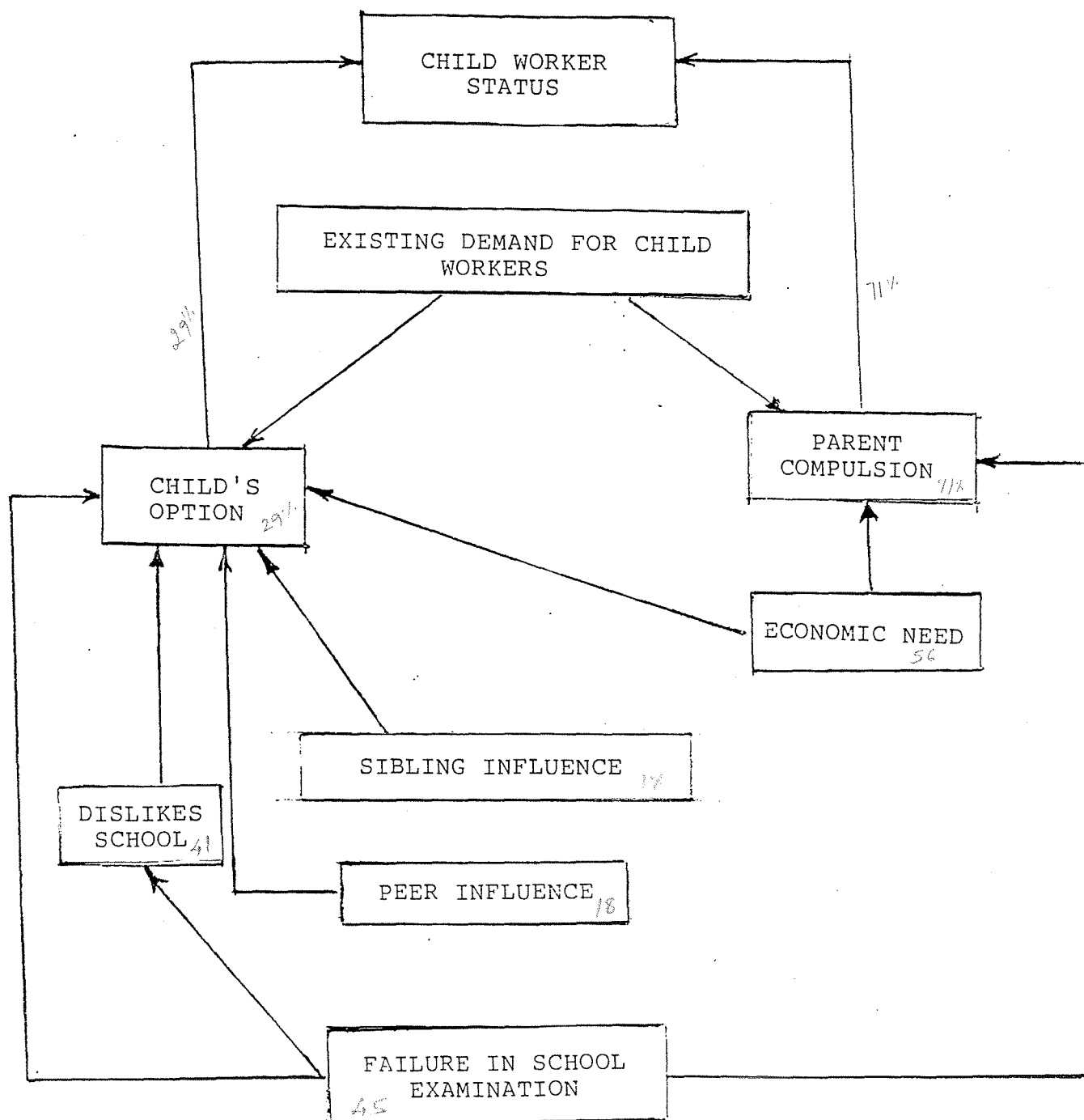


Figure - 20
REASONS FOR JOINING JOB

parents are primarily responsible for child labour, competent public authorities should enlighten parents about existing legislation, risk and its consequences.

2.5 Remuneration received

Table below presents the remuneration received by the CWs.

TABLE 2.5
REMUNERATION RECEIVED

(Figures in percentage)

Remuneration per week in Rs.	CWs	
	FCWs	MCWs
< 30	22	14
30 - 40	41	28
40 - 50	16	31
50 - 60	..	5
60 - 70	9	11
> 70	12	11

A larger number of the MCWs than the FCWs received higher remuneration which could be an outcome of 'piece rate' work and for having worked two shifts (Table 2.4). The remuneration depended upon type of work performed, type of employment, piece or time rate and production turn over per week. The remuneration drawn were not indicative of individual child's capacity

in their performance, but it laid heavily upon factors such as type and hours of work input that in turn depended on orders received and work output that are generally unsteady.

2.6 Facilities at the industry

The facilities provided within the industry set up to an individual child under study at the time of visit, assessed on a set of criteria and by observation are described in Table 2.6.

TABLE 2.6

FACILITIES AT THE INDUSTRY

(Figures in percentage)

S.No	Particulars	Cws	
		FCWs N=32	MCWs N=36
1.	<u>Facility provided</u>		
	<u>a) At working area:</u>		
	- Seat	Comfortable 62	56
		Not comfortable 38	44
	- Working space	Comfortable 56	61
		Not comfortable 44	39
	- Working equipment	Comfortable 50	36
		Not comfortable 50	64
	- Posture while working	Comfortable 62	53
		Not comfortable 38	47
	<u>b) Physical set up:</u>		
	- Space	Adequate 75	69
		Not adequate 25	31
	- Ventilation	Adequate 66	50
		Not adequate 34	50
	- Protection from sun and rain	Adequate 97	97
		Not adequate 3	3
	- Building	Tiled roof 44	28
		Zinc sheet roof 22	31
		Concrete roof 34	41
	<u>c) Other facilities:</u>		
	- Drinking water	Available 91	91
		Not available 9	9
	- Toilet facility	Available 50	44
		Not available 50	56
	- Canteen	Available ..	..
		Not available 100	100
	- Place for recreation	Available ..	..
		Not available 100	100
	- Resting room/space	Available ..	..
		Not available 100	100
2.	<u>Changes suggested in the facilities provided</u>		
	- Not needed	62	61
	- General facilities	38	39

Almost an equal number of the FCWs (62%) and MCWs (56%) had comfortable seats to work. Individual working area and working equipment were comfortable for 56 and 50 per cent of the FCWs and 61 and 36 per cent of the MCWs respectively. The fact that the rest had uncomfortable seats, posture, working area and equipment indicate prolonged standing, congested working area and use of heavy plank placed on the knee to turn the banian garment.

Study on physical setup of the industry revealed that about 69 and 97 per cent of the CWs were working in industries that were spacious, and protected from sun and rain respectively. These two important cautious measures were to protect the garments from dust and dirt. This precaution at its extreme was observed leading to inadequate ventilation in a good number of industries (30% and 50%). This finding is supported by many research studies which report that children work in rooms that are stuffy and poorly ventilated (Boonpala, 1986 ; UNICEF, 1984 and Bouhdiba, 1981). While 44% of the FCWs and 28 per cent of the MCWs worked under tiled roof, 22 per cent of the FCWs and 31 per cent of the MCWs were working under concrete roof and the rest under zinc sheet roof respectively. A large number of the CWs (91%) had drinking water facility in their work spot. However, cleanliness of drinking water supplied was not ensured as observed by the investigator.

None of the industries provided canteen facility; resting room and space for recreation. Tirupur having a large number of industries, with many being run in small streets, has one

to two petty tea/snack shops at every second street and in some area every street has one or more than one established by private business men. This may be one of the main reasons why none of the industries had a canteen of their own.

More than 50 per cent of the CWs had no toilet facility. And of those who had this facility, they were with poor drainage, inadequate water supply and so were poorly maintained.

Though industries did not provide adequate facilities at work place and physical set up, as that of Naidu's (1985) finding, none of the CWs pointed it out. Home visits revealed, barring few most of the CWs had poor facilities at home space-wise, building-wise and basic facility-wise. It could be stated that since the CWs had got accustomed to these poor facilities, they were unaware of the facilities an industry should provide them.

Those CWs who suggested changes needed in general facilities were the same who reported that toilet facilities were not available. It was pathetic to note the CWs reporting that with even a mild bowel disorder they had to abstain from work and abstaining meant loss of salary for the day. There is a need to strengthen labour inspection services so as to monitor more closely the working conditions and ensure adoption of the legislation.

2.7 Mode of transit.

Table 2.7 indicates mode of transit utilised by the CWs to reach the work spot and return home.

TABLE 2.7
MODE OF TRANSIT

(Figures in percentage)

Mode of transit		CWs			
		Morning		Evening	
		FCWs N=32	MCWs N=36	FCWs N=32	MCWs N=36
During regular working days					
by	Walk	81	83	78	86
	Bus	19	11	22	8
	Cycle	..	6	..	6
During overtime working days					
by	Walk	78	78	69	67
	Bus	22	16	25	22
	Cycle	..	6	6	11

A sizable number of the CWs (about 80%) walked to reach the industry and return home. Many of them walked long distances, though very good town bus services were available, in order to save the bus fare. Only two tenths of the FCWs utilised town bus service. The same trend is reflected during overtime working days too. Very few MCWs (6%) used their own cycles for transit.

2.8 Distance, CWs' opinion about the distance to industry

The distance travelled (one way) and time required to reach the industry by the CWs are brought out in Table 2.8.

TABLE 2.8

DISTANCE, CWs' OPINION ABOUT THE DISTANCE

(Figures in percentage)

Particulars	CWs	
	FCWs N=32	MCWs N=36
<u>Distance travelled</u> (in Kilometres)		
< 1	34	41
1 - 2	25	31
2 - 3	19	8
3 - 4	..	..
4 - 5	9	6
> 5	13	14
<u>Time taken to reach inuistry</u> (in minutes)		
< 15	34	39
15 - 30	15	22
30 - 45	13	11
45 - 60	19	14
> 60	19	14
<u>Opinion about the distance</u>		
Very far	41	39
Far	22	11
Near	22	8
Very near	15	42
<u>Approachability</u>		
Very difficult	44	47
Difficult	22	19
Easy	34	33

About 20 per cent of the CWs had to cover more than four kilometers. One third of the FCWs and 41 per cent of the MCWs covered distance less than one kilometer. The rest covered one to three kilometers. While it is not an easy task to walk more than a kilometer everyday, these children seem to be better placed than working children of Sivakasi Match Industry, who come from villages as far as 30 kilometers as reported by Kothari (1983).

Considering the time needed to cover the distance by walk, it was observed a little over a third of the CWs took less than 15 minutes. It is distressing to note 38 and 28 per cent of the FCWs and MCWs respectively required more than 45 minutes (One way).

Forty one and 39 per cent of the FCWs and MCWs respectively opined the distance to reach the work spot as 'very far' irrespective of mode of transit and factual distance. Twentytwo per cent of the FCWs and eight per cent of the MCWs found the distance 'far'. Forty-two and 15 per cent of the MCWs and FCWs respectively considered the distance to be 'very near'. However an equal number of the MCWs and FCWs (45%) felt the distance to travel every day very difficult and the rest (34%) felt it easy.

2.9 CW's opinion about their work, time allocated and liking towards the job

Table 2.9 brings out the opinion of the CWs about their work, time allotted to complete work and liking towards the job.

TABLE 2.9
CW's OPINION ABOUT THEIR WORK, TIME ALLOCATED AND LIKING
TOWARDS THE JOB

(Figures in percentage)

Opinion about work and time	CWs		Cohort I	
	FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
1. Work done was				
Heavy	41	39	57	45
Moderate	56	53	43	42
Light	3	8	..	13
2. Time allocated was				
Adequate	84	83	40	16
Not adequate	16	17	60	84
3. Liking towards job				
Likes	12	17	13	13
Indifferent/not sure	44	44	23	35
Dislikes	44	39	63	52

Comparatively more number of the FCWs (41%) and FPCWs (57%) opined that they performed heavy work every day than their counterparts. It appears that the female children are burdened both at home and then at work spot as given expression to by them. More than half the CWs felt their work was moderate and very few of them (<8%) considered their work as easy and light.

Those who were working on 'time rate' payment scheme found the allotted time adequate, while those on 'piece rate' payment scheme felt time provided inadequate. Piece rate permits the CWs to exercise their work speed to maximise work output. Longer hours of work enables them to earn higher wage than 'time rate' workers where day's wage is fixed.

The work of the Cohort I included undoing the knitted thread to make 'cotton waste'. To undo one kilogram of knitted pieces, a child takes not less than 4-5 hours that fetches Rs. 2.25 only. This may be a reason for the Cohort I (72%) opinion of time as 'inadequate'. It is astonishing to observe only 12 per cent of the FCWs, 17 per cent of the MCWs and 13 per cent of the FPCWs, liked their job. Forty-four, 63, 39 and 52 per cent of the FCWs, FPCWs, MCWs and MPCWs respectively disliked the job. This could be the result of several years of continued monotonous work, without a change in the routine, and environment, without paid vacation; recreation and motivation.

2.10 Disciplinary action

Table below putsforth the disciplinary action to which the CWs were subjected to by the employers.

TABLE 2.10
DISCIPLINARY ACTION

(Figures in percentage)

Aspects		CWs	
		FCWs N=32	MCWs N=36
Reward received:	No comment	78	64
	Verbal	22	36
Punishment received	Physical	19	36
	Verbal	81	64

More number of the FCWs (78%) had 'no comment' from employers for their good work compared to their male counterparts (64%). Thirty six per cent of the MCWs had received verbal appreciation against 22 per cent of the FCWs.

A few of the FCWs(19%)were subjected to physical punishment than the MCWs(33%). The reverse trend was seen with regard to verbal punishment. The physical punishment practiced by employers as mentioned by the CWs consisted of hitting on back, head or slapping on cheek. However, most of the CWs expressed that they were scared of scoldings rather than physical punishment.

Contrary to the reports of Boonpala (1986), Satyarthi (1988) and Kothari (1983), the CWs in Tirupur hosiery industries

received less severe physical punishment. Employers reasoned that if they harshly punished a child, the child may quit the job, as every CWs has an advantage - a right to leave the job at any time he wishes or may create problem by bringing in the Union against the employer and the industry.

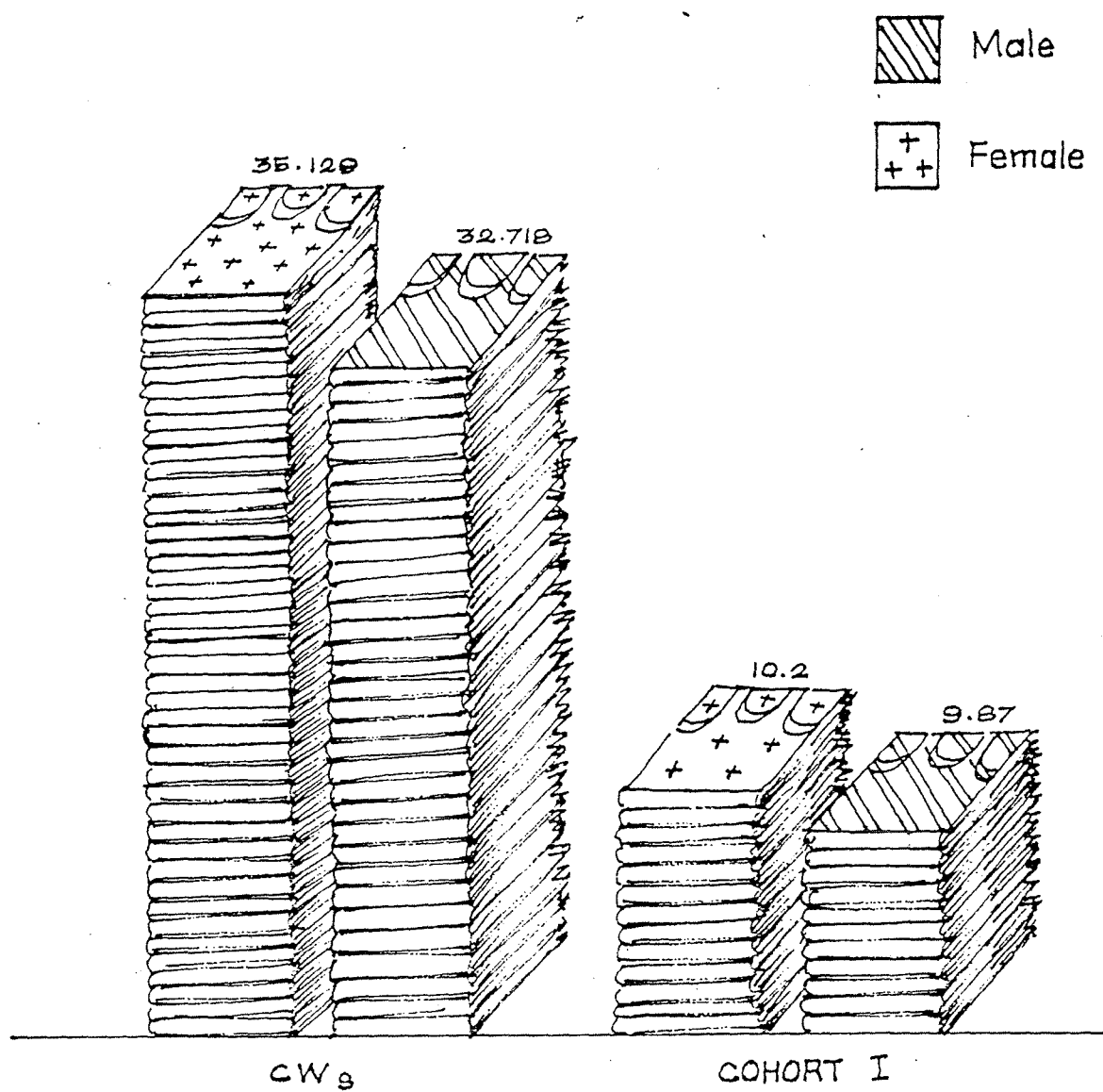
2.11 Remunerative workload scores

The Table 2.11 and Figure 21 furnish difference between the MCWs and FCWs and Cohort I in relation to remunerative workload scores. The scores assigned to the type, length and quantum of work done by the CWs amounted to remunerative workload scores, the details of which are given in Appendix III.

TABLE 2.11
REMUNERATIVE WORKLOAD SCORES

(Figures in percentage)

Category		Female	Male	'U' Test value
CWs	Mean	35.129	32.718	1.570
	N	32	35	
Cohort I	Mean	10.2	9.870	0.610
	N	30	31	



MEAN REMUNERATIVE WORKLOAD SCORES OF THE
CW₉ AND COHORT I

Figure -21

While extracting work was the main aim for the employers, earning wage was a high motivating factor for both the CWs and Cohort I to work. Uniformity of workload borne by both sexes of the CWs and Cohort I is disclosed with the obtained Mann-Whitney 'U' Test Values not being significant at 5 per cent level proves the hypothesis. An interesting finding was that employers did not differentiate between the sexes in assigning and extracting work.

2.12 Influence of certain factors on remunerative workload

Chi-square test values derived from the analyses of selected factors against remunerative workload are tabulated in the following Table.

TABLE 2.12

INFLUENCE OF CERTAIN FACTORS ON REMUNERATIVE WORKLOAD

S.No	Factor	Chi-square values			
		FCWs N=32	MCWs N=35	FPCWs N=30	MPCWs N=31
1.	Length of service	0.508	0.044	1.094	0.047
2.	Facility at industry	1.305	0.179	..	..

Computed Chi-square values not found significant at 5 per cent level confirms that there was no influence of length of service and facility provided at industry on the remunerative workload. This was so because type of work performed by the children were more physical, monotonous and mechanical where speed/quickness, a product of practice was the only criteria.

2.13 Workload at home

This section deals with the workload at home performed by the CWs and Cohort I under the following headings:

- 2.13.1 Household tasks entrusted to the CWs and Cohort I
- 2.13.2 Time spent on household tasks
- 2.13.3 Household workload scores and
- 2.13.4 Influence of certain factors on workload at home.

2.13.1 Household tasks entrusted to the CWs and Cohort I

Household work entrusted to the CWs and Cohort I by their parents every day (ED) and on holidays (H) is illustrated in Table 2.13.1.

TABLE 2.13.1
HOUSEHOLD TASKS ENTRUSTED TO CWS AND COHORT I

Household task	Cws				Cohort I			
	FCWs N=32		MCWs N=36		FPCWs N=30		MPCWs N=31	
	ED	H	ED	H	ED	H	ED	H
Fetch water	69	81	36	64	66	75	68	97
Collect fuel	9	22	..	22	..	3	3	6
Mop	13	38	3	3	19	27	..	..
Sweep	75	94	25	31	83	60	23	52
Process food	25	63	6	31	30	37	26	51
Baby sit	9	16	3	6	3	3	1	3
Wash vessel	66	81	8	22	77	70	19	35
Shop	19	43	53	81	30	33	74	74
Wash clothes	6	28	3	8	23	50	6	16

More number of the FCWs than the MCWs were entrusted with every-day household chores such as sweeping (75%), fetching water (69%) and washing vessel (66%). Similar trend was observed with their counterparts, Cohort I.

The FPCWs performed more household work compared to the MCWs on holidays. However, household work done by the FCWs was more than the rest of the other groups. The reason for the MCWs' less involvement in household task was mainly due to the parents' inability to control their economically independent MCWs on

holidays. It is a day of viewing movies. This also brings to light that earning brings freedom on the part of children. Observed frequency of large number in all the groups of children involved in fetching water highlights lack of adequate water facilities in this particular community.

2.13.2 Time spent on household work:

The number of hours spent on household tasks by the CWs and Cohort I are presented in Table 2.13.2.

TABLE 2.13.2

TIME SPENT ON HOUSEHOLD TASKS BY THE CWS AND COHORT I

(Figure in percentage)

Time spent on household task (in hours)																			
		CWS					Cohort I												
		PCWS N=32		MCWS N=36		FPCWS N=30		MPCWS N=31											
		1-2	1	1/2	Nil	2	1-2	1	1/2	Nil	1-2	1	1/2	Nil					
Every day	M*	33	47	7	13	..	5	21	11	53	18	25	41	16	..	6	16	32	45
	E**	23	50	13	17	..	5	34	3	58	34	6	56	..	3	3	35	42	19
Holiday	M	43	36	7	13	5	19	48	11	17	28	31	34	3	3	10	26	29	35
	E	23	50	17	10	8	3	31	8	50	25	22	44	16	3	10	35	39	16

* Morning; ** Evening

Nearly one quarter of the FCWs interviewed worked for more than two hours even morning and evening, all days of the week. This was so for the FPCWs who worked for one to two hours. Comparatively a few MCWs and MPCWs engaged themselves in household work for more than one hour. This finding again highlights the hardship and stress faced by the FCWs.

But for a few FPCWs (13%) and FCWs (3%) all the others had spent some time on household chores, as regards MCWs nearly half of them had not spent even a few minutes, on the same.

A striking feature of this Table is that almost all the FCWs, as that of Cogles and Tasker (1982) finding, worked at home both mornings and evenings, all days of the week. The MCWs spent less time on household work compared to the MCWs.

2.13.3 Workload performed at home

Every task (type) carried out by the child was given one mark each for daily work and on holiday. For those children who spent more than 2 hours on household task were given 4 mark each morning and evening and if no time spent it carried zero score. Hence the total maximum workload score possible was 34 (Appendix III). The difference between the sexes with respect the workload performed at home is illustrated in Table 2.13.3 and Figure 22.

TABLE 2.13.3
HOUSEHOLD WORKLOAD SCORES

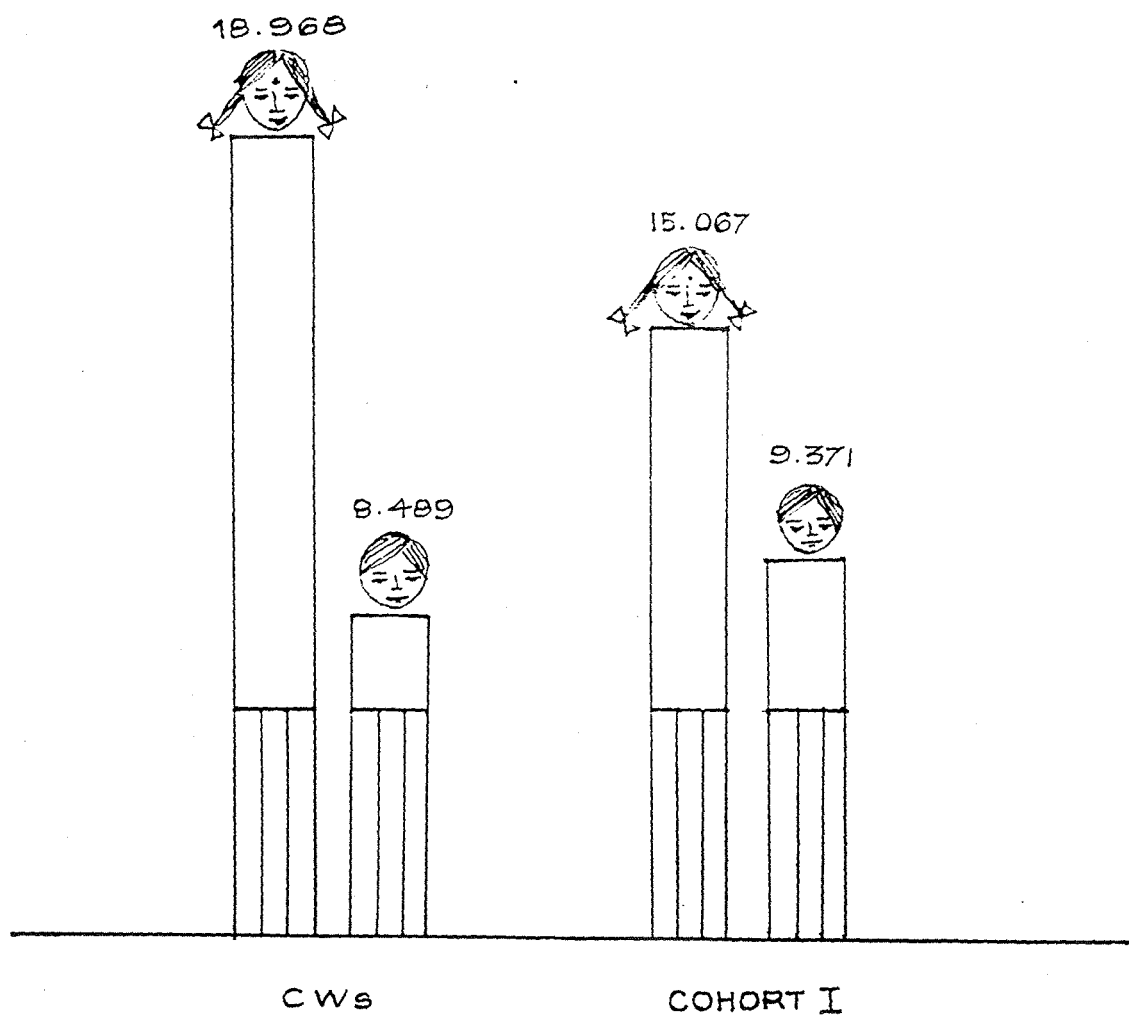
Category		Female	Male	'U' test value
CWs	Mean	18.968	8.489	6.620*
	N	32	35	
Cohort I	Mean	15.067	9.371	4.750*
	N	30	31	

*Significant at 5% level

Significant difference between the sexes with regard to quantum of work done at home was seen thus rejecting the hypothesis at 5 per cent level in both the categories of workers, much more being the thrust on female children.

The above finding is supported by the results of Phinalc(1987). The social norm that girls must involve and perform domestic task, learn sex roles at an early age appears true to almost to every female child, inspite of being an earning member.

This stresses that female children are bogged down with more household tasks than their counterparts. Keeping in view that female children performed the same amount of remunerative work as male children, it is essential that the concerned authorities exercise stringent measures to lessen the burden on the girl child both at industry and at home, and educate the public through mass media.



MEAN HOUSEHOLD WORKLOAD SCORES OF THE CW_s
AND COHORT I

Figure-22

2.13.4 Influence of some selected factors on workload at home

Chi-square test values given in Table 2.13.4 indicate influence of certain factors on workload at home.

TABLE 2.13.4
INFLUENCE OF SELECTED FACTORS ON WORKLOAD AT HOME

Factores	Chi-square Values			
	CWs		Cohort I	
	FCWs N=32	MCWs N=35	FPCWs N=30	MPCWs N=31
Socio-economic status	0.283	0.686	0.362	3.712
Family size	0.894	0.077	0.332	0.149
Ordinal position	0.801	3.243	1.544	3.398

The common notion that better SES lessens workload owing to the possession of some labour saving devices and better facilities; smaller family size increases the burden of work due to fewer hands to share tasks; the higher the birth order the greater the workload was not found applicable to the CWs under study because neither socio-economic status (SES) nor family size nor ordinal position of the child influenced performance, type or the quantum of work done at home, as the computed Chi-square values were found to be insignificant at 5 per cent level proving the hypothesis. However, the obtained figures show some influence of SES on the MPCWs and ordinal position on the MCWs and MPCWs' workload at home.

It could be the necessity to work at peak hours of the day; to fulfil the demands of every day routine, involvement of being a useful member and opportunity to learn the various sex role skill which could have been the contributing factors that had motivated/influenced the quantum of work done by the individual category of workers.

3. SCHOOLING AND EDUCATION

This section consists information with respect to the following:

3.1 Reasons for not attending school

3.2 CWs' interest in pursuing education and

3.3 Preferences towards learning

3.1 Reasons for not attending school

Reasons for not attending school as mentioned by the respondents are recorded in the following Table.

TABLE 3.1
REASONS FOR NOT ATTENDING SCHOOL

(Figures in percentage)

Reasons	CWs	
	FCWs N=32	MCWs N=36
Economic problem	59	53
Parent did not allow	56	42
Not interested	50	58
Failed	34	55
Education not useful	12	14

Failure in school examinations (55%), disinterest (58%), and disapproval by the parents (48%) were the MCWs' reasons for not attending school. In the case of the FCWs, the reasons centred around economic problem (59%), parental disapproval (56%) and disinterest (50%). In concurrence with a study done by the NIPCCD as early as 1978, lack of interest in education emerge prominently as one of the reasons for dropping out from school. The CWs confessed that they were withdrawn from school and put to work, since they repeated in a class.

Lack of facilities, lack of qualified teachers and less relevant curriculum lead to retention in the same class which perhaps results in dropping out and ultimately to increased illiteracy. In order to curtail such national wastages as proposed in National Educational Policy (1986), a shift in emphasis from sheer enrolment to retention and quality of education, for providing a comprehensive system of incentives and support systems for girls such as two sets of free uniform, free text books, stationary and attendance is recommended.

Those who found education not useful (13%) felt mere education does not help improve existing economic condition and cited relevant examples of successful workers and proprietors of industries doing well without education. The attitude of these CWs could not be ignored as Kotval (1984) has said that learning in Municipal School is little more than memorising facts and very few children remain literates even if they attend class six or seven. This finding necessitates an education more vocational by nature.

3.2 CWs' interests in pursuing education

The CWs' interest in pursuing education and reasons for the same are highlighted in Table 3.2.

TABLE 3.2
INTEREST AND REASONS FOR PURSUING EDUCATION

(Figures in percentage)

S.No	Particulars	CWs	
		FCWs N=32	MCWs N=36
1.	Interested if provided in the industry premises	69	50
	Not interested in education	31	50
2.	Interested in attending school	41	33
	Not interested in attending school	59	67
3.	Reason for being interested in learning/attending school		
	Bored with work	37	44
	To learn to write and read	12	6
	To take up good job	6	25
	To be a better person	6	14
	Enjoy school vocation	6	3

Sixty nine per cent of the FCWs and 50 per cent of the MCWs declared their interest in education only if facilities were provided within the premises of the industry in which they worked.

This indicates the sustained longing to learn, and the need for educational opportunities and intervention programmes which might lure the interest of the other CWs who are disinterested in such a pursuit. Interest in education was justified mentioning that they were bored with stereotyped work in the industry want to take up better job; be a better person ; learn to write and read and enjoy the privilege of 'leave' that comes along with schooling. More than 50 per cent of the CWs admitted that they were least interested in education. Disinterest to attend school may be due to the unconducive atmosphere that exists in the schools to which they had had accessibility, and the curriculum might not have impressed the children in terms of practical, immediate utility or it could be difficult to the child's level of learning and irrelevant to child's needs. Inclusion of work/vocational experience in the syllabus may play a significant role providing adequate employment opportunities and creating sense of dignity of labour, and unifying education and work (Bhatnager, 1986).

3.3 Preference towards learning

The CWs efforts made to learn three R's and their preferences with respect to time of the day; number of hours; type of education and teacher are illustrated in Table 3.3.

TABLE 3.3

PREFERENCES TOWARDS LEARNING

(Figures in percentage)

S.No	Details	CWs	
		FCWs N=22	MCWs N=18
1.	<u>Efforts made to know about schooling:</u>		
	None	73	39
	Go through school book	23	55
	Talk to sibs/friends	4	5
2.	<u>Time of the day preferred:</u>		
	Inbetween working hours	41	50
	After working hours	23	22
	Prior to working hours	4	17
	Any time	32	11
3.	<u>Number of hours:</u>		
	One hour	54	72
	Two hours	23	11
	Less than one hour	23	17
3.	<u>Type of education:</u>		
	Formal	45	55
	Informal	27	..
	Either	9	22
	Job oriented	18	22
4.	<u>Teacher preference:</u>		
	Female	96	29
	Male	..	44
	Either	4	27

Among those CWs interested in pursuing education, 73 per cent of the FCWs and 39 per cent of the MCWs had made no effort of their own to learn the three R's. No doubt one has to agree that there is no motivation whatsoever in their ecological setting to emerge forth with such interests. However, about 45 per cent of the CWs felt that literacy programme inbetween working hours would be convenient. Spontaneous eagerness to learn was expressed by 32 and 11 per cent of the FCWs and MCWs respectively and they mentioned any time would be convenient.

More than half the FCWs and about three fourths of the MCWs said the they would devote an hour a day for literacy programme. Some of the CWs (20%) said that they can afford to spend only less than an hour as their lunch break was for an hour between 12 and 1 p.m. and since a longer period for educational programme would cut down their wages.

While 50 per cent of the CWs confessed that they would opt for formal education with the reason that writing and passing an examination is the only instrument that makes an individual learn thoroughly of what is expected to learn, only 20 per cent said that they would learn if it helps in developing vocational skills. This aspect is a welcome change since the National Policy on Education (1986) also stresses the same.

Majority of the FCWs (95%) hinted at a preference for female teachers against 44 per cent of the MCWs who preferred male teachers, the former reflecting the cultural expectation that the female must study under a female teacher.

4. INTELLIGENCE

The contents of this section are presented under two major headings as given below:

- 4.1 Performance scores on Bhatia's Battery of test of Intelligence
 - 4.1.1 Kohs Block Design Test
 - 4.1.2 Passalong Test
 - 4.1.3 Pattern Drawing Test
 - 4.1.4 Immediate Memory Test
 - 4.1.5 Picture Completion Test and
 - 4.1.6 Total performance scores
 - 4.2 IQ Scores
 - 4.2.1 Mean IQ Scores of the CWs and Cohorts
 - 4.2.2 Mean IQ Scores - Sexwise and
 - 4.2.3 Mean IQ Scores - Length of Service.

4.1 Performance scores on Bhatia's Battery of test of Intelligence

The scores obtained on the five subtests of Bhatia's Battery by the selected samples are presented in the following Tables. Among 31 FCWs selected for this study, only six of them were literates and so they alone were considered for comparative analyses for this part. The rest being (25) illiterate could not be considered for comparison with their literate counterparts.

4.1.1 Performance scores on Kohs Block Design Test

Table 4.1.1 puts forth the Kruskal-Wallis test (H) values of Kohs Block Design test scores.

TABLE 4.1.1

PERFORMANCE SCORES ON KOHS BLOCK DESIGN TEST

Groups	Female			Male			Difference between sex 'H' Value
	N	Mean	'H' Value	N	Mean	'H' Value	
<u>Between Groups:</u>							
CWs	6	5.0		22	4.82		1.28
Cohort I	30	5.86	3.35	31	6.56	4.28	2.16
Cohort II	30	6.70		32	7.28		3.13
<u>Between Experience:</u>							
CWs							
2 Years	3	4.0		13	4.86		
>3 Years	3	6.0	0.78	9	4.78	0.68	
Cohort I							
2 Years	16	5.56		17	7.12		
>3 Years	14	5.86	1.14	14	6.07	1.68	

* Significant at 5% level

The computed H values indicate that neither the Cohort I nor the Cohort II differed significantly from the CWs irrespective of sex and length of service, proving the hypothesis (5% level). The mean scores of all categories of children were low. The average scores of these children were one fourth of the maximum score (25).

The low performance of the children may be attributed to their long working hours; involvement in machanical tasks of making cotton waste and fewer opportunities to exercise their abstract reasoning ability and analytic - synthetic activity within their immediate environment, -- poor socio economic background with no intellectual stimulation and opportunities for socio-personal interactions.

4.1.2 Performance Scores on Passalong Test

Analysed values of performance scores on Passalong test between the CWs and the Cohorts are tabulated in Table 4.1.2.

TABLE 4.1.2

PERFORMANCE SCORES ON PASSALONG TEST

Groups	Female			Male			Difference between sex 'H' value
	N	Mean	'H' Value	N	Mean	'H' Value	
<u>Between Group:</u>							
CWs	6	8.00		22	9.00		1.72
Cohort I	30	8.70	3.34	31	9.00	2.86	0.98
Cohort II	30	9.30		32	8.33		1.86
<u>Between Experiences:</u>							
CWs	3	8.00	0.0	13	9.46	2.85	
2 Years							
>3 Years	3	8.00		9	8.34		
Cohort I	16	8.75		17	9.05		
2 Years							
>3 Years	14	8.64	0.62	14	9.58	1.92	

* Significant at 5% level

The H values arrived reveal that most of the categories of children significantly differed in their performance in Passalong test. This accepts the hypothesis at 5 per cent level and indicates parity in the level of abstract reasoning in terms of sex, years of experience among the three categories of children - CWs, Cohort I and II. The performance of children in this domain of test follows the same trend as in the case of koh's Block Design test.

Group-wise, the mean scores are uniformly low. The rationale behind such a level of performance could be the CWs being imposed in specific tasks in hosiery industries such as bundling, checking damage and preliminary finishing that did not call for abstract reasoning. As regards the Cohort I, the physical stress and strain, demands on the mechanical work and thrust on rote learning might have curtailed the range of abstract reasoning. As the children hailed from low SES, the non-stimulative milieu in which they lived may also be assumed as a responsible factor for the poor performance.

There is an urgent need for these categories of children for meaningfully planned nonformal education and play opportunities to introduce and enhance their abstract reasoning ability to the optimum level.

4.1.3 Performance Scores on Pattern Drawing Test

The following Table documents the H values of performance scores in Pattern Drawing test.

TABLE 4.1.3

PERFORMANCE SCORES ON PATTERN DRAWING TEST

Groups	Female		Male		Difference between sex 'H' Value	
	N	Mean	'H' Value	N	Mean	'H' Value
<u>Between Group</u>						
CWs	6	6.00		22	6.09	0.23
Cohort I	30	7.43	3.42	31	8.55	4.85
Cohort II	30	7.47		32	8.72	2.21
<u>Between Experiences</u>						
CWs	3	6.67		13	5.9	
2 Years						
>3 Years	3	5.33	1.21	9	6.36	1.32
Cohort I	16	7.88		17	8.82	
2 Years						
>3 Years	14	6.92	1.46	14	8.22	1.66

* Significant at 5% level

No significant differences were observed between the CWs and the Cohort I and II in their performance in Pattern Drawing test. This accepts the hypothesis at 5 per cent level. The overall mean scores of these groups were one third of the total score (20). Though statistically insignificant, the Cohort II outweighed the CWs in their performance, scoring a higher mean to the tune of 1.5 and 2.7 in the case of the FCWs and MCWs respectively, echoing the influence of education on the specific ability at task in this test.

The concentration and ability to keep, follow more than one rule simultaneously and visual mapping required to draw the given pattern were menial among the children of the selected groups. This may be due to the minimal play and work opportunities availed by the children in these developmental areas of concern.

There appears a dire need for refining the education in Municipal schools and educational opportunities for the CWs to facilitate them to develop their abilities.

4.1.4 Performance Scores on Immediate Memory Test

Table 4.1.4 records the differences in performance scores in Immediate Memory test between the CWs and the Cohorts.

TABLE 4.1.4

PERFORMANCE SCORES ON IMMEDIATE MEMORY TEST

Groups	Female			Male			Difference between sex 'H' Value
	N	Mean	'H' Value	N	Mean	'H' Value	
<u>Between Groups:</u>							
CWs	6	6.33		22	6.32		0.13
Cohort I	30	8.23	3.48	31	8.32	6.13*	0.69
Cohort II	30	8.21		32	9.22		1.57
<u>Between Experience:</u>							
CWs	3	8.00	3.96*	13	6.46		0.98
>3 Years	3	4.67		9	6.10		
Cohort I	16	8.25		17	7.88		1.93
>3 Years	14	8.21	0.57	14	8.86		

* Significant at 5% level

The H values reveal significant differences at 5 per cent level rejecting the hypothesis - the performance on Immediate Memory Test between the three groups among the MCWs and between length of service among the FCWs are same. The CWs scored significantly lower mean scores as against their school attending counterparts.

The CWs tasks in the industry included more of physical activity to be performed with speed, which provided no opportunities to tasks that required memorizing, as the work was assigned to them stage-wise, that is, on completion of each work given. These and involvement in the same tasks for long duration could be the other causative factors for the CWs' low performance.

4.1.5 Performance Scores on Picture Completion Test

Table 4.1.5 brings out the differences in performances in Picture Completion test between the CWs and the Cohorts.

TABLE 4.1.5

PERFORMANCE SCORE ON PICTURE COMPLETION TEST

Groups	Female		Male		Difference between sex	
	N	Mean	'H' Value	N	Mean	'H' Value
<u>Between Groups</u>						
CWs	6	6.5		22	7.45	2.83
Cohort I	30	6.13	2.94	31	7.55	2.32
Cohort II	30	7.3		32	8.50	2.46
<u>Between Experiences:</u>						
CWs	3	4.67	3.96*	13	7.23	1.86
>3 Years	3	8.33		9	7.73	
Cohort I	16	5.88		17	8.29	3.14
>3 Years	14	6.42	1.21	14	6.65	

* Significant at 5% level

Only the FCWs with two years of work experience secured significantly lower scores (at 5% level) in Picture Completion test as compared to their counterparts (FCWs) with more than three years of service. This disproves the hypothesis.

Tasks at industry done by the CWs particularly while checking damage and preliminary finishing and folding sleeve demanded keenness to detect the defects; cutting the pieces and joining them accurately before handing it over for sewing at remarkable speed, involved whole-part comprehension for performing the task similar to the picture completion.

4.1.6 Total performance Scores

Differences in total performance scores of five sub tests between the CWs and the Cohorts are documented in Table 4.1.6

TABLE 4.1.6

TOTAL PERFORMANCE SCORES

Groups	Female			Male			Difference between sex 'H' Value
	N	Mean	'H' Value	N	Mean	'H' Value	
<u>Between Groups</u>							
CWs	6	31.83		22	32.32		1.13
Cohort I	30	35.93	8.17*	31	40.58	8.65*	3.95*
Cohort II	30	38.97		32	42.10		3.92*
<u>Between Experience:</u>							
CWs	3	31.33		13	31.62		
2 Years							
>3 Years	3	32.33	0.05	9	33.33	3.36	
Cohort I	16	35.63		17	41.65		
2 Years							
>3 Years	14	36.28	1.34	14	39.23	3.23	

* Significant at 5% level

Significant difference at 5 per cent level was evident between cumulative performance scores of the five sub tests between the male and the female children of the Cohort I and II. No such differences was observed between the MCWs and the FCWs. The male children had higher mean scores than their female counter parts in both the Cohort groups. The total mean scores of the Cohort II of both the sexes were significantly higher (5% level) as compared to the CWs and Cohort I. Both male and female children of the Cohort I had higher mean scores than their respective female counterparts. The performance of children did not vary significantly according to the length of their service.

Though performance in individual sub tests did not reflect evidences of significant difference between the groups. The cumulative scores show that the Cohort I and II performed better than the CWs, which could be due to their exposure to educational opportunities to whatever it is worth.

4.2 IQ Scores

The total performance scores of the selected sample on Bhatia's Battery of Test of Intelligence were converted to IQ scores, on the basis of norms for literates and illiterates. The mean IQ scores of the CWs and Cohort I and II are enlisted in the Tables below.

4.2.1 Mean IQ scores of the CWs and Cohorts

't' values computed to estimate the differences between the CWs, Cohorts I and II are tabulated in the following Table.

TABLE 4.2.1
THE MEAN IQ SCORES OF CWS AND COHORTS

Groups	N	Mean	S.D.	't' value
CWs Vs Cohort I	66 61	92.88 95.05	10.47 11.27	1.122
CWs Vs Cohort II	66 62	92.88 98.27	10.47 11.03	2.832**
Cohort I Vs Cohort II	61 62	95.05 98.27	11.27 11.03	1.601

** Significant at 1% level

The results in Table 4.2.1 reveal that the IQ of the CWs and Cohort I being equal. The IQ of the Cohort I and Cohort II were also found to be equal, whereas the CWs have significantly lesser IQ (Mean = 92.88) than the Cohort II. This rejects the null hypothesis at 1 per cent level. This clearly shows that the CWs who are deprived of their schooling have a definite disadvantage in terms of IQ, though their IQ (92.88) is in the lower bracket of average IQ (90 to 100).

Lower mean IQ scores of the CWs could be the result of that category contributing larger number of children who had dropped out of school due to failure in examination which might

have been due to the reasons such as incompetency to pursue the academic exercise that demands a certain level/sum of cognitive skill; continuous, monotonous and mechanical work, long hours; tension and anxiety regarding the employers' reaction towards the child's involvement in work and the remarkable awareness of duty and time in the CWs. The performance of the Cohort I can be attributed to factors such as stress and strain on the individual child. It is encouraging to observe that these children do not differ significantly from the Cohort II. Perhaps, with more attention and training in education, these children can become on par with the Cohort II.

4.2.2 Mean IQ Scores - Sexwise

Table below documents obtained 't' values, indicating differences between IQ scores of the female and male children of the three groups.

TABLE 4.2.2
MEAN IQ SCORES - SEXWISE

Group	Sex	N	Mean	S.D.	't' Value
CWs	Female Vs	31	93.77	9.80	0.654
	Male	35	92.09	11.09	
Cohort I	Female Vs	30	92.13	10.18	2.05*
	Male	31	97.87	11.72	
Cohort II	Female Vs	30	96.57	10.36	1.189
	Male	32	99.88	11.56	

* Significant at 5% level

The difference between the mean IQ scores of the FCWs and MCWs being not significant at 5 per cent level accepting the hypothesis, it indicates uniformity in IQ scores between the sexes and supports the finding of Table 4.2.2, that the sex played no role in securing lower performance scores. A reverse trend was observed in this regard with Cohort I, as the difference between the sexes was found to be significant at 5 per cent level.

The reasons for lower mean IQ scores obtained by the FPCWs could be their greater involvement in household tasks than their male counterparts as was found evident in Chapter 2 (Table 2.13.1; 2.13.2 and 2.13.3). It was these children who had to bear more workload than their counterparts and hence risk their mental development.

4.2.3 Mean IQ Scores - Length of Service

Table 4.2.3 documents 't' values that pinpoints the differences in the mean IQ scores of the CWs and Cohorts with reference to length of service.

TABLE 4.2.3
MEAN IQ SCORES - LENGTH OF SERVICE

Groups	Length of service	N	Mean	S.D.	't' Value
CWs	2 Years Vs	34	89.88	17.26	1.099
	>3 Years	32	93.81	11.34	
Cohort I	2 Years Vs	33	95.91	12.72	0.658
	>3 Years	28	94.04	9.42	

The hypothesis is proved at 5 and at 1 per cent level indicating no significant difference in the IQ scores within groups in terms of the length of service. One year difference between the length of service perhaps was not a long enough duration to find the difference and work per se might have contributed to maintain their IQ level. However, it should be noted that all the children had lower average IQ below 100.

5. HEALTH ASPECT

The health aspects of the CWs studied are explained in this section under the headings given below:

- 5.1 Nutritional status
- 5.2 Health problems and its frequency and
- 5.3 Health facilities received at industry.

5.1 Nutritional status

The mean and 't' values of heights and weights of the CWs and Cohort I and recorded in Table 5.1.

TABLE 5.1

MEAN HEIGHTS AND WEIGHTS OF CHILDREN

Age in years		FCWs	Norm	FPCWs	t Value	MCWs	Norms	MPCWs	t Value
<u>Height</u>	11	Mean	131.6	138.28	2.722**	126.36	130.5	131.22	0.896
		SD		5.59		7.06		9.81	
		N		14		6		6	
	12	Mean	134.9	134.26	0.219	133.32	133.8	138.01	2.374*
		SD		6.62		5.37		6.32	
		N		8		20		17	
	13	Mean	135.4	145.12	1.96*	138.24		144.53	1.767
		SD		5.66		6.68	138.9	7.10	
		N		6		9		8	
	14	Mean	143.2	149.25	1.449	..	..	..	..
		SD		5.59					
		N		2					
<u>Weight</u>	11	Mean	25.1	27.33	1.700	21.4	24.8	22.46	0.608
		SD		3.65		2.08		3.30	
		N		14		6		6	
	12	Mean	28.4	24.85	1.115	25.27	27.6	25.8	0.462
		SD		2.72		2.08		4.12	
		N		8		20		17	
	13	Mean	28.6	29.66	1.031	27.72	29.1	30.78	1.811
		SD		3.94		2.96		3.58	
		N		6		9		8	
	14	Mean	34.5	32.6	0.813	..	..	..	..
		SD		7.64					
		N		2					

Height-wise, except 14 year old FCWs and 11 year old MCWs, all the other children were on par with the NIN Standard Norms (Gopalan and Raghavan, 1971). Weight-wise, 11 and 13 year old FPCWs were slightly above the norms, while the rest had lower weights. All the male children of both the groups except 13 year old MPCWs, weighed less than the standard norms with small fluctuations. The female children appear to be lower than the standard norms in their height and weight. The health status of the female children is dismal and alarming. This may become an important to a more complete socio-physiological wholesomeness of the girls. Eleven and 13 year old FPCWs were significantly taller by 6.2 cms and thus disproving the hypothesis at 1 and 5 per cent level respectively. Only 12 year old MPCWs were taller by 4.7 cms found significant at 5 per cent level.

Graphical representation of mean heights and weights in Figure 23 shows that almost all the categories of children fell in line with the norms with respect to heights and were lesser in weights against the norms. However, the Cohort I were better placed in their heights and weights than the CWs. The reasons for the CWs' lower weight may be the result of their long working hours and inadequate food intake, while the reasons for better nutritional status of the Cohort I could be attributed to the fact that they were regularly participating in Chief Minister's Nutritious Noon Meal Programme/School Lunch Programme since they began attending school. This is also supported by Devadas's (1983) study who found that children participating in the School

— NIN standard norms.

— CWs.

--- Cohort I

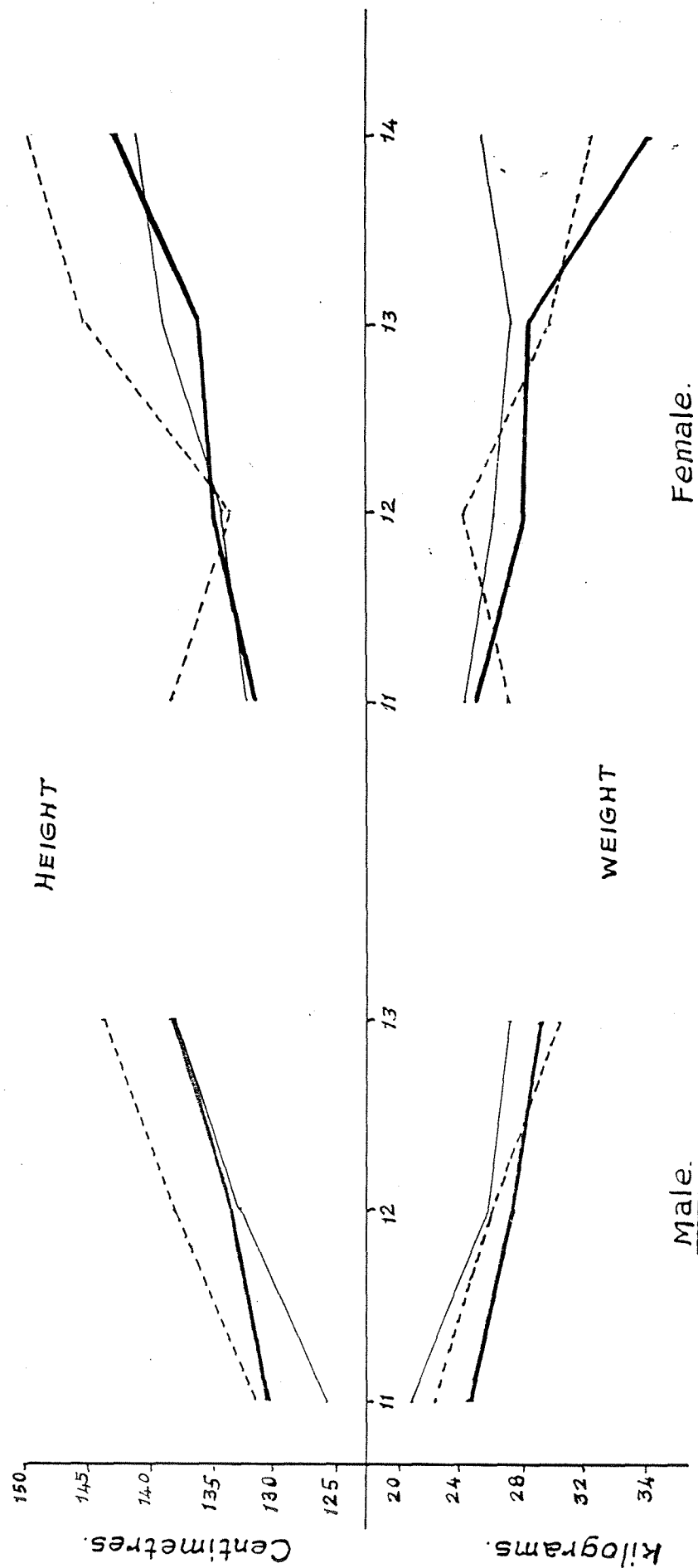


Figure : 15

MEAN HEIGHTS AND WEIGHTS OF CWs AND COHORT I

Lunch Programme had significantly greater heights and weights over the control group. Devadas's (1987) study revealed that continuous participation of children in Chief Minister's Noon Meal Programme had improved the nutritional status of the children. Keeping in view these outcomes, efforts to fulfil the nutritional needs of the CWs by making it obligatory for the employers to provide the CWs with nutritious meal in the industry, at subsidised rate. This arrangement may improve the nutritional status of the CWs.

5.2 Health problems and its frequency

Table 5.2 records the health problems in the selected sample and the frequency of its occurrence.

TABLE 5.2

HEALTH PROBLEMS AND ITS FREQUENCY

Particulars	CWs		Cohort I	
	FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
<u>Health problem:</u>				
Headache	66	47	47	48
Poor appetite	59	47	40	..
Tiredness	50	42	17	..
Neck/shoulder pain	41	22	70	..
Waist/hip pain	34	17	66	..
Running nose/ blockage	31	25	13	29
Throat driness/pain	25	17	47	16
Stomach pain	25	22	7	10
Nausea	19	..	26	..
Leg/knee pain	14	10	22	..
Sleeplessness	13	14	17	..
Eye burning/watering/ itching	6	8	26	..
Cough	6	6	7	..
<u>Frequency:</u>				
Very frequent	9	..	6	..
Frequent	59	55	47	32
Rare	29	42	37	52
None	3	3	10	16

Commonly reported health problems by the CWs, as was found by Onyango (1985) and Rasagam (1987) were headache (66% FCWs and 4% MCWs), poor appetite (59% FCWs and 47% MCWs) and tiredness (50% FCWs and 42% MCWs). Comparatively more number of the FCWs and FPCWs complained of neck, shoulder, waist/hip, and leg/knee pain. Twenty-five and 22 per cent of the FCWs and MCWs, seven and 10 per cent of the FPCWs and MPCWs respectively pinpointed stomach pain. Only female children reported of nausea. But for 26 per cent of the FPCWs, very few CWs had eye problems.

As regards frequency of health problem faced, 59 and 55 per cent of the FCWs and MCWs respectively had it frequently, while it was so with 47 per cent of the FPCWs and 32 per cent of the MPCWs. While headache could be the result of continuous noise of power operated sewing machines and power generators. The other health problems may be attributed to excessive work and exhaustion, working in restricted position for long hours and inadequate food consumption.

In general, it is the female children who had more health problems compared to their counterparts. In the light of female children being responsible for more family tasks in Indian culture, such health problems might curtail their growth potentials, activities and affect their health adversely. The main reason for more health problems in females could be their dietary pattern which included major cereal cooked with very little pulse and no vegetables.

5.3 Health facilities received at industry

Health facilities received at industry by the CWs during their sickness are shown in the following Table.

TABLE 5.3

HEALTH FACILITIES RECEIVED AT INDUSTRY

(Figures in percentage)

Particulars	Cws	
	FCWs N=32	MCWs N=36
Help received from employer when sick	3	6
Medical facility at industry		
None	94	89
Free medicine without check up	6	11
Regular check up	..	..
Other facility received		
Leave without pay	100	89
Reduced workload	..	11

It is astonishing to observe employers neglecting any type of medical facility to the CWs though The Child Labour Act (Prohibition and Regulation Act) 1986 specifies it as a prerogative. On the contrary, a few cases where workload was reduced for health reasons, the CWs proportionately received reduced remuneration. Immediate attention from the concerned

authorities is essential to enable every CW to avail health benefits provided for adult workers. On long term basis, they must implement specific health schemes with preventive and curative measures particularly where the CWs are involved more.

Employers were of the view that children were adequately remunerated to care for their medical expenses and that the employer is in no way responsible to provide such facility. However, the proposal of National Policy of Education (1986) to make employers of working child to provide rest and nutrition and exemplary punitive action against employers who fail to do so, is a welcome feature.

6. SOCIAL ASPECTS

This part illustrates the social aspects of the CWs and Cohort I under the following headings:

- 6.1 Social aspects of the CWs and Cohort I
 - 6.1.1 Negative social aspects observed in the MCWs
- 6.2 Play and recreational activities of the CWs and Cohort I
 - 6.2.1 Play activities of the CWs and Cohort I
 - 6.2.2 Recreational activities
 - 6.2.3 Satisfaction regarding recreational activities
- 6.3 Aspiration
 - 6.3.1 Educational aspiration and
 - 6.3.2 Vocational aspiration.

6.1 Social aspects of the CWs and Cohort I

Social aspects of the CWs and Cohort I considered for assessment are listed in Table 6.1.

TABLE 6.1

SOCIAL ASPECTS OF THE CWS AND COHORT I

(Figures in percentage)

S.No.	Details	CWS		Cohort I	
		FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
1.	Has close friends	100	100	100	100
2.	Has more than one friend	100	94	100	94
3.	Age level of the friends				
	Lower	9	8	10	..
	Higher	16	14	7	10
	Both	50	56	50	42
	Same	25	22	30	48
4.	Friends belong to				
	Same sex only	94	56	83	100
	Same and opposite sex	6	44	17	..
5.	Type of friends at work place				
	Co-workers only	100	92	17	10
	School going children	..	..	10	55
	Both	..	8	20	16
	None	..	..	53	19
6.	Type of friends at neighbourhood				
	Co-workers only	16	5	..	..
	Working children	50	56	17	..
	School going children	6	3	53	77
	All types	31	36	30	23

Both the CWs and Cohort I had friends and close friends. Excepting a few, the majority of them had more than one friend. Nearly half of each group had friends belonging to both lower and higher age levels. Fewer CWs had friends of the same age than the Cohort I, being coworkers to individuals belonging to varied age groups.

Almost all the FCWs (94%) and MPCWs (100%) had friends belonging to same sex. It was interesting to record 44 per cent of the MCWs and 17 per cent of the FPCWs having same and opposite sex friends. The CWs irrespective of age and sex, were seen to work on par with each other. It was observed in the CWs, though they had good friends belonging to opposite sex (co-workers), they denied the fact due to fear of social disapproval and shyness.

Most of the CWs had co-workers friends at work place. Fifty three per cent and 19 per cent of the FPCWs and MPCWs respectively had no friends at work place, this was so because they worked in their homes along with their family members. The Cohort I having friends at work place were the children who worked together with peers forming a group in a common place. A large number of the FPCWs working at home highlights the conformity to social norm, that girl child should remain at home. Very few CWs had school going friends and this reflects lack of social interaction between them. The trend was the same with the Cohort I.

6.1.1 Negative social aspects observed in the MCWs

Negative social aspects noted in the MCWs are enumerated in Table 6.1.1.

TABLE 6.1.1
NEGATIVE SOCIAL ASPECTS IN MCWs

S.No/	Aspects	MCWs N=36 %
1.	Games played on monetary grounds	
	On holidays	39
	Occasionally (once in 8 days)	33
	Never	28
2.	Tried smoking	75
	Never	25
3.	Smoking was motivated by	
	Age mates	52
	Older colleagues	22
	Social imitation	26
4.	Frequency of smoking	
	Once a week	56
	Once in few days	22
	Occasionally	22

Seventy two per cent of the MCWs played games involving monetary commitment, mainly through traditional games as indicated in Table 6.3. Some of the MCWs confided that if they lost money in the games and were not able to hand over the usual sum, they would lie to parents saying that they received less pay due to inadequate work in the industry.

Three fourth of the MCWs accepted having tried smoking. Of these, 52 per cent of the boys stated that it was more of a peer group influence, while 22 and 26 per cent of them remarked older co-workers and social imitations respectively encouraged to try smoking. These findings are similar to that of a study done by Oei, et al (1986) and Krosnick and Judd, (1982) who have highlighted peers to be influential in smoking behaviour in pre-adolescences.

Fifty-six per cent of the MCWs smoked once a week. Frequency of smoking once in few days (> once a week) and occasionally (once in > 8 days) was reported by 22 per cent each. Informal conversation with the CWs, Cohort I and adult workers revealed that while viewing movie most of the children smoked left over bits of beedies collected on the street, while some bought new ones. There needs some immediate action to pinch the negative influence during this critical stage of life.

6.2 Play and recreational activities of CWs and Cohort I

The details of play and recreational activities pursued by the CWs and Cohort I during their leisure time are documented under the Table headings given below:

- 6.2.1 Play activities of the CWs and Cohort I
- 6.2.2 Recreational activities
- 6.2.3 Satisfaction regarding recreational activities

6.2.1 Play activities of CWs and Cohort I

Table 6.2.1 contains the details regarding the play activities of the CWs and Cohort I.

TABLE 6.2.1
PLAY ACTIVITIES OF CWs AND Cohort I

(Figures in percentage)

S.No.	Activities	CWs		Cohort I	
		FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
1.	<u>Plays with friends</u>				
	Every day at home	..	8	..	13
	Every day at school	..	...	37	19
	Once a week	25	66	20	39
	Occasionally	44	25	40	26
	Never	31	..	3	3
2.	<u>Nature of games played</u>				
	During holidays				
	Individual game	..	8	..	..
	Group game	100	92	100	100
	During work/lunch break at school				
	Individual game	..	..	..	..
	Group game	..	..	100	100
3.	<u>Type of games played</u>				
	Traditional game	100	92	53	58
	School game	23	..	100	97

To the CWs (47%), play was an activity to be involved once a week. About 20 per cent of both the CWs and Cohort I groups played occasionally. It is but natural for the Cohort I to have played during games period and school interval. Thirty one per cent of the FCWs never took part in play activities, because their parents disallowed them to play as they considered them too old to play. The finding supports the outcomes of the Table 7.7, where parents said that they never encouraged their children to play.

A striking contrast was noted with reference to type of games played by the CWs and Cohort I. Ninety two per cent of the CWs played only traditional games such as stone play, house play, marble, top, pilli, dayam katta, etc. About 98 per cent of the Cohort I played school games viz., cricket, kabadi, Kho-kho, basket ball, etc. as well as traditional games (58%). This observation highlights the reasons for socialization being highly minimum between the CWs and school going children (See Table 6.1).

6.2.2 Recreational activities

Leisure time recreational activities of the CWs and Cohort I involved during holidays (H) and every day (ED) are shown in Table 6.2.2.

TABLE 6.2.2
RECREATIONAL ACTIVITIES

(Figures in percentage)

S.No.	Recreational activities	CWs				Cohort I			
		FCWs N=32		MCWs N=36		FPCWs N=30		MPCWs N=31	
		ED	H	ED	H	ED	H	ED	H
1.	Chit chat	75	84	72	94	50	80	87	90
2.	Listento radio	47	75	33	92	53	63	58	74
3.	Play	28	59	53	94	43	66	55	87
4.	Cinema/TV	..	69	..	89	..	53	19	58
5.	Read	1	3	5	8	80	80	48	65
6.	Leisure walk	..	..	..	72	..	..	42	58

Chatting was the most predominant recreational activity in all the groups excepting the FPCWs with whom reading other than text books was prominent. As for the FCWs, household work (75%) and listening to radio (75%) formed recreational activities while for their female counterparts they were reading (80%), play (66%) and radio listening (63%).

The majority of the MCWs (94%) played; listened to the radio (92%) and viewed cinema (89%). The MPCWs who had spent their leisure time in play, radio listening and reading were 87, 74 and 65 per cent respectively. Seventy two per cent of the MCWs and 58 per cent of the MPCWs went for leisure walk on holidays.

Those MPCWs who went for strolling every day numbered 42 per cent. Lack of opportunity, motivation, encouragement and pre-occupation in household chores among female children could be the reasons for their limited involvement in recreational activities. Thus it is evident that very few CWs seem to be investing their leisure in socially and/or personally useful activities which could help their intellectual or social growth.

6.2.3 Satisfaction regarding recreational activities

Satisfaction regarding recreational activities in which the CWs and Cohort I took part during their leisure time are putforth in Table below.

TABLE 6.2.3

SATISFACTION REGARDING RECREATIONAL ACTIVITIES

(Figure in percentage)

S.No	Level of satisfaction	CWs		Cohort I	
		FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
	Dissatisfied	28	42	27	48
	Not sure	35	17	13	23
	Satisfied	31	38	47	26
	Most satisfied	6	3	13	3

Over one fourth of the FCWs (28%) and FPCWs (27%) were dissatisfied with their recreational activities. Thirty five per cent of the FCWs and 23 per cent of the MPCWs were unable to specify their satisfactory levels. While this indicates clues on restrictions laid by parents against pursuing recreational activities, it can also be due to lack of time for the CWs. Thirty one and 47 per cent of the FCWs and FPCWs respectively were statisfied. On the other hand, 38 per cent of the MCWs and one fourth of the MPCWs were satisfied with their recreational activities. The less number being satisfied with recreational activities point out the immediate attention to be given on creating useful recreational activities to this category of educationally deprived group and help them to enjoy their rights for recreation.

6.3 ASPIRATION

The responses of the CWs and Cohort I regarding their long term educational and vocational aspirations are discussed under the following headings:

6.3.1 Educational aspiration

6.3.2 Vocational aspiration

6.3.1 Educational aspiration

Table 6.3.1 contains long term educational aspirations expressed by the CWs and Cohort I.

TABLE 6.3.1

EDUCATIONAL ASPIRATION

(Figures in percentage)

S.No.	Educational level	CWs		Cohort I	
		FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
1.	No aspiration	44	50	..	..
2.	Read and write	9	3	..	..
3.	Primary education	6	..	..	..
4.	Secondary education	6	11	..	3
5.	Higher secondary	28	25	83	48
6.	Degree	6	11	17	35
7.	Professional degree	..	..	..	13

Nearly half the CWs interviewed did not aspire for education. Similar findings are documented in Krishnakumari's (1985) study. However, one fourth of them aspired to study upto higher secondary level, this indicates sustained interest in education. It is essential to nurture and fulfill them in possible ways to provide opportunities through nonformal educational intervention.

6.3.2 Vocational aspiration

Table 6.3.2 enlists vocational aspirations of the CWs and Cohort I.

TABLE 6.3.2
VOCATIONAL ASPIRATION

(Figures in percentage)

S.No.	Vocation	CWs		Cohort I	
		FCWs N=32	MCWs N=36	FPCWs N=30	MPCWs N=31
1.	Tailor	81	42	3	10
2.	Jobs not related to industry work	6	17	23	65
3.	Industry Manager/Owner	..	17	..	10
4.	Accountant	..	6	17	16
5.	Ironing/cutting master	..	17	//	..
6.	Not interested	13	..	54	..

The majority of the FCWs (81%) and 42 per cent of the MCWs aspired to become tailors in hosiery industry perhaps they were certain that if they master skills, they would be graduated to higher wage fetching tasks. Tailoring was viewed as less strenuous job, and enable large turn over because machines are power operated and a CW would assist. Ironing and cutting tasks being strenuous, were preferred less as the former required handling of electric iron box weighing five to seven kilograms, the latter demanded accuracy with speed in cutting not less than half a dozen pieces at an instance. Very few had aspirations of becoming an accountant, manager or an owner, which was considered high aspirations difficult to achieve.

Fifty four and 17 per cent of the FPCWs and FCWs respectively were not interested in jobs but preferred to be housewives. One third of the MPCWs aspired to enter hosiery related works while the rest (65%) were interested in various other fields, such as mill work, business, teaching, etc. With this it can be said that the CWs were more definite about their vocational aspiration than the Cohort I.

7. MOTHERS' AWARENESS

Awareness of the mothers regarding their child's employment are detailed under the headings given below:

- 7.1 Location of industry, type and duration of work done.
- 7.2 Levels of difficulty of work performed
- 7.3 Disciplinary methods used by employers
- 7.4 Utilization of child's salary
- 7.5 Pocket money
- 7.6 Health problems
- 7.7 Child's education
- 7.8 Peers, play and recreation
- 7.9 Complaints received from employers and
- 7.10 Mothers' views about child's employment.

7.1 Location of industry, type and duration of work done

Location of industry, type and duration of work performed in the industry by the child as expressed by the mothers are enlisted in Table 7.1.

TABLE 7.1

LOCATION OF INDUSTRY, TYPE AND DURATION OF WORK DONE

(Figures in percentage)

Particulars	MFCWs [*]	MMCWs ^{**}
	N=32	N=36
<u>Location of the industry</u>		
Not aware	58	72
Name and location specified	42	28
<u>Type of work</u>		
Checking damage and preliminary finishing	50	33
Folding sleeve	31	30
Bundling	31	14
Industry work	25	22
Labelling	..	2
Not aware	9	14
<u>Duration</u>		
8 am - 5 (or 6 pm)	31	31
8 am - 8 (or 9 pm)	38	42
8 am - 5 (or 9 pm)	19	19
Not aware	11	8

^{*} Mothers of FCWs; ^{**} Mothers of MCWs

A sizeable number of the MFCWs (58%) and MMCWs (72%) were not aware of the name and location of the industry their children worked. It could be due to the frequent changes of jobs by the CWs which is a common feature among workers in hosiery industry. Mothers were of the view that it was least essential to know name and location of industry because their child was sincere, returned home on time and brought weekly salary regularly and they felt that the child changed jobs only when the work done/allotted was inadequate.

Fifty and 31 per cent of the MFCWs were aware that their children checked damage and preliminary finishing, bundling work and folded sleeve against their counterparts for whom the corresponding numbers were 33 and 14 per cent respectively. This could be due to greater verbal exchange and interaction between the FCWs and their mothers.

Fifty seven and 61 percent of the MFCWs and MMCWs respectively reported that their children worked from 8 a.m. to 5 or 8 to 9 p.m. per day, while 12 per cent of the MFCWs and eight per cent of the mothers of both the groups confided that their children worked from 8 to 5-6 p.m. This was not on par with hours of work done reported by the CWs (Table 2.4). There appears to be a gap of communication and observation between the mothers and their children, which could be due to mothers' pre-occupations (Table 1.3) and frequent fluctuation of job shifts in the case of the CWs.

7.2 Levels of difficulty of work performed

Table 7.2 tabulates levels of difficulty of work performed by the CWs as perceived by their mothers.

TABLE 7.2

LEVELS OF DIFFICULTY OF WORK PERFORMED BY CWs

(Figures in percentage)

Difficulty level	MFCWs N=32	MMCWs N=36
Not aware	13	14
Not difficult	25	28
Difficulty levels (in terms of percentage)		
10 - 20%	9	22
20 - 30%	34	25
30 - 40%	6	..
40 - 50%	13	11

One fourth of the mothers reported that the work done by their children in the industries was not difficult. Forty three and 47 per cent of the MFCWs and MMCWs respectively perceived that the level of difficulty of work was less than 30 per cent. According to them tasks done by the CWs at industry were easier than those of an agricultural child labourer. However, mothers who felt work done by the CWs as difficult were apparently more humanistic in their attitude towards children and about their ability.

7.3 Disciplinary methods used by employers

Mothers' awareness with respect to disciplinary methods used by the employers are described in Table 7.3.

TABLE 7.3
DISCIPLINARY METHODS USED BY EMPLOYERS

(Figures in percentage)

Details	Reward		Punishment	
	MFCWs N=32	MMCWs N=36	MFCWs N=32	MMCWs N=36
<u>Awareness</u>				
Not aware	78	58	66	61
Never	..	3	12	..
Occasionally	13	28	22	31
Often	9	11	..	8
<u>Disciplinary Technique used</u>				
Not aware	66	59	69	61
Verbal	25	33	31	33
Material (Reward)	9	11	..	..
Physical	..	..	..	6

About two thirds of the MFCWs did not know whether their children had received reward/punishment nor were they aware of the type of disciplinary techniques used by employers. This throws light upon communication gap between the mother and child. Comparatively lesser number of the MMCWs were in dark, one fourth of them knew that their children received verbal punishment and reward occasionally.

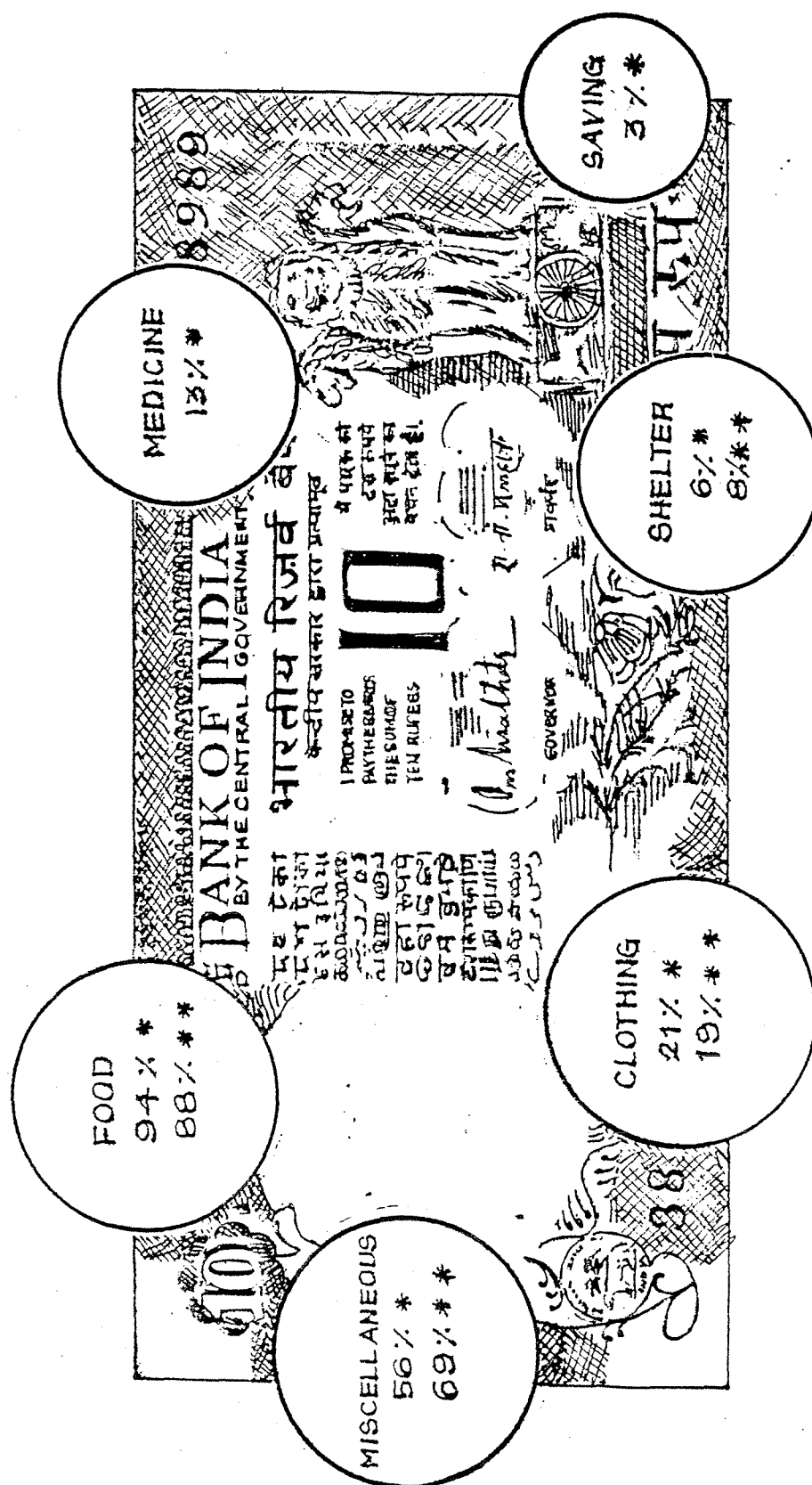
7.4 Utilization of child's salary

Table 7.4 illustrates mothers' satisfaction over the salary of their children and the ways the amount was utilized by them (Figure 24).

TABLE 7.4
UTILIZATION OF THE CHILD'S SALARY

(Figures in percentage)

Details	MFCWs N=32	MMCWs N=3
<u>Salary drawn by the child</u>		
Satisfactory	50	53
Not satisfactory	50	47
<u>Child's salary utilized for</u>		
Food	94	88
Miscellaneous	56	69
Clothing	21	19
Shelter	6	8
Medicine	13	..
Savings	3	..



* MFCWS

** MMCWS

UTILISATION OF CHILD'S SALARY

Figure -24

Fifty and 53 per cent of the MFCWs and MMCWs respectively were satisfied with the salary brought home by their children while the rest were not. While the former considered the Cws salary as supplementary income that helped withstand economic stress, the latter felt that the Cws salary was too meagre to be considered as an 'income'.

The majority of the MFCWs and MMCWs (88%) reported that the child's salary was utilized to meet the basic need - food. Fifty six per cent of the MFCWs and two thirds of the MMCWs (69%) indicated that child's salary was utilised to buy miscellaneous items used every day such as soap, tooth power, hair oil, etc. Negligible number mentioned the salary being used for savings, shelter, medicine and clothing. There is a need to educate the parent to conserve the Cws income and avail public financial services such as post office and banks.

7.5 Pocket money

Frequency of pocket money granted, amount of pocket money given and the ways the child spends it as perceived by the mother are shown in Table 7.5.

TABLE 7.5
POCKET MONEY

(Figures in percentage)

Details	MFCWs N=32	MMCWs N=36
<u>Frequency of granting pocket money to the child:</u>		
Whenever asked	15	19
Every day	47	48
Once a week	38	33
<u>Amount given as pocket money:</u>		
Less than 50 Ps.	41	34
Rs. 1-2	44	50
Rs. 2-3	12	8
More than Rs. 3	3	8
<u>Ways child spent the pocket money:</u>		
Not aware	9	3
Food	72	81
Entertainment	19	86
Save	13	25
Transport	19	8

Mothers of the CWs (48%) admitted that they provided pocket money every day, while about a third offered it once a week. Forty four and 50 per cent of the MFCWs respectively gave one to two rupees as pocket money. About 41 and 34 per cent of the MFCWs and MMCWs respectively paid less than 50 paise. Mothers who paid more than 50 paise justified the requirement of the child such as bus fare.

While some mothers were unaware of the ways their children spent their pocket money, about 72 per cent of the MFCWs were sure that the given amount was spent on food. The MMCWs said that their children spent on food (81%), entertainment (86%) and saving (25%).

7.6 Health problems

Most common health complaints received from the Cws, its frequency and type of treatment given to them by the mothers are detailed in Table 7.6.

TABLE 7.6
HEALTH PROBLEMS

(Figures in percentage)

Health Problem	MFCWs N=32	MMCWs N=36
<u>Type of complaints</u>		
Bodyache	75	30
Fever	66	30
Headache	38	72
None	16	17
<u>Frequency</u>		
Occasionally	50	39
Often	25	22
Very often	9	22
None	16	17
<u>Type of treatment given</u>		
Medicine given without check up	38	44
Home medication	12	8
Medical aid	34	31
None	16	17

Most common complaints received by the mothers were body-ache and headache from the FCWs (75%) and MCWs (72%) respectively. About two thirds of the FCWs' mothers had observed fever in their children. Fifty per cent of the MFCWs and 39 per cent of the MMCWs mentioned that their children complained occasionally (once or twice a month) about health. The number indicating complaints received often (more than once a week) and very often (more than twice a week) is alarming and needs further probing.

Generally, treatment was given without medical check-up to the CWs. They were given tablets bought from a petty shop and eucalyptus oil or pain balm was applied. However, 34 and 31 per cent of the MFCWs and MMCWs respectively indicated that, they would seek medical aid if health problem persisted for more than 2-3 days.

The basic reason for not approaching medical aid was inability to meet doctor's fee and buy medicine. Ignorance and negligence could be other reasons. The responses of children and mother regarding the health problems, appear similar as far as the major problems are concerned.

7.7. Child's education

The Mothers' views regarding education of their children is brought out in Table below.

TABLE 7.7
MOTHERS' VIEWS ABOUT THEIR CHILD'S EDUCATION

(Figures in percentage)

Mothers view	MFCWs N=32	MMCWs N=36
<u>Childhood education</u>		
Not essential	50	39
Essential	50	61
<u>Level of education preferred</u>		
Primary education	22	11
Secondary education	25	44
Ability to read and write	3	3
Job oriented education	..	3

Fifty and 39 per cent of the MFCWs and MMCWs respectively confessed that education was not essential, because it would not provide solution to their present financial status/difficulties and it does not prepare to master skills of the hosiery trade work. This finding is in tune with that of Weeramunda's (1982) study done with 188 employed children in Colombo, Sri Lanka. Fifty per cent of the MFCWs and 39 per cent of the MMCWs felt education essential as they were of the view that it would help communicate, correspond and be aware of current industrial developments. Though very few mothers (3%) mentioned about job oriented education to their children, it is a welcome feature in the context of National Policy on Education (1986) that aims at life oriented education.

7.8 Peers, play and recreation

Details regarding the child's peers, play and recreation as communicated by mothers are documented in the following Table.

TABLE 7.8

PEERS, PLAY AND RECREATION

(Figures in percentage)

Details	MFCWs N=32	MMCWs N=36		
<u>Child's recreation:</u>				
Temple visits	75	100		
Movie viewing	81	83		
Visit friends' house	75	56		
Visit relatives' house	31	94		
Visit market	9	11		
<u>Child play with:</u>				
Siblings only	13	5		
Relatives' children only	6	5		
Neighbours' children only	56	25		
Any group	16	64		
Does not play	9	..		
<u>Encouragement to play:</u>				
Never	94	92		
Occasionally	6	8		
<u>Play duration:</u>	WD	HD	WD	HD
Never plays	72	34	58	11
Less than one hour	22	16	31	6
One to two hour	6	44	11	53
More than two hours	..	6	..	30

WD = Working Days; HD = Holidays.

Recreational activities for the FCWs were visiting temples (81%), relatives' house (75%) and viewing movies (75%) according to the mothers' reports. On the other hand, for the MCWs they were viewing movies (100%), visiting friends' house (94%) and temple (83%). Informal talks with the CWs indicated that those children who stay in the heart of the town were regular movie goers on weekends. The MMCWs said that they had no control over their earning children on holidays.

Social conformity, sex differences in socialization appear to have been imposed in the mothers as their responses about peers, play and recreation of their children reveal that the FCWs (56%) were allowed to play with children of the neighbourhood only, whereas the MCWs (64%) were permitted to play with any group. Majority of the MFCWs (94%) and MMCWs (92%) admitted that they never verbally or otherwise encouraged their children to play, as they felt that the FCWs aged between 11-14 years were too old to play, and the MCWs did not require encouragement.

Seventy two and 58 per cent of the MFCWs and MMCWs respectively admitted that their children never played every day, a third of the MFCWs confessed their children never played even on holidays. However, 53 and 44 per cent of the MMCWs and MFCWs respectively disclosed that their children played for one to two hours on holidays without any motivation to play.

7.9 Complaints received from employers

Frequency of complaints received from employers against their child's behaviour and the type of the child's misbehaviour are recorded in Table 7.9.

TABLE 7.9
COMPLAINTS RECEIVED FROM EMPLOYERS

(Figures in percentage)

Particulars	MFCWs N=32	MMCWs N=36
<u>Complaints received</u>		
Never	84	83
Often	6	11
Occasionally	10	6
<u>Type of misbehaviour</u>		
Playful	95	100
Lazy	5	..

Eighty four per cent of the mothers admitted not having received complaints about their children from the employers, of those who received said it was because of the child's playful moods and laziness. The CWs confessed that they never informed mothers about the mistakes/misbehaviour they committed in the industry as they feared punishment from them also. This finding indicates how much anxiety the CWs experience in order to avoid punishments at both ends.

7.10. Mothers' view about child's employment

The mothers' view about child's employment is presented in the following Table.

TABLE 7.10

MOTHERS' VIEW ABOUT CHILD'S EMPLOYMENTS

(Figures in percentage)

S.NO	Particulars	MFCWs N=68	MMCWs N=68
<u>Advantages:</u>			
1.	Contributes to the family maintenance	69	78
2.	Develops values of money	78	61
3.	Helps to develop more realistic attitude towards life	53	67
4.	Develops necessary skills at an early age	50	47
5.	Keeps the child fruitfully engaged	41	53
6.	Prepares the child to face the future	41	33
7.	Disciplines the child	31	36
8.	Contributes knowledge for day to day life better than education	31	33
9.	Makes the child economically independent	..	19
<u>Disadvantages:</u>			
1.	Decreases interaction with the child	16	3
2.	Affect child's education	6	19
3.	Deprives the child of childhood happiness	3	6
4.	Affects his health	..	8

About two thirds of the MFCWs (69%) and three fourth of the MMCWs (78%) were of the view that the child's employment contributed to the family maintenance. They felt it develops values of money (MFCWs - 78% and MMCWs - 61%). About half the mothers reported that child's employment help to develop more realistic attitude towards life and develop necessary skills at an early age. While a third of them were in view that their child would be fruitfully engaged if involved in a job. They felt that it disciplines and contributes knowledge for day to day life better than education. Only a few MMCWs (19%) felt that employment may make the child economically independent.

Very few mothers reported disadvantages of child's employment. Sixteen per cent of the MFCWs and 19 per cent of the MMCWs viewed that early employment may decrease interaction with the child and affect child's education. Negligible few (< 8%) felt that it may deprive the child of childhood happiness and affect health).

The parents seemed to have more positive outlook towards child labour and work. It could be because most of these parents were illiterates; had themselves been child workers, their siblings and partners were child worker and were exposed to a very long period where child labour is viewed as normal, essential and part of growing up. There is a dire need to enlighten these parents about the consequences and risks involved by exposing their young children to work, and also

about the merits of education, play and healthy family interaction for intellectual, social and moral development.

Since it appears that positive views held by the mothers could be the motivating factor for the CWs to enter labour force (Table 2.1), creating an awareness in them about the positive aspects of education through adult literacy programme may bring about a change in views.

8.EVALUATION OF EDUCATIONAL INTERVENTION TO THE CWs

The investigator's search to find an industry that had atleast 20 CWs for educational intervention took about two months. Mahalaxmi Thayyala Nilayam of JJ group, Tirupur, where 15 CWs below 15 years were available proved best to begin educational intervention. The investigator worked in the industry along with the CWs inorder to attract and capture their interest in the educational activities planned. The educational intervention was carried out for 17 weeks (100 working days), through The Primer evolved (Figure 7-16).

The CWs who were to participate in the educational intervention were shy and unwilling to forego their routine leisure walk and chit-chatting during lunch break. Story telling, geometrical pattern making and rhyme, the Primer developed on the principles of functional literacy that included the names of the CWs interested and motivated them to participate.

The geometrical cutouts were used to make alphabets and numbers apart from making designs. The CWs and other co-workers' names were incorporated in rhyme and story telling. A bundle of elastic ribbon or a small roll of knitted material or thread, etc. was used as a tool in playing games. With these introductions and priorities given to their wishes and interests encouraged the fifteen CWs to attend the educational intervention classes.

The educational intervention programme was carried out with due consideration to provide individual attention to every activity performed by the CWs; motivate to participate and learn; consider individual child's pace of learning and provide free and informal atmosphere.

The outcome of the educational intervention to the CWs is brought out here under.

- 8.1 Performance of the CWs in the three R's
- 8.2 Performance/participation of the CWs in creative and recreational activities.
- 8.3 Observation and views of the CWs about the educational intervention and
- 8.4 Limitation/Problems in conducting educational intervention in the industry.

8.1 Performance of the CWs in the three R's

The performance of the CWs in the three R's were assessed at three stages the initial, mid term (ninth week) and at

final stage. Performance of the CWs in alphabets, words and sentences were assessed in terms of their ability to write, correctly. Mean values of correct answers are presented in Table 8.1. Performance of the CWs in reading and arithmetic assessed in terms of their participation are also enumerated in the Table.

TABLE 8.1
PERFORMANCE OF THE CWs IN THE 3 R's

S.No.	Particulars	Initial		Mid term		Final	
		Lite- rate N=10	Illi- trate N=5	Lite- rate N=10	Illi- trate N=5	Lite- rate N=10	Illi- trate N=5
1.	Alphabets (mean)	4	-	6	3	7	5
2.	Words (mean)	4	-	6	2	6	4
3.	Sentences (mean)	-	-	2	-	4	-
		No. of children		No. of children		No. of children	
4.	Identify/reading	10	-	10	-	10	5
5.	Numbers	-	-	-	-	-	-
	One digit	10	-	10	-	10	5
	Two digit	10	-	10	-	10	5
	Three digit	-	-	10	-	10	-
6.	Addition						
	One digit	3	-	6	-	10	3
	Two digit	2	-	5	-	6	-
	Three digit	2	-	5	-	6	-
7.	Subtraction						
	One digit	3	-	4	-	6	3
	Two digit	1	-	2	-	4	-

The mean number of alphabets and words the literate CWs were able to write during the initial stage from lesson one was four, by mid term (nineth week) it increased to six from lessons one to five. The CWs were able to write about seven alphabets and six words and four sentences that were chosen from the ten lessons of the Primer by seventeenth week. Almost all the literate CWs were able to read and identify the alphabets. The CWs who were more fluent in reading were those who had stayed for more than two years in school, these CWs performed arithmetic better than the CWs who had put in less than two years of schooling. This highlights the need for immediate attention to educational intervention to prevent the CWs regressing into illiteracy. And minimum education must be specified to enrol a CW to work.

The illiterate CWs were oriented to hold pencil, scribble, draw slanting lines, curves and circles. By the fourth week they were able to write their names and by the mid term they could write three alphabets and two words from lesson one and five alphabets and four words from lessons one and two of the Primer at final stage. All of them were able to identify alphabets, words and two digit numbers by seventeenth week. Three CWs could add and subtract one digit sums.

The reasons putforth by the CWs for their interest in learning arithmetic in particular were to ensure themselves of correct accounting of work done; salary receipt; and to climb in their job hierarchy.

8.2 Performance/participation of the CWs in creative and recreational activities:

Table 8.2 reveals the creative and recreational activities given to the CWs who underwent educational intervention programme.

TABLE 8.2
PERFORMANCE/PARTICIPATION OF THE CWs IN CREATIVE AND RECREATIONAL
ACTIVITIES

S.No.	Particulars	Initial		Mid term		Final	
		Lite- rate N=10	Illi- trate N=5	Lite- rate N=10	Illi- trate N=5	Lite- rate N=10	Illi- trate N=5
1.	Scribble	10	1	10	5	10	5
2.	Guided drawing	4	-	10	2	10	2
3.	Free drawing	2	-	5	1	8	2
4.	Geometrical pattern making	-	-	10	5	10	5
5.	Rhyme/music	4	2	77	2	8	5
6.	GAMES	4	2	8	2	10	5
7.	Informal talk	-	-	44	1	6	3
8.	Recalling/ Association	-	-	2	1	44	1

All the literate CWs were able to scribble, four of them could do guided drawing, participate in rhyme/music and game session. By the mid term stage the CWs(10) participated in scribbling, guided drawing and geometrical pattern making. The number of the CWs participating in games, rhyme/music, free drawing, increased markedly by seventeenth week.

Only two illiterate CWs participated in rhyme/music and game sessions and one in scribbling. Most of them were unaware of ways to hold a pencil and were reluctant and scared to spoil the paper provided. However they could perform these by the second week. By the mid term the CWs(5) took part in scribbling and geometrical pattern making, two of them participated in guided drawing, rhyme/music and games. All the CWs were involved in these activities by the seventeenth week, while a few of them took part in recalling and free and guided drawing.

None of the CWs had ever had the opportunity to make patterns with geometrical cutouts, these pattern making became a popular item in the programme. Shyness and fear was highly prevalent among the CWs which prevented them in indulging in rhyme and games sessions during the first few weeks to which they had no opportunity to take part earlier. A few of them, however, wished to watch their co-workers playing. Informal talk and recalling were least liked by six CWs. To them, these activities were a strain, were not recreational and brought to light unpleasant memories of school.

8.3 Observation and views of the CWs about the educational intervention:

All the 15 CWs liked the educational intervention classes. To them, the programme not only taught the three R's but also gave them opportunities for self expression, recreational activities, free environment to interact with the fellow workers. They found the programme a welcome change from their daily

monotonous activities. The CWs were observed discussing the content of the programme while at work. It was interesting to note small pencil writings by the CWs on the walls within the industry premises and outside and hurrying through their lunch to attend classes.

However, some of the CWs absented from the educational intervention classes. Reasons given by these CWs were varied. One MCW was a truant and about 17 per cent of the classes were missed by two MCWs due to their disinterest and extra work at lunch hour. During 50 days of the total hundred days of the educational intervention conducted, the CWs had worked on $1\frac{1}{2}$ shift (12 hrs) system and so they confessed the difficulty of being within the industry from 8 a.m. to 9 p.m. The FCWs missed 34 per cent of the classes for the sole reason of sickness. It is essential some type of health care services need to be delivered to FCWs. It was observed that though children came to work, they abstained from classes mainly to rest during the lunch hour. On half shift days (8 a.m. to 12 noon) the CWs refused to stay back to attend class, as they would miss the opportunity of viewing a cinema or miss a break they could avail occasionally. This aspect highlights the dire need for recreation for these children and educational intervention planned during a session that is convenient to them.

The children frankly disclosed that they would not attend the programme if it is carried out throughout the year or conducted during holidays with the main reason - inability to

be within the industry set up throughout the day and on all working days in a week. They were not in favour of any kind of assessment of their academic gains.

The children reported that earning wages was more important than attending educational intervention irrespective of type and amount of material incentive given, such as sweet meats, books, pencil, eraser, etc.

It was observed that the individual CWs' performance on 'piece rate' work was assessed and appreciated by the fellow CWs and employer, than the CWs' performance in the educational intervention classes.

These observations and views reveal a greater need to educate the CWs and the employers as well, as early education provides an instrument for liberation from ignorance and oppression. In the modern world, it would naturally include the ability to read and write, since that is the main instrument of learning. Hence, it is crucial that child education including child workers' literacy is promoted immediately.

8.4 Limitations/problems in conducting educational intervention in the industry.

1. The employer's frequent interference while

- conducting classes
- cutting short lunch break duration by 15-20 minutes
- request not to conduct class on heavy work schedule day as children would not be given rest time.

2. Congested space, inadequate light and ventilation
3. The CW's restlessness - attraction to be away from the working environment during lunch break and
4. The CWs' refusal to take part in games conducted outside the building specially in the case of female CWs.

be within the industry set up throughout the day and on all working days in a week. They were not in favour of any kind of assessment of their academic gains.

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CHAPTER - V

SUMMARY AND CONCLUSION

V. SUMMARY AND CONCLUSIONS

This study on 'Intelligence of Child Workers and Cohorts attending school and an exploratory attempt at Educational Intervention to Child Workers' was carried out in hosiery industries at Tirupur, Tamil Nadu. Three per cent of the total 1,614 industries registered was selected following Systematic Random Sampling. Of these 48 industries, eight units did not have child workers (CWs) as work undertaken by these units did not require them and two industries refused permission. Thus, only 38 industries having CWs formed part of this study. The study was restricted to include one male and/or one female CWs from each unit belonging to 11-14 age group. Therefore 31 units contributed one male and one female CW, five units contributed each one male CW, and one unit provided one female CW, that totalled to 32 female CWs(FCWs) and 36 male CWs(MCWs) finally.

Part-time CWs(PCWs) and non-workers(NWs) matched against CWs in terms of age, sex and socio-economic status(SES) were drawn from the local Municipal schools.

One hosiery industry having 15 CWs below 15 years were chosen to conduct educational intervention.

The data collected through interview with CWs for this part centred around SES, family background, working conditions, schooling, health, social aspects, recreation and aspirations. Cohort I - PCWs were interviewed to gather family background, SES, working conditions, health, social aspects, recreation

and aspirations. Cohort II - NWS were interviewed to elicit information on SES and family background. Mothers' awareness regarding their child's employment were obtained by interviewing. Intelligence scores of the children were obtained by administering Bhatia's Battery of Performance Test of Intelligence individually to 66 CWS, 61 Cohort I and 62 Cohort II.

The educational intervention programme given to fifteen CWS in an industry aimed at improving literacy level. It also provided opportunities for self expression through social interaction and recreation. The findings of the study are summarised below:

1. Socio-economic profile:

- 1.1 The CWS and Cohorts were Hindus by religion, and belonged particularly to backward castes.
- 1.2 A large number of the CWS than Cohorts were from nuclear families. A reverse trend was seen with respect to family size.
- 1.3 Over 50 per cent of the ^{thers} families of the children except the MPCWS were wage labourers involved in occupation not related to hosiery works. Most of the mothers were housewives; those who were involved in wage labour made cotton waste during leisure hours at home.
- 1.4 The average family income of the CWS was more than Cohort I and II.

- 1.5 Illiteracy level was highest among mothers of the CWS followed by the mothers of the Cohort I and II respectively. Parents of the Cohort II had better educational status than the other two groups.
- 1.6 Ordinal position of more than one third of the CWS was the second. More of the FPCWs (44%) were the first borns, while the MPCWs (30%) held the second birth order. A similar trend was seen with the Cohort II.
- 1.7 More number of the CWS had siblings, who were working than the Cohort II whose siblings were attending schools.
2. **Specific Issues of Working Children:**
 - 2.1 Parental compulsion and economic need were predominant reasons for joining job.
 - 2.2 More than 85 per cent of the CWS worked six days a week: a large number of Cohort I (52%) worked for seven days a week after school hours, about 80 per cent of the CWS worked 12 hours a day for atleast three days a week.
 - 2.3 While weekly wage earned by 60 per cent of the MCWs, was RS.30 to Rs.50, it was less than Rs.40 for 63 per cent of the FCWs.
 - 2.4 About half the CWS had comfortable seat to work; individual working area and working equipment. One third of the CWS were working in industries that were spacious and protected from sun and rain and the building had good roofing. A large number (91%) of CWS had drinking

water facility at industry; however, cleanliness of drinking water was not ensured. None of the industries had canteen facility, resting room and space for recreation. More than 50 per cent of the CWs had no toilet facility and of those who had this facility, they were with poor drainage and inadequate water supply.

- 2.5 A sizeable number of the CWs (about 80%) walked to reach the industry and return home. One third of the CWs walked less than two kilometres (one way) distance. However, about 40 per cent of them felt the distance between home and industry as very far and unapproachable.
- 2.6 A few CWs (<8%) felt their work 'very light'. About 40 per cent of the CWs and over 50 per cent of the Cohort I disliked their job.
- 2.7 One fourth of the CWs received verbal reward and the rest had no comment for their good work. Nineteen and 36 per cent of the FCWs and MCWs respectively were subjected to physical punishment.
- 2.8 There was no significant difference between the sexes of the CWs and Cohort I in the remunerative workload performed by them.
- 2.9 Length of service and facility at work spot did not influence remunerative workload borne by the CWs and Cohort I, as revealed in the statistical appraisals.

2.10 Work load at home:

- 2.10.1 Type of household work done by the FCWs and FPCWs were fetching water (69% and 66%), sweeping (75% and 83%) and washing vessel (66% and 77%), while their male counterparts were entrusted with shopping (53% and 74%) and fetching water (36% and 68%).
- 2.10.2 The MCWs and MPCWs spent less time on household tasks than their female counterparts. The Cohort I spent more time than the CWs on household tasks.
- 2.10.3 The female children performed significantly more household work than the male children in both the categories.
- 2.10.4 Statistical analysis indicated that SES, family size and ordinal position did not influence workload at home.

3. Schooling and Education;

- 3.1 Reasons for not attending school as putforth by the CWs were economic problems, disapproval by parents disinterest and failure in school examinations.
- 3.2 Sixty nine and 50 per cent of the FCWs and MCWs respectively were interested in education, if provided within the industry premises. Forty one per cent of the FCWs and 33 per cent of the MCWs were eager to attend school: the rest were not keen. The reason putforth for being interested in education/learning were that they were bored with work and were desirous of taking up good job in the future and be a better person.

3.3 Seventy three per cent of the FCWs and 39 per cent of the MCWs had never made efforts to know about schooling. However, nearly half the respondents were willing to learn inbetween working hours within the industry premises, preferably for one hour. Nearly half these CWs opted for formal education, about 18 per cent of the FCWs and 22 per cent of the MCWs preferred job oriented education.

4. Intelligence

4.1.1 Kruskal-Wallis test (H) values revealed no significant difference in Koh's Block Design Test performance scores between the groups; sexes and length of service. The average scores of these children were one fourth of the maximum score (25).

4.1.2 The H values indicated no significant difference in Passalong Test performance scores between the sexes; length of service and the three groups.

4.1.3. The difference was insignificant between the CWs and the Cohort I and II in their performance in Pattern Drawing Test. The overall mean scores of these groups were one third of the total score (20).

4.1.4 Computed H values of Immediate Memory Test scores indicated significant differences between the three groups among the MCWs favouring the Cohort II, who scored higher mean scores than the other two groups. The FCWs with two years of service had higher mean scores than those with three years of service.

- 4.1.5 A significant difference in performance scores in Picture Completion Test was found amongst the FCWs. Those who had more than three years of service did remarkably well than their counter parts with two years of service.
- 4.1.6 Computed H values of cumulative performance scores of the five subtests between male and female Cohort I and II Male children out performed their female counterparts in both the Cohort groups. The total mean scores of Cohort II of both the sexes were significantly higher as compared to CWs and Cohort I. The Cohort I had higher mean scores than the CWs.
- 4.2.1 Significant difference was seen in the mean IQ score, between the CWs and Cohort II, favouring the latter.
- 4.2.2 The MPCWs significantly differed having higher mean IQ scores than the female counterparts.
- 4.2.3 Regardless of the length of service, the IQ scores of the groups were on par with each other.
5. Health Aspects:
- 5.1 Almost all the categories of children were on par with the NIN Standard Norms with respect to heights, but weighed lesser than the norms. The FCWs had better nutritional status than the CWs in terms of heights.
- 5.2 The most commonly expressed health problems of the CWs were headache, poor appetite and tiredness. The female children of both the groups had more health problems than their counterparts.

5.3 The employers did not provide any medical facility to the CWs.

6. Social Aspects:

6.1 All the CWs had friends. Over 50 per cent of them had friends belonging to both lower and higher age level. Most of them had friends belonging to the same sex. More of the MCWs (44%) and FPCWs (17%) had the same and opposite sex friends. Very few CWs had school going friends. The trend was same with the Cohort I.

6.1.1 Nearly three fourths of the MCWs (72%) played games involving monetary commitment through traditional games. Seventy five per cent of them had tried smoking. Of these 56 and 22 per cent smoked once a week, and once in few days (more than once a week) respectively.

6.2 Play and Recreational Activities of the CWs and Cohort I

6.2.1 Thirty one per cent of the FCWs never played. Twenty five and 66 per cent of the FCWs and MCWs took part in play activities once a week, the rest played occasionally. The majority of the Cohort I (97%) played at one time or the other. Both the CWs and Cohort I played group games. The majority of the CWs and Cohort I (98%) played traditional and school games respectively.

6.2.2 Almost all the CWs and Cohort I enjoyed chit chatting, as recreation. While the FCWs indulged in listening to radio (75%), the FPCWs enjoyed reading (80%), playing (66%) and listening to radio (63%).

- 6.2.3 Over one fourth of the FCWs and FPCWs were dissatisfied with their recreational activities.
- 6.3 Aspirations:
 - 6.3.1 Only 28 and 25 per cent of the FCWs and MCWs respectively aspired upto Higher Secondary level. This was so with 83 per cent of the FPCWs and 48 per cent of the MPCWs.
 - 6.3.2 Majority of the FCWs (81%) and 42 per cent of the MCWs aspired to become tailors in the industry. Two thirds of the MPCWs (65%) aspired to take up jobs not related to hosiery industry and 54 per cent of the FPCWs were disinterested in jobs.
7. Mothers' Awareness about Child's Employment:
 - 7.1 Fifty eight and 72 per cent of the FCWs and MMCWs respectively were unaware of the name and location of the industry in which their children were employed. But for few (< 14%), all the mothers of the CWs were aware of the tasks carried out and duration of work done by their children in the industry.
 - 7.2 One fourth of the mothers of the CWs felt work done by the CWs was not difficult.
 - 7.3 About two thirds of the MFCWs were unaware whether their children had received disciplinary measures/action from the employers. Comparatively a lesser number of the MCWs were ignorant.
 - 7.4 About 50 per cent of the mothers were satisfied with the child's earnings. The child's salary was utilized for food and on miscellaneous items used every day.

- 7.5 Forty eight per cent of the mothers gave pocket money every day to their child that ranged from less than 50 paise to Rs. 2/-. About three fourths of them knew that it was spent on food.
- 7.6 The mothers' enumeration of the child's health problem were similar to that of the CWs' health complaints.
- 7.7 Fifty and 61 per cent of the MFCWs and MMCWs respectively felt education for the child was essential. About 44 per cent of the MMCWs and 25 per cent of the MFCWs indicated secondary education should be adequate for their children.
- 7.8 The MFCWs (56%) allowed their children to play with neighbour children. The MMCWs (64%) permitted their children to play with any group.
- 7.9 Eighty four per cent of the mothers had not received any complaints about their children from employers. Of those who received, it was for the child's playful behaviour.
- 7.10 The mothers were of the view that employment helps the child to develop values of money; contributes to the family maintenance; develop more realistic attitude towards life; contribute knowledge on day to day affairs better than education; and develop necessary skills at an early age. The mothers disclosed that employment had not decreased their interaction with the child; but affected child's education and deprived the child of childhood happiness.

8. Educational Intervention to the CWs:

- 8.1 Ability to write alphabets, words and sentences by the literate CWs increased from a mean of four words to seven at the end of the intervention programme, as for the illiterate CWs it was five alphabets and four words. While the illiterate CWs were able to add and subtract one digit, the literates were able to do that with two and three digits over a period of seventeen weeks.
- 8.2 Only four literate CWs could draw, participate in rhyme and game activities in the initial stage. Increased participation by both the groups was observed in these activities and also in pattern making towards the end of the programme. Informal talk and recalling/association elicited least participation from them.
- 8.3 All the 15 CWs liked the educational intervention programme. The CWs absent from classes due to sickness (34%), extra work (17%) and disinterest (17%).
- 8.4 The problems faced while conducting educational intervention programme were the employer's frequent interference while conducting classes in terms of cutting short lunch break and disallowing to conduct classes on heavy work schedule day; congested space, inadequate light and ventilation; the CWs' restlessness-attraction to be away from industry during lunch break and FCWs' refusal to participate in outdoor activities.

RECOMMENDATIONS

Recommendations:

Based on the findings of this study the recommendations made are as follows

1. As parents are primarily responsible for early employment of children, competent voluntary authorities and service organisations must educate parents about existing legislation, risk and consequence of in appropriate child labour through audio-visual media.
2. Strict enforcement of related legislative Acts to ensure minimum wages, working hours, rest periods, provide stipulated facilities at industry and provide facilities for recreation and cultural activities.
3. Strengthen labour inspection service to monitor the working conditions and implementation of regulations regarding minimum age, and health certificate.
4. Immediate awareness campaigns must be organised to lessen the burden of work on female child workers both at home and at industry.
5. Review and strengthen existing school curricula in the light of needs of children, and to prevent stagnation/retention in the same class and prevent school dropouts in order to promote literacy and curtail the adverse consequences of child labour on children.
6. To revive and capture the residual interest in education/learning and to prevent children regressing to illiteracy,

nonformal educational intervention to child workers by NGO or voluntary agency should be advocated and implemented.

7. Some special arrangement may be made in the school to offer extra coaching for children having difficulties in learning.
8. Vocational training and guidance be made part of curricula at school level as it is an important tool for social, educational advancement and economic development.
9. Existing nonformal education and functional literacy classes must be extended widely to child workers and to employers.
10. Immediate attention to be paid by voluntary social workers to channelise the child workers from negative social influences.
11. Free medical check up and treatment must be extended to child workers, wherever these exist for adult labour force.
12. Subsidy or tax ^{concession} evasion to employers who provide welfare programme to child workers with regarding to health, nutrition, education and recreation employed by them need to be mooted.
13. Regularise minimum educational qualification for employment of children and provision of educational programme in industries having more than five child workers during work break and
14. Extensive involvement of social workers, voluntary organisations, trade unions, employers and parents to assist in the welfare programme for child workers need to be encouraged by the Government.

The children employed in hosiery industries who form a sizeable number of child labour population need to be supported to receive education, become socially advantaged, economically more productive and intellectually constructive. The New Education Policy through its planned educational intervention to child workers along with other package services may prove a Head Start in this direction.

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APPENDICES

APPENDIX - I

GENERAL FAMILY INFORMATION SCHEDULE

Code _____

Child's Name : Sex : M / F

Address : Age :

Code

GENERAL INFORMATION

1. FAMILY TYPE

Joint	1
Extended	2
Nuclear	3

2. FAMILY PROFESSION

Wage labour	1
Employed	2
Business	3
Other	4

3. RELIGION

Hindu	1
Muslim	2
Christian	3
Other	4
Caste specify	5

4. FAMILY INFORMATION

Name	Age	Education	Brothers sisters			Job	Income/ Week Rs.
			W.	NW.	W.	NW.	*

*W = Working, NW = Non Working.

Code

5. DETAILS ABOUT THE CHILD WORKER

Ordinal position:

EDUCATIONAL STATUS

Never attended school	1
Attended shcool	2
Upto Standard	3
Cannot read and write	4
Can read and write	5

YEAR OF WORK EXPERIENCE

2 Years	1
3 Years and above	2

TYPE OF WAGE

piece rate	1
Time rate	2
Wage received last week Rs.....	3

APPENDIX - II
SCHEDULE TO ASSESS SOCIO-ECONOMIC STATUS

Code _____

1. Child's Name : Age:
கிழந்தையின் பெயர் : வயது
- Class : Sex:
வகுப்பு : ஆண்/பெண்
- School : Education:
பள்ளி : படிப்பு
2. Father's Name: Education:
கந்தையின் பெயர் : படிப்பு
3. Mother's Name: Education:
தாயின் பெயர் : படிப்பு
- a) Father's Occupation :
கந்தையின் தொழில்
- Salary per month :
மாத வரிமானம்
- b) Mother's Occupation :
தாயின் தொழில்
- Salary per month :
மாத வரிமானம்
- c) Income from other sources per month :
வேறு வாயிலில் கிடைக்கும் மாத வரிமானம்
4. Number of people in the home :
வீட்டில் அங்கத்தும் நபர்களின் எண்ணிக்கை.
5. a) Do your parents own the house you live? Yes/No
நீ வசிக்கும் வீடு உனது பெற்றோரின் சொந்த வீடு? ஆமாம்/கில்லை.
- b) Do you live in an independent house? : Yes/No
நீ தனி வீட்டில் வசிக்கின்றாயா? ஆமாம்/கில்லை.
- c) Do your family possess a cycle? : Yes/No
உனது குடும்பம் வசகரிக்க சொந்தமாக வண்டிக் கொண்டுள்ளதா? ஆமாம்/கில்லை.
- d) Do your family possess a radio? : Yes/No
உனது குடும்பம் ரேடியோ சொந்தமாக வைத்திருக்கிறதா? ஆமாம்/கில்லை.
- e) Do your family possess a chair? : Yes/No
உனது குடும்பம் நாற்காலி சொந்தமாக வைத்திருக்கிறதா? ஆமாம்/கில்லை.
6. *அ. உனது தாய் பள்ளித்தேர்வும் போக, நீ உன் பெற்றோருக்கி
ஏதாவது வேலை செய்து வருமானம் ஊழி செய்கிறாயா? ஆமாம்/கில்லை.
- ஆ. எந்த மாதிரியான வேலை செய்து ஊழி செய்கிறாய்?
1. பெட்டி மடித்தல்
2. கில் சூட்டல்
3. பனியன் வேலை.

* For part time child workers only

SCORING SCHEME:

		Score	
1.	Family income in Rupees		
	400 - 800	1	
	801 - 1050	2	
	1051 - 1250	3	
	1251 - 1500	4	
	1501 and above	5	
		Father	Mother
2.	Parents' occupation		
	Unskilled	0	0
	Semi skilled	1	1
	Skilled-Technical	2	2
	Skilled-Sedentary	2	2
	clerical	3	3
	Supervisory	4	4
3.	Parents' literacy levels		
	Illiterate	0	0
	Primary(1-5)	1	1
	Secondary(6-8)	2	2
	Higher secondary(9-12)	3	3
	College	4	4
4.	Family size		
	1 - 2	4	
	3 - 4	3	
	5 - 6	2	
	7 - 8	1	
	9 and above	0	
5.	Social status		
	Family owns a house	1	
	Lives in a independent house	1	
	Family possess a cycle	1	
	Family possess a radio	1	
	Family possess a chair	1	

Maximum score possible : 30

APPENDIX - III

SCHEDULE TO ASSESS WORKING CONDITIONS/FACILITIES AT INDUSTRY,
WORK LOAD AND DISCIPLINE

	Code	Score
WORKING CONDITION/REMUNERATIVE WORK LOAD:		
1. Reasons for joining job: Specify:		
Child volunteered	1	0
Employer compelled	2	1
Parent compulsion	3	2
2. Type of work performed:		
Check damage and preliminary finishing	1	
Folding sleeve	2	
Bundling	3	
Tailoring	4	
Packing	5	
Making cotton waste	6	
Others	7	
3. Quantum of work done:		
Not accounted	1	
Accounted - Specify :	2	
4. Consequences of day's incomplete work:		
Share with others	1	0
Carryover to next day	2	1
Stay back to complete work	3	2
Pay cut	4	3
5. Daily working hours as yesterday:		
Less than eight	1	0
Eight	2	1
More than eight	3	2

	Code	Score
6. Number of days worked last week:		
Less than five	1	0
Five	2	1
Six	3	2
Seven	4	3
7. Worked over time:		
Never	1	0
On declared holiday	2	1
After regular working hours	3	2
On sunday	4	3
8. Overtime worked as last week:		
None	1	0
1 - 2	2	1
3 - 4	3	2
5 - 6	4	3
9. Number of hours worked/shift: Specify:		
8 hours - 1 shift	1	0
12 hours - 1½ shift	2	1
16 hours - 2 shift	3	2
10. Distance from home to industry km....		
Less than 1 km	1	0
1 - 3 km	2	1
3 - 5 km	3	2
Above 5 km	4	3
11. Opinion about the distance:		
Very near	1	0
Near	2	1
Far	3	2
Very far	4	3

		Code	Score
12.	Mode of transit during		
	i) Regular working days	3 - Walk	1
	Morning	2 - Bus	2
	Evening	1 - Cycle	3
	ii) Overtime days:	0 - Dropped by parent	4
	Morning	5	3
	Evening	6	3
13.	Time taken to reach the industry: km...		
	Less than 15 minutes	1	0
	15 - 20 minutes	2	1
	30 - 45 minutes	3	2
	45 - 60 minutes	4	3
	Above 60 minutes	5	4
14.	Approach to the industry:		
	Easy	1	0
	Difficult	2	1
	Very difficult	3	2
15.	Work performed in the industry:		
	Light	1	0
	Moderate	2	1
	Heavy	3	2
16.	Time provided to complete work:		
	Adequate	1	0
	Not adequate	2	1
17.	Whether likes persent job?		
	Likes	1	0
	Indifferent	2	1
	Dislikes	3	2

	Code	Score
* FACILITIES AT INDUSTRY:		
1. General condition:		
Seat	1	1
Individual working area	2	1
Working equipment	3	1
Posture	4	1
2. Physical set up:		
Spaciousness	1	1
Ventilation	2	1
Protection against sun/rain	3	1
Building	4	
Thatched		0
Zinc sheet		1
Tiled		2
Terrace		3
3. Other facilities:		
Drinking water	1	1
Toilet	2	1
Resting room	3	1
Canteen	4	1
First aid	5	1
Recreation facility	6	1
Coffee/rest break	7	1
4. Changes needed in the present set up:		
General condition	1	
Physical set up	2	
Other facilities	3	
NOT needed	4	

* Comfortable/adequate-provision of facilities for each aspect was assigned one score.

HOUSEHOLD ACTIVITIES/WORKLOAD AT HOME: Code Daily Score

1. Household work entrusted:

Fetch water	1	1	1
Collect fuel	2	1	1
Mop	3	1	1
Sweep	4	1	1
Food processing	5	1	1
Wash vessel	6	1	1
Wash clothes	7	1	1
Shop	8	1	1
Baby sit/care	9	1	1

2. Approximate number of hours spent on household activities

<u>Daily:</u> 4 - > 2 hours	1	
- Morning 3 - 1 -2 hours	2	4
- Evening 2 - < 1 hour	3	4
<u>Holiday:</u> 1 - < ½ hour	4	
- Morning 0 - none	5	4
- Evening	6	4

3. DISCIPLINARY TECHNIQUE:

1. Reward received for good work:

No comments	1
Verbal	2
Gesture	3
Material	4

2. Punishment received for misbehaviour:

Physical	1
Verbal	2
Warning to parents	3

APPENDIX - IV

SCHEDULE TO ELICIT INFORMATION ON SCHOOLING AND EDUCATION

Code_____

Code

- | | | |
|----|--|---|
| 1. | Reasons for not attending school: | |
| | Not interested | 1 |
| | Parent disallowed | 2 |
| | Economic problem | 3 |
| | Failed | 4 |
| | Education not useful | 5 |
| | Other | 6 |
| 2. | Interested in education if facilities
provided within industry premises | 1 |
| | Not interested | 2 |
| 3. | Interested in attending school if an opportunity
is given | 1 |
| | Not interested | 2 |
| 4. | Reasons for being interested in learning/
attending school: | |
| | Bored with work | 1 |
| | To take up good job | 2 |
| | To be a better person | 3 |
| | To get leave/vacation | 4 |
| | To learn to read and write | 5 |
| | Others | 6 |
| 5. | Time of the day preferred for learning: | |
| | In between working hours | 1 |
| | After working hours | 2 |
| | prior to working hours | 3 |
| | Any time | 4 |

6. Efforts made to know about schooling

Name	1
Talk to sibs/friends	2
Go through school books	3

7. Number of hours preferred

Less than one hour	1
One hour	2
Two hour	3

8. Teacher preference:

Male	1
Female	2
Either	3

9. Type of education preferred:

Formal	1
Informal	2
Either	3
Job oriented	4

INSTRUCTION TO ADMINISTER BHATIA'S PERFORMANCE TESTS OF
INTELLIGENCE

KOHS' BLOCK DESIGN AND PASSALONG TESTS (Tests No.1 & 2)

1. Note the particulars of the subject as required in the scoring sheet. Note also whether the subject is literate or illiterate. Illiterate is one who has not been to a school or has not stayed there long enough to acquire ordinary reading and writing.
2. Note the observations very carefully and faithfully. Record the times as carefully as you can with the help of a stop watch as far as possible. A friend may help you in recording time.
3. Give the tests in a natural manner. Obtain the confidence of the subject. Talk in the subject's own dialect if possible. But stick to the procedure of the Tests rigidly. Give only as much aid or hint to the subject as it permissible. When the subject fails, do not put on a very serious look. Keep a cheerful business like attitude throughout.
4. START TESTING WITH KOHS' BLOCK DESIGN TEST
 - i) Place four cubes before the subject. Explain how they are all alike and coloured in a particular way. Let him handle and examine the cubes at leisure and confidently, and let him feel at home.
 - ii) Show him card No.1 tell him that a design like this has to be prepared with the cubes. Even if he attempts to prepare the design himself, you should demonstrate this design to every subject.
 - iii) Mix up the blocks. Now ask him to prepare design No.1 as you have already shown him. Note the time.

- iv) If the subject succeeds in the above within the time limit, namely 2 minutes, proceed to design No.2 and ask him to construct it without any demonstration or help from your side.
- v) Proceed in this manner with successive designs.
- vi) When the subject fails in a particular design within the time limit, demonstrate the design after he has failed. Do not discuss. Do not let him again try this design, Pass on to the next which of course, he must again try independently.
- vii) When the subject comes to design No.6, give him five more blocks making the total nine; when he comes to design No. 8, give him the remaining seven making the total sixteen.
- viii) Stop the test when failure has been recorded twice in succession.
- ix) The time limit for designs Nos. 1-5/ is 2 minutes each and for designs Nos. 6-10 is 3 minutes each.
- x) In the remarks column you may note any thing particulars or peculiar you find about the subject in making the designs.

5. IN GIVING THE PASSALONG TEST:

- i) Take the first and the smallest box, and the card No.1. Point out to the subject that the red block has been placed near the blue end and the blue blocks near the red end. Explain that the red block must come to the red side and the blue blocks to the blue side as in the card. Emphasize that blocks have not to be lifted, but may only be moved. Demonstrate the solution of the first box to every subject.

- ii) Again place the card No.1 and the box and ask the subject to do as you have already just demonstrated. Record success or failure with in the time limit.
- iii) Proceed to design Nos.2,3 etc. with the appropriate boxes, and after having placed the blocks properly in the initial position as required in the test. The initial position is obtained by simply reversing the coloured' ends of the box. The coloured ends of the box must however be finally placed before the subject as in the Design Card, which must be presented to the subject with the number of the card.
- iv) When the subject fails in a particular design within the time limit, demonstrate the design after he has failed. Do not discuss do not let him again try this design. Pass on to the next which of course he must again try independently.
- v) Stop the test when failure has been recorded twice in succession.
- vi) The time limit for designs 1 to 4 is 2 minutes each and for designs 5 to 8 is 3 minutes each.
- vii) In the remarks column you may note anything particular or peculiar you find about the subject in solving the designs.

PATTERN DRAWING TEST (Test No.3)

1. There are eight patterns of increasing difficulty from the 1st to 8th.
2. Give the following instructions to the subjectL

'Here is paper and a pencil, I shall show a figure to you
 मैं यहाँ एक शक्ति दिखाता हूँ।

Place a card before the subject. Let the card be so displayed, the number of the card appears at the top before the subject. And now make figure like this without repeating your lines and without lifting your pencil when once you have started drawing *इसै ठी शकल खीचो। ध्यान रखे का, एक बार खींचना शुरू करें तो पेंसिल दोबारा चमकाना नैहीं और अइसैका पेंसिल उठे नैहीं।*
The card should remain in full view of the subject throughout.

3. Let the subject try successive patterns. Stop when failure is recorded twice in succession.
4. Provide a plain white sheet of paper to the subject on which to draw the patterns. Successive patterns may be drawn on the same sheet as long as there is room. Put the name of the subject at the top corner.
5. Allow a maximum of 2 minutes for each of the first four patterns. Allow a maximum of 3 minutes for patterns Nos. 5 to 8. The subject may make as many attempts on the paper as he likes within the time limit.
6. Demonstrate the first pattern, if necessary. It is only meant to give the subject confidence and facility in drawing.
7. When a failure occurs in one of the patterns, demonstrate this, but do not let the subject try this pattern again. Pass on the next. Stop when failure is recorded in two successive designs.
8. Watch the subject while he is drawing. If he repeats a line or lifts his pencil, remind him of the conditions. Ask him to commence after proper thought. If he makes a drawing wrong, cross it out and ask him to start afresh. Encourage him to try as many times as he likes within the time limit before you record a failure in a particular pattern.
9. The solutions are given at the back of the cards. Try out the patterns yourself first. You will be able to see the device, solutions other than those given are also possible and should be familiar to you.

IMMEDIATE MEMORY FOR SOUND (a) Direct (Test No.4)

1. Immediate memory too has close relation with mental development or general intelligence.
2. Hindi consonants have been taken as the units of sounds, because they put the literate and the illiterate at par.
3. Give the instructions to the subject:
'I will say something (मैं कुछ कहूँगा) Listen attentively (ध्यान से सुनो) Report it after I have finished (मैं जबतक कहूँ तब तक तुम कहो गौर बाद कहो) .
Listen. (गौर से सुनो) .
4. We start with two letters (or sounds). This is merely to give practice to the subject. Read out distinctly and with even intonation. Processed with more letters till failure is recorded. Under each head we have given three alternative sets of letters. If failure is recorded in the first set, try the second and the third alternative sets. If failure is recorded in all the three alternatives, a final failure is recorded and we stop. We do not proceed up the series any more.

IMMEDIATE MEMORY FOR SOUNDS (b) Reversed (Test No.4):

1. The instructions in this part are:
Whatever I say you must say backwards. If I say "Kacha", you say "Cha Ka". मैं जो कुछ कहूँ तुम उल्ट कर कहो जैसे मैं कहूँ "कच्य" तो तुम कहो "य्यक" ।
"Explain this reversal process clearly to the subject if necessary using another set of two syllables as a second example.
2. Proceed up the series till failure is recorded. Failure means a failure in all the three alternatives of a particular set.

INSTRUCTIONS FOR PICTURE CONSTRUCTION TEST (Test NO.5)

1. This is the fifth and the last test of the battery.
2. This is a comparatively easy test for the age group 11 to 16 years and has been purposely put in to enable some of the inferior children to score appreciably.
3. The test consists of five graded sub-tests.
4. The general instructions will be:
'Here are a number of pieces (specify 2,4,6,8,12, as the case may be) of a picture. Put the pieces together to form picture'.
5. Start with the 1st sub-test. Most of the children will be able to do this themselves without your aid, in any case demonstrate and explain clearly what is to be done. This first sub test is only to give practice and to let the subject under stand clearly what is wanted of him.
6. Pass on them to the 2nd (Picture divided into four parts) 3rd (Picture divided into six parts), 4th (Picture divided into eight parts), and 5th the last (Picture divided into twelve parts).
7. Follow the usual procedure i.e.,
 - a) If failure occurs in a sub test, demonstrate and then pass on the next.
 - b) Stop with two successive failures.
8. If the subject is able to pass the first three subtests then in the fourth and fifth sub-tests in case of failure, record not only failure but the number of pieces the subject was able to fit in correctly within the limit, i.e., for example 6 out of 8 or 7 out of 8 in the case of the fourth sub test and 6 out of 12, or 9 out of 12 etc. in the case of the fifth sub-test.
9. The time limit is 2 minutes each for sub-tests 1 to 3 and 3 minutes each for sub-tests Nos. 4 and 5. Record both the time taken by the subject and failure success.

10. The pieces of a sub-test must be presented before the children as a pile in the serial order that has been marked at the back of the pieces. Of course the picture sides of the pieces will be exposed to the child. The numbers at the back are only to guide. The examiner in placing the pieces in the desired standard order initially before the child.

The above has two exceptions. In the sub test No.1, put two pieces side by side. In sub test 5 put the pieces in two piles in one pile, put pieces 1 to 6, and in the second, its side, piece 7 to 12, piece 1 and 7 will thus appear before the subject on top side by side to give him the initial correct start.

11. You can find out the solutions of the sub-tests easily your self, but they are given below to make you perfectly sure about them. Make your self familier with the solution before you give the test.

Solution	: Sub test 2
----------	--------------

1	2
4	3

Solution	Sub Test 3
----------	------------

4	1	3
6	5	2

Solution	Sub test 4
----------	------------

7	5
4	8
3	1
6	2

Solution	Sub test 5
----------	------------

12	9	6
2	5	3
1	7	8
4	10	11

SCORING

STANDARDS

The scoring standards for the various tests are as under:

Both time and success are to be taken into account. The scoring standards have been kept as uniform and simple as possible.

KOHLS:

- For the first five designs, and for each design.
 - 2 marks for success within a minute.
 - 1 mark for success between 1 minutes and 2 minutes.
 - 0 mark for a failure, or success after the time limit.
- For designs No.6 to 10, and for each design.
 - 3 marks for success within a minute.
 - 2 marks for success between 1 minute and 2 minutes (But excluding 2 minutes).
 - 1 mark for a failure, or success after the time limits.

Maximum - Possible Score : 25

PASSALONG:

- For the first four sub-tests, and for each sub tests
 - 2 marks for success within a minute.
 - 1 mark for success between 1 minutes and 2 minutes.
 - 0 mark for a failure or success after the time limit.
- For the last four sub-tests, and for each sub-test.
 - 3 marks for success within a minute.
 - 2 marks for success between 1 minute and 2 minutes (But excluding 2 minutes).
 - 1 mark for success between 2 and 3 minutes.
 - 0 mark for a failure, or success after the time.

Maximum Possible Score : 20

PATTERNS: Exactly the same as for the Passalong Test.

Maximum Possible Score : 20

MEMORY:

Direct: one mark each for the number of digits or sounds in the maximum correct reproduction.

Maximum Possible Score provided for : 9

Reverse: One mark each for the number of digits or sounds in maximum correct reversed reproduction.

Maximum possible score provided for : 6

PICTURES: Pictures 1 to 3, and for each of them

2 marks for success between 1 minute and 2 minutes

1 mark for success between 1 minutes and 2 minutes

0 mark for a failure or success after the time limit.

- Pictures 4 and 5 and for each for them

3 marks for success between 1 minute and 2 minutes
(But excluding 2 minutes).

1 mark for success between 2 and 3 minutes

0 mark for a failure or success after the time limit

- For pictures 4 and 5 however credit in addition to that earned according to the above schedule is to be given as under:

- For Picture 4: 1 mark provided that least 6 of the 8 parts have been correctly put within the time limit.

- For picture 5: 2 marks provided that at least 6 of the 12 parts have been correctly put together, both within the time limit.

Maximum Possible Score : 15

Maximum Possible Score for the whole Battery : 95

TIME:

The total time taken in the administration of the battery to a single individual is rather less than an hour.

SCORE-SHEET

No.

Dr. C.M. BHATIA'S

Battery of Performance Tests of Intelligence

Name of the Subject : Place :
 Father's Name : Date :
 Time :
 Date of Birth of the subject from Official Records:
 Estimate age of the subject: Years : Month:
 Whether Literate or Illiterate?
 (if Literate, Class in which he is reading
 or has read)
 Father's occupation (or the
 subject's occupation) Caste:
 General opinion about the subject's intelligence
 (if reading in school, position in class) *Very Superior *Superior
 *Average *Inferior *Very Inferior
 Any particular emotional tendency noticed during the test:

 TEST I - KOHS' BLOCK DESIGN TEST

Design No.	Time taken in mts. & seconds	Success or failure	Any Remarks
1 (Practice)			
2			
3			
4			
5			
6			
7			
8			
9			
10			

TEST II - PASS ALONG TEST

Design No.	Time taken in mts. & Seconds	Success or failure	Any Remarks
1 (Practice)			
2			
3			
4			
5			
6			
7			
8			

TEST III - PATTERN DRAWING TEST

Pattern No.	Time taken in mts. & Seconds	Success or Failure	Any Remarks
1 (Practice)			
2			
3			
4			
5			
6			
7			
8			

TEST IV - IMMEDIATE MEMORY TEST

	Span		Span
For Sounds	:	For Digits	:
Reversed Sounds :		For Reversed	
		Digits	:

TEST V - PICTURE CONSTRUCTION TEST

Pattern No.	Time taken in Mts. & Seconds	Success or Failure	Any Remarks

1 (Practice)			
2			
3			
4			
5			

(SIGNATURE OF EXAMINER)

CONVERSION TABLES TO OBTAIN IQ'S

1. LITERATES
2. ILLITERATES

TABLE 15
LITERATE GROUP
Conversion Table from Raw Scores to IQ's

Age	Scores	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
11 Years	..	70	71	73	74	76	78	79	81	83	84	86	87	89	90	92	93	95	96	98	99	101
11 Years	.. 6 months	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
12 Years	..	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
12 Years	.. 6 months	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
13 Years	..	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
13 Years	.. 6 months	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
14 Years	..	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
14 Years	.. 6 months	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
15 Years	..	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
15 Years	.. 6 months	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98
16 Years	..	..	..	70	72	74	75	77	78	80	82	83	85	86	88	89	91	92	94	95	96	98

TABLE 15

LITERATE GROUP

Conversion Table - From Raw Scores to IQ's (Continued)

Age	Scores	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
11 Years	...	...	102	104	106	108	109	111	113	115	116	118	120	122	124	126	128	130				
11 Years	6 months	...	99	101	103	104	106	108	109	111	113	114	116	118	120	122	123	125	127	129	131	
12 Years	...	...	97	98	99	101	103	104	106	108	109	111	113	114	116	117	119	121	123	124	126	130
12 Years	6 months	...	94	95	97	98	99	101	103	104	106	108	109	111	112	114	116	117	119	121	122	125
13 Years	...	...	92	93	94	96	97	98	99	101	103	104	106	108	109	111	112	114	116	117	119	122
13 Years	6 months	...	89	91	92	93	95	96	97	98	100	101	103	104	106	108	109	111	112	114	116	118
14 Years	...	...	87	89	90	91	92	94	95	96	97	98	100	101	103	104	106	108	109	111	113	115
14 Years	6 months	...	85	87	88	89	90	91	92	94	95	96	97	98	100	101	103	104	106	108	109	112
15 Years	...	...	83	84	86	87	88	89	90	91	93	94	95	96	97	98	100	101	103	104	106	109
15 Years	6 months	...	81	83	84	86	87	88	89	90	91	93	94	95	96	97	98	100	101	103	104	107
16 Years	...	...	80	81	83	84	85	87	88	89	90	91	92	93	95	96	97	98	99	101	103	106

TABLE 15
LITERATE GROUP
Conversion Table-From Raw Scores to IQ's (Concluded)

Age	Scores	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
11 Years	...																					
11 Years	6 months																					
12 Years	...																					
12 Years	6 months	...	127	128	130																	
13 Years	...	...	123	125	126	128	129	131														
13 Years	6 months	...	120	121	123	124	126	127	128	130												
14 Years	...	...	117	118	120	121	122	124	125	126	128	129	131									
14 Years	6 months	...	114	115	117	118	119	121	123	125	126	127	128	130								
15 Years	...	...	111	112	114	115	117	118	119	120	122	123	124	125	126	128	129	130				
15 Years	6 months	...	109	110	112	114	115	116	118	119	120	121	122	124	125	126	127	129	131			
16 Years	...	...	107	109	110	112	114	115	116	118	119	120	121	122	123	124	126	127	128	129	130	

TABLE 16
ILLITERATE GROUP
Conversion Table-Raw Scores into IQ's

Age	Scores	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
11 Years	...	69	71	73	75	77	79	81	84	86	88	90	92	95	97	99	101	103	104	106	108	109
11 Years	6 months	...	70	72	74	77	79	81	83	86	88	90	92	94	96	99	101	102	104	105	107	
12 Years	...	...	69	71	73	76	78	81	83	85	87	89	90	92	94	96	98	100	102	104	105	
12 Years	6 months	...	70	73	75	78	80	83	85	87	89	91	93	95	97	99	101	102	103			
13 Years	...	...	70	72	74	77	79	82	84	87	89	91	93	95	97	99	101					
13 Years	6 months	...	71	73	76	79	81	84	86	88	91	93	95	97	99							
14 Years	...	...	70	72	75	78	81	84	86	88	90	92	94	96								
14 Years	6 months	...	71	74	77	80	83	86	88	90	92	94	96									
15 Years	...	...	70	73	76	79	81	84	86	88	90	92	94	96								
15 Years	6 months	...	69	72	75	78	80	83	85	87	89	91	93	95	97	99	101	102	103			
16 Years	...	...	70	73	76	79	81	84	86	88	90	92	94	96								

TABLE 16
ILLITERATE GROUP
Conversion Table-Raw Scores Into IQ's (Concluded)

Age	Scores	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
11 Years	...	111	112	114	115	117	119	121	122	124	126	127	129	131							
11 Years	6 months	109	110	112	114	115	117	119	121	122	124	126	128	129	131						
12 Years	...	107	109	110	112	114	115	117	119	121	123	125	127	128	130						
12 Years	6 months	105	107	108	110	112	113	115	117	119	121	123	125	127	129	130					
13 Years	...	103	104	106	108	110	112	113	115	117	119	121	123	125	127	129	131				
13 Years	6 months	101	102	104	106	108	110	111	113	115	117	119	121	123	125	128	130				
14 Years	...	98	100	102	104	106	107	109	111	113	115	117	121	122	124	126	128	130			
14 Years	6 months	96	98	100	102	104	105	107	109	111	113	115	117	119	122	124	126	129	131		
15 Years	...	93	95	97	99	102	104	105	107	109	111	113	115	117	120	122	124	127	129	131	
15 Years	6 months	91	93	95	97	99	101	102	105	107	109	111	113	114	117	119	122	125	127	130	
16 Years	...	89	91	93	95	97	99	101	103	104	106	108	110	112	114	117	119	122	125	128	130

APPENDIX - VI
SCHEDULE TO ELICIT INFORMATION ABOUT HEALTH ASPECTS

Code _____

Code

- | | | |
|----|--|---|
| 1. | Has health problem/complaint: | |
| | Very frequently | 1 |
| | Frequently | 2 |
| | Rarely | 3 |
| | None | 4 |
| 2. | Help received from: | |
| | Employer | 1 |
| | Parent | 2 |
| 3. | Medical facility received at industry: | |
| | None | 1 |
| | Free medicine without check up | 2 |
| | Regular check up | 3 |
| 4. | Other facility received: | |
| | Leave without pay | 1 |
| | Reduced work load | 2 |
| 5. | Height in cms: | 1 |
| 6. | Weight in kgs: | 2 |
| 7. | Specify health problem/complaint: | |
| | - | 1 |
| | - | 2 |
| | - | 3 |

APPENDIX - VII

SCHEDULE TO ELICIT INFORMATION ON SOCIAL ASPECTS, RECREATION
AND ASPIRATION

	Code	Code
1. Has close friends		1
2. Has more than one friend		1
3. Age level of the friends:		
Lower		1
Higher		2
Both		3
Same		4
4. All the friends belong to		
Same sex only		1
Opposite sex only		2
Both		3
5. Type of friends at work place:		
Co-workers only		1
School going children		2
Both		3
6. Type of friends at neighbourhood:		
Co-Workers only		1
Working children		2
School going children		3
All types		4
7. Plays with friends:		
Never		1
Occasionally		2
Once a week		3
Every day		4

8. Type of game played:

During work break

- Nil 1
- Individual 2
- Group 3

During holiday

- Nil 1
- Individual 2
- Group 3

9. Games played for pleasure as last week
(indicate atleast 3)

- Occasionally 1
- Holidays 2
- Every day 3

NEGATIVE ASPECTS:

1. Games played on monetary grounds:

- Every day 1
- Holiday 2
- Occasionally 3
- Never 4

2. Whether tried

- Smoking 1
- Drinking 2

3. Motivated by:

- Age mates 1
- Older colleagues 2
- Mass media 3

4. Frequency of smoking/drinking

- Every day 1
- Once in few days 2
- Once a week 3
- occasionally 4

RECREATION

1. Recreational activities during leisure time:

Activities

Roam aimlessly	1
Household work	2
Chit chat	3
Play	4
Cinema	5
Radio listening	6
Reading	7

2. Satisfaction with recreational activities:

Dissatisfied	1
Indifferent	2
Satisfied	3
Most satisfied	4

ASPIRATION

1. Educational :	1
2. Vocational :	2

APPENDIX - VIII

SCHEDULE TO ASSESS MOTHER'S AWARENESS ABOUT CHILD'S EMPLOYMENT

Code _____

PARENTAL AWARENESS ABOUT CHILD'S EMPLOYMENT Code

1. Name, location/address of the industry
Where the child is working;
 - Do not know 1
 - Name, location/address specified 2
2. Type of work done by the child at industry
 - a) 1
 - b) 2
3. Number of hours child works per day:
 - Do not know 1
 - Hours specified 2
4. Work done is difficult (in terms of percentage)
 - Do not know 1
 - Not difficult 2
 - Percentage specified: 3
5. Duration of work done is:
 - Do not know 1
 - Too long 2
 - Long 3
 - Short 4

DISCIPLINE

1. Whether child has received reward from employer
for good work:
 - Do not know 1
 - Never 2
 - Occasionally 3
 - Often 4

2. Type of reward received
 - Do not know 1
 - Verbal 2
 - Material 3
3. Whether child has received punishment for misbehaviour from his employer
 - Do not know 1
 - Never 2
 - Occasionally 3
 - Often 4
4. Type of punishment received:
 - Do not know 1
 - Often 2
 - Occasionally 3
 - Never 4
5. Received complaints from employer:
 - Very often 1
 - Often 2
 - Occasionally 3
 - Never 4
6. Misbehaviour generally committed by the child:
 1. 1
 2. 2
 3. 3

SALARY

1. Salary drawn by the child
 - Not satisfactory 1
 - Satisfactory 2

2. Salary is collected by
 - Parent 1
 - Child 2
3. Pocket money given to the child
 - Never 1
 - Whenever asked 2
 - Every day 3
 - Once a week 4
4. Amount given as pocket money last time:
5. Way the child spends the pocket money:
 - Do not know 1
 - Play games 2
 - Entertainment 3
 - Food 4
 - Savings 5
6. Child's income is utilised for
 - Food 1
 - Clothing 2
 - Shelter 3
 - Saving 4
 - Education 5
 - Recreation 6
 - Medicine 7
 - Miscellaneous 8

HEALTH

1. Child complains about his health:
 - Very often 1
 - Often 2
 - Occasionally 3
 - Never 4

2. Type of health problem complained
- a) 1
 - b) 2
 - c) 3
3. Child suffers from sickness
- Very often 1
 - Occasionally 2
 - Often 3
 - Never 4
4. Type of sickness:
- a) 1
 - b) 2
5. Type of treatment given:
- Medicine given without check up 1
 - Household medicine 2
 - Medical aid 3
6. Medical bill met by
- Self 1
 - Free aid 2
 - Employer 3
7. Child was granted leave
- Never 1
 - Without pay 2
 - With pay 3

PARENTAL OPINION ABOUT CHILD'S EDUCATION

1. Education is essential for the child:
- No 1
 - Yes 2

2. If yes, level of education needed:

Read and write	1
Primary education	2
Secondary education	3
Job oriented education	4

SOCIALIZATION

1. Child is encouraged to play

Never	1
Occasionally	2
Often	3

2. Number of hours he plays during

Working days :	1
Holidays :	2
(Specify)	3

3. Child plays with

Sibs only	1
Relatives' children only	2
Neighbours' children only	3
Any group	4

4. Whether child is encouraged to visit

Temple	1
Relatives	2
Friends	3
View movies	4
Market	5
Circus	6
Exhibition	7

ADVANTAGES AND DISADVANTAGES OF EARLY EMPLOYMENT

1. Advantages of early employment of the child
 - a)
 - b)
 - c)
2. Disadvantages of early employment to the child
 - a)
 - b)
 - c)

APPENDIX - IX

CALENDER TO ASSESS CHILD'S AGE

Code

TAMIL CALENDER CORRECPONDING ENGLISH CALENDER

TAMIL MONTHS		ENGLISH MONTHS	
1.	Chithirai	14 April	- 13 May
2.	Wykasi	14 May	- 14 June
3.	Aani	15 June	- 15 July
4.	Aadi	16 July	- 16 August
5.	Aawani	17 August	- 17 September
6.	Portasi	18 September	- 17 October
7.	Aipasi	17 October	- 15 November
8.	karthikai	16 November	- 15 December
9.	Maargali	16 December	- 13 January
10.	Thai	14 January	- 12 February
11.	Masi	13 February	- 13 March
12.	Panguni	14 March	- 13 April

TAMIL YEARS REFERRED:

NAME OF THE YEAR		ENGLISH YEAR
1.	Paridhabi	1972 April 14 - 1973 April 13
2.	Pramathisa	1973 April 14 - 1974 April 13
3.	Ananda	1974 April 14 - 1975 April 13
4.	Rakshasa	1975 April 14 - 1976 April 13

MAJOR FESTIVALS OF THE YEAR:

1. Deepavali
2. Thai Pongal, Bhogi Pongal
3. Chithirai
4. Karthika Deepam
5. Wykunta Yekadasi
6. Aadi Peruku

MAJOR NATURAL EVENT OF THE MONTH

1. Full moon day
2. New moon day

APPENDIX - X

GLOSSERY

1. Building: Series/chain of stitched material is received and separated using a pair of scissors and the separated material is placed one top of the other dozen-wise and size-wise.
2. Folding sleeve is tailor assisting task where a child worker places two cut pieces together to be stitched in a continuum process.
3. Checking damage and preliminary finishing: The stitched garment is checked for holes, damages, gaps in stitching and then using a wooden plank of the required size the garment is turned to the right side after extra thread is trimmed and fastened using a interlock needle.
4. Labelling: The stitched garment is attached with a label that indicate washing instructions, trade name and size of the garment.
5. Packing: The ironed material is inserted into polythene covers and then into individual boxes.
6. Box making: Sheets of card board - bearing the trade name, design and other details - cut in such a way, certain simple folding results in shape of a box.
7. Making cotton waste: Bits of pieces of banian material left over after cutting the knitted cloth to size, is taken from a dealer/distributor of these in kilograms to undo the knitted thread to make a mass of threads.

APPENDIX - XI
ILLUSTRATIONS OF STATISTICAL APPRAISAL

CHI SQUARE TEST

SES Work Load

13 24

13 15

13 18

7 23

11 25

18 15

6 15

5 26

9 17

14 22

17 24

12 17

10 18

12 17

16 19

9 23

5 15

4 18

10 16

15 14

12 23

10 24

16 21

13 15

7 22

12 23

14 18

11 20

10 23

9 18

13 00

Observed frequency

SES	0 - 18	18-27	Total
4-11	7	8	15
12-18	9	7	16
Total	16	15	31

Expected frequency

4-11	7.74	7.26	15
12-18	8.26	7.74	16
Total	16.00	15.00	31

$$X^2 = \sum_{j=1}^r \sum_{k=1}^c \frac{(O_{jk} - E_{jk})^2}{E_{jk}}$$

$$\frac{(0.74)^2}{7.74} + \frac{(0.74)^2}{7.26} + \frac{(0.74)^2}{8.26} + \frac{(0.74)^2}{7.74}$$

$$= \underline{\underline{0.2832}}$$

MANN WHITNEY 'U' TEST

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FPCWs			MPCWs		
Score	Work load at home	R ₁	Score	Work load at home	R ₁
06	17.65	04.50	05	14.71	01.50
08	23.53	11.00	05	14.71	01.50
08	23.53	11.00	06	17.65	04.50
11	32.35	26.50	06	17.65	04.50
12	35.29	30.50	06	17.65	04.50
12	35.29	30.50	07	20.59	07.50
13	38.24	34.00	07	20.59	07.50
14	41.18	38.00	08	23.53	11.00
14	41.18	38.00	08	23.53	11.00
14	41.18	38.00	08	23.53	11.00
14	41.18	38.00	09	26.47	15.00
14	41.18	38.00	08	26.47	15.00
15	44.12	42.50	09	26.47	15.00
15	44.12	42.50	10	29.41	20.50
15	44.12	42.50	10	29.41	20.50
16	47.05	47.00	10	29.41	20.50
16	47.06	47.00	10	29.41	20.50
16	47.06	47.00	10	29.41	20.50
16	47.06	47.00	10	29.41	20.50
16	47.06	47.00	10	29.41	20.50
16	47.06	47.00	10	29.41	20.50
17	50.00	51.50	10	29.41	20.50
17	50.00	51.50	11	32.35	26.50
17	50.00	51.50	11	32.35	26.50
18	52.94	55.50	11	32.35	26.50
18	52.94	55.50	12	35.29	30.50
18	52.94	55.50	12	35.29	30.50
19	55.88	58.00	13	38.24	34.00
20	58.82	59.00	13	38.24	34.00
21	61.76	60.00	15	44.12	42.50
22	64.71	61.00	17	50.00	51.50
			18	52.94	55.00
1259.50			631.50		

$$U_{12} = N_1 N_2 + (N_1(N_1+1))/2 - R_1$$

$$= 794.50$$

$$U_{21} = N_1 N_2 + (N_1(N_1+1))/2 - R_2$$

$$= 135.50$$

$$U = \text{Minimum of } (U_{12}, U_{21})$$

$$= 135.50$$

$$\text{Mean} = N_1 N_2 / 2 = 465.00$$

$$\text{Variance} = N_1 N_2 / 2 = 480.50$$

$$/Z/ = (U - \text{Mean } 1) / \text{SQRT}$$

$$\text{Variance} = 4.750$$

't' TEST

S.No.	FCWs Height	FPCWs Height
1	137.5	132.5
2	126.5	143.1
3	134.7	131.4
4	123.0	135.5
5	132.0	136.5
6	133.8	138.5
7	128.5	134.2
8	121.0	142.3
9	136.0	131.0
10	137.2	150.0
11	133.4	139.5
12	133.0	144.8
13	136.6	142.0
14	139.5	134.8
15	134.5	
Mean	132.48	138.28
SD	5.48	5.59
n	15	14

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S / \sqrt{1/n_1 + 1/n_2}}$$

$$S = \sqrt{\frac{n_1 s_1^2 + n_2 s_2^2}{n_1 + n_2 - 2}}$$

$$t = \frac{132.48 - 138.28}{5.7346 / \sqrt{1/15 + 1/14}}$$

$$= -2.722$$

KRUSKEL-WALLIS ANALYSIS

<u>CW</u>		<u>Cohort I</u>	<u>Cohort II</u>
	<u>R₁</u>	<u>R₂</u>	<u>R₃</u>
6	30.5	4	16.5
4	16.5	2	4
2	4	4	16.5
7	41	7	41
2	4	3	9
9	59	3	9
		2	4
		4	16.5
		2	4
		10	63.5
		9	59
		9	59
		5	24.5
		17	66
		9	16.5
		4	16.5
		4	16.5
		8	51.5
		6	30.5
		9	59
		10	63.5
		6	30.5
		2	4
		2	4
		8	51.5
		6	30.5
		7	41
		8	51.5
		7	41
		4	16.5
		8	51.5
		7	41
		9	59
		9	59
		4	16.5
		8	51.5
		5	24.5
		6	30.5
		6	30.5
		8	51.5
		8	51.5
		7	41
		9	59
		9	59
		4	16.5
		8	51.5

$$n_1 = 6$$

$$\Sigma R_1 = 155$$

$$n_2 = 30$$

$$\Sigma R_2 = 917$$

$$n_3 = 30$$

$$\Sigma R_3 = 1139$$

$$H = \frac{\frac{12}{N(N+1)} \sum_{j=1}^k \frac{R_j^2}{n_j} - 3(N+1)}{\frac{\sum T}{N_3 - N}}$$

$$= \frac{\frac{12}{66(66+1)} + \frac{(155)^2}{6} + \frac{(917)^2}{30} + \frac{(1139)^2}{30} - 3(66+1)}{1 - \frac{5670}{(66)^3 - 66}} = \frac{3.28}{0.98} = \underline{\underline{3.35}}$$

AGE, HEIGHTS AND WEIGHTS OF SELECTED SAMPLE

S.No.	FCWs			FPCWs		
	Age	Height in cm.	Weight in Kg.	Age	Height in cm.	Weight in kg.
1.	11.6	137.5	27.3	11.5	132.5	24.5
2.	11.3	126.5	18.5	11.4	143.1	32.1
3.	11.9	134.7	26.5	11.7	131.4	26.5
4.	11.5	123.0	18.5	11.5	235.5	23.2
5.	11.1	132.0	22.3	11.2	136.5	23.5
6.	11.7	133.8	23.5	11.8	138.5	26.4
7.	11.8	128.5	19.6	11.7	134.2	25.0
8.	11.9	121.0	19.0	11.4	142.3	30.2
9.	11.5	136.0	32.1	11.4	131.0	24.5
10.	11.4	137.2	29.6	11.11	150.0	34.5
11.	11.11	133.4	24.8	11.3	139.5	34.2
12.	11.11	133.0	26.2	11.4	144.8	32.5
13.	11.5	136.6	23.3	11.9	142.0	29.3
14.	11.11	139.5	31.5	11.10	134.8	26.2
15.	11.10	134.5	26.7	12.8	129.3	24.3
16.	12.7	136.0	27.2	12.1	127.8	23.5
17.	12.2	130.8	21.5	12.11	144.6	27.4
18.	12.11	143.0	28.2	12.2	140.2	25.8
19.	12.2	127.2	24.4	12.1	129.2	20.3
20.	12.1	134.5	26.0	12.5	128.0	22.5
21.	12.6	138.2	30.9	12.3	135.0	26.5
22.	12.3	139.0	30.5	12.2	140.0	28.5
23.	12.1	130.2	24.3	13.3	142.8	28.5
24.	13.3	138.2	29.1	13.5	148.0	30.5
25.	13.6	132.5	24.6	13.9	141.5	26.0
26.	13.1	144.2	29.5	13.3	138.4	27.4
27.	13.11	142.8	27.9	13.9	145.5	28.4
28.	13.4	136.2	26.3	13.4	154.5	37.2
29.	13.3	139.5	28.5	14.1	153.2	38.0
30.	14.4	145.1	27.5	14.1	145.3	27.2
31.	14.1	137.0	24.4			

AGE, HEIGHTS AND WEIGHTS OF SELECTED SAMPLE

S.No.	MCWs			MPCWs		
	Age	Height in cm.	Weight in kg.	Age	Height in cm.	Weight in kg.
1.	11.10	127.1	19.0	11.7	123.1	22.3
2.	11.6	116.2	19.5	11.6	129.0	21.5
3.	11.8	132.2	21.2	11.10	134.5	25.5
4.	11.1	129.4	22.5	11.3	124.0	20.5
5.	11.0	119.5	21.5	11.3	148.3	27.0
6.	11.2	133.8	24.7	11.3	128.4	18.0
7.	12.2	138.2	27.5	12.0	145.5	28.5
8.	12.4	136.0	25.2	12.5	129.2	21.0
9.	12.3	140.5	25.6	12.7	141.2	28.4
10.	12.6	137.8	24.7	12.8	136.4	23.7
11.	12.9	135.8	24.5	12.8	135.3	22.4
12.	12.11	138.5	25.7	12.9	141.0	29.4
13.	12.8	133.0	23.3	12.6	137.7	25.5
14.	12.5	132.8	28.9	12.7	135.2	23.2
15.	12.10	133.2	26.5	12.0	133.2	23.4
16.	12.2	127.5	21.8	12.11	134.5	23.3
17.	12.0	130.2	23.2	12.0	142.5	30.2
18.	12.10	135.6	26.5	12.3	126.4	21.5
19.	12.0	127.0	22.4	12.6	149.0	26.7
20.	12.1	133.2	25.8	12.4	145.5	25.6
21.	12.1	136.5	25.5	12.8	146.0	37.0
22.	12.7	131.3	25.4	12.5	133.0	23.4
23.	12.4	118.2	19.1	12.4	134.6	25.2
24.	12.9	130.5	29.2	13.5	148.2	32.5
25.	12.4	129.5	24.5	13.8	156.3	33.7
26.	12.3	141.0	30.0	13.8	138.0	34.0
27.	13.6	137.0	25.1	13.3	134.7	26.2
28.	13.4	141.8	29.5	13.5	144.2	31.2
29.	13.10	130.2	29.2	13.1	151.3	34.6
30.	13.1	127.5	21.3	13.7	142.2	28.5
31.	13.6	141.0	31.2	13.7	141.3	25.6
32.	13.8	134.0	29.4			
33.	13.8	141.1	27.3			
34.	13.9	143.0	27.5			
35.	13.9	148.6	29.0			

APPENDIX - XIII

RAW SCORES, IQ SCORES AND AGE OF THE THREE
SELECTED GROUPS

Performance Scores on Bhatia's Battery of Test of Intelligence, IQ Scores and age of the selected samples are appended in the following serial order.

1. Length of Service
2. Age in years
3. Kohs Block Design Test Score
4. Passalong Test Score
5. Pattern Drawing Test Score
6. Immediate Memory Test Score
7. Picture Completion Test Score
8. Total Scores
9. IQ Scores

CHILD WORKERS

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FCWs									MCWs								
1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
2	13.3	6	8	9	8	5	36	88	2	12.2	5	5	4	4	7	25	102
2	12.7	2	6	3	6	5	22*	92	2	11.10	4	9	5	5	5	28	82
2	12.2	3	4	4	6	3	20*	92	2	12.4	5	11	4	9	6	35	92
2	11.6	2	6	4	4	5	21*	96	2	13.6	3	8	4	5	8	28	73
2	12.11	2	9	3	5	2	21*	91	2	12.3	10	14	9	13	6	52	117
2	11.3	3	5	5	4	2	19*	95	2	13.4	4	5	4	4	5	22*	91
2	11.9	4	6	6	6	4	26	80	2	12.6	3	10	7	5	7	32	85
2	12.2	2	8	4	4	5	23*	98	2	11.6	2	5	6	4	3	20*	97
2	11.5	2	6	6	5	4	22*	101	2	12.9	10	11	8	4	12	45	103
2	13.3	4	6	3	9	4	26*	99	2	12.11	9	9	11	4	12	45	103
2	14.4	2	10	5	10	5	32	77	2	13.10	2	8	5	4	6	25*	95
2	12.1	2	6	6	5	4	23*	98	2	12.8	4	7	4	4	9	28	78
2	12.6	2	4	4	4	7	21*	91	2	12.5	4	6	6	6	7	29	82
2	13.6	4	6	5	6	4	25*	95	2	13.1	5	11	5	5	8	34	85
2	11.1	2	4	3	4	2	15*	85	2	11.8	2	11	6	9	7	35	94
2	11.7	2	7	4	4	5	22*	99	2	11.1	2	8	4	9	3	26	83
3	11.8	2	6	4	7	4	22*	99	2	11.0	2	8	4	6	4	24	79
3	11.9	2	5	2	6	3	18*	90	2	12.10	4	7	4	4	11	30*	108
3	11.5	2	9	5	6	3	25*	106	3	12.2	5	11	6	5	7	34	90
3	11.0	2	4	2	4	2	14*	84	3	12.0	4	5	5	4	6	24	74
3	13.1	7	6	8	5	8	34	85	3	12.10	4	7	4	6	10	31	83
3	11.11	2	11	4	4	7	28	83	3	12.0	4	11	6	4	4	29*	109
3	11.11	9	7	4	5	10	35	94	3	11.2	2	6	6	3	6	21*	99
3	11.5	2	10	4	5	4	25*	106	2	12.1	4	14	5	4	4	31*	112
3	12.3	4	5	4	5	3	21*	94	3	12.1	2	11	8	4	7	32	87
3	13.11	2	5	4	4	3	18*	79	3	13.6	4	11	4	3	4	26*	97
3	11.11	2	10	5	5	4	26*	105	3	13.7	2	8	7	7	9	33	86
3	13.4	2	8	4	6	2	22*	91	3	12.4	2	6	6	5	8	27*	103
3	14.1	7	11	13	3	8	42*	126	3	13.8	1	11	4	5	4	25*	95
3	11.1	2	8	4	4	5	23*	101	3	13.8	5	6	6	5	9	31	78
3	12.1	2	5	3	3	4	17*	85	3	13.9	7	9	7	9	7	39	96
									3	13.9	5	11	6	5	6	33	81
									3	12.9	3	6	4	4	4	21*	91
									3	12.4	9	7	8	10	9	43*	103
									3	12.3	2	5	4	4	4	19*	90

* Illiterates

COHORT I

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FPCWs									MPCWs								
1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
2	13.3	4	8	7	9	7	35	87	2	12.0	6	7	8	6	7	34	90
2	12.8	2	6	6	4	4	22	70	2	11.7	6	10	9	5	12	42	104
2	12.1	4	8	5	5	4	26	78	2	12.5	5	11	5	9	5	35	92
2	11.5	7	8	8	5	5	33	91	2	12.7	5	6	6	5	4	26	78
2	12.11	3	10	9	4	8	34	87	2	13.5	7	9	8	9	4	37	89
2	11.4	3	7	6	10	4	29	87	2	13.8	9	10	12	5	7	43	99
2	11.7	2	7	7	10	3	29	85	2	11.6	8	7	15	6	8	44	111
2	12.2	4	10	2	4	6	26	78	2	12.8	6	10	12	11	8	47	106
2	11.5	2	7	5	9	8	31	90	2	12.8	9	8	7	7	12	43	99
2	13.5	10	11	11	11	5	48	104	2	13.8	5	10	9	4	10	44	96
2	14.1	9	10	15	11	10	55	109	2	12.9	8	11	7	11	9	46	104
2	12.1	9	10	7	5	4	35	92	2	12.6	4	10	13	11	7	46	108
2	12.5	5	10	9	5	9	38	93	2	13.3	12	10	11	10	13	56	117
2	13.9	17	10	11	11	7	56	114	2	11.10	4	8	7	9	9	37	96
2	11.2	4	9	8	9	4	34	95	2	11.3	4	8	4	5	4	25	81
2	11.8	4	9	10	10	6	39	99	2	11.3	4	9	7	10	12	43	109
3	11.7	4	7	6	5	6	28	83	2	12.7	19	10	10	11	10	60	127
3	11.4	8	9	10	9	6	42	108	3	12.0	5	11	4	10	4	34	90
3	11.4	6	8	4	5	7	30	90	3	12.11	8	11	12	5	8	44	101
3	13.3	9	8	9	12	8	46	101	3	12.0	2	11	5	10	5	33	88
3	11.11	10	9	8	9	6	42	104	3	11.3	6	7	6	9	6	34	95
3	11.3	6	8	3	9	7	33	91	3	12.3	3	11	7	5	5	31	85
3	11.4	2	8	9	10	6	35	96	3	13.5	8	10	11	11	6	46	98
3	12.4	2	11	6	5	4	28	81	3	12.6	4	11	9	9	6	39	94
3	13.9	8	8	8	9	5	38	88	3	12.4	7	9	8	10	10	44	104
3	11.9	6	8	4	9	5	32	89	3	13.1	9	9	11	10	6	45	97
3	13.4	7	8	6	10	7	38	90	3	13.7	4	4	10	10	4	31	78
3	14.1	8	10	7	9	6	40	89	3	13.7	13	11	12	10	11	57	116
3	11.10	7	8	9	9	11	44	108	3	12.8	4	6	5	10	8	33	86
3	12.2	4	11	8	5	6	32	87	3	12.5	8	15	9	6	9	47	87
									3	12.4	4	8	6	9	5	32	109

COHORT II

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FNWs									MNWs								
1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
13.0	7	10	6	11	6	40	93		12.5	7	9	6	10	4	36	93	
12.6	8	11	6	5	7	37	91		11.8	6	5	9	6	11	37	96	
12.1	9	8	10	11	9	47	109		12.4	20	7	12	13	10	62	130	
11.5	6	7	7	9	8	37	96		13.4	8	11	7	9	12	47	100	
11.8	7	11	9	10	10	47	106		12.3	4	9	9	10	11	43	103	
11.3	13	10	15	10	8	56	130		13.5	10	8	11	10	9	48	104	
11.8	5	9	5	10	5	33	91		12.6	10	11	12	10	8	51	112	
12.1	3	11	10	9	9	42	101		11.7	5	9	4	10	4	32	92	
11.7	6	8	5	4	6	29	87		12.8	16	11	8	10	10	55	119	
13.3	4	7	5	9	5	30	79		12.9	15	10	8	10	11	54	117	
14.1	7	11	5	9	5	37	85		11.2	6	10	8	10	11	45	97	
12.1	7	11	14	10	8	50	114		12.9	8	8	9	10	11	46	104	
12.6	7	8	6	10	6	37	91		12.5	4	8	4	11	10	37	94	
13.6	4	8	9	9	4	34	83		13.2	5	7	9	10	8	39	92	
11.1	5	9	5	5	8	32	92		11.10	2	8	5	6	5	26	80	
11.9	7	9	5	6	6	33	91		11.3	4	4	10	5	3	26	83	
11.9	4	11	8	9	4	36	95		11.3	6	8	4	4	8	30	89	
11.2	7	11	7	9	9	43	109		12.8	10	8	14	10	9	51	112	
11.3	8	8	9	6	4	35	96		12.3	6	10	8	10	9	43	103	
13.0	7	9	7	10	11	44	98		12.11	5	6	8	9	10	38	93	
11.11	5	9	7	4	7	32	89		12.2	8	9	10	11	9	47	109	
11.2	6	10	5	9	9	39	99		11.5	9	10	8	9	9	45	113	
11.3	6	11	10	9	7	43	109		12.2	6	7	9	10	11	43	103	
12.3	8	9	7	10	8	42	101		13.5	4	7	7	9	4	31	78	
13.6	8	8	7	9	7	39	89		13.5	6	9	7	10	8	40	95	
11.9	7	9	5	9	9	39	99		12.4	5	6	10	6	8	35	92	
13.5	9	9	6	9	9	42	96		13.1	7	9	11	10	10	47	100	
14.1	9	10	6	6	9	40	89		13.9	8	7	5	9	7	36	86	
11.1	4	9	8	5	7	33	91		13.6	7	11	17	9	8	52	108	
12.1	8	8	10	5	9	40	98		12.10	7	10	14	10	6	47	106	
									12.5	2	8	8	9	11	38	98	
									12.4	7	8	8	10	7	40	95	

APPENDIX - XIV

IQ SCORES AND FAMILIAL AND WORK RELATED FACTOR SCORES

The IQ scores and familial and work related factor scores are appended in the following serial order.

1. IQ Scores
2. Socioeconomic Status Score
3. Family Size
4. Ordinal position
5. Facility at Industry
6. Work Load at Home
7. Remunerative Work load

CHILD WORKERS

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S.No.	FCWs							MCWs						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	88	13	4	1	9	24	38	102	8	5	2	8	10	39
2	93	13	6	2	10	15	37	82	10	7	2	7	5	41
3	92	13	3	1	11	18	33	92	14	11	7	9	8	38
4	96	7	5	1	7	23	42	73	25	6	2	8	11	31
5	91	11	4	2	10	25	41	117	7	7	3	5	00	41
6	95	18	7	2	11	15	37	91	10	6	2	10	11	29
7	80	6	7	4	12	15	40	85	14	5	7	7	10	36
8	98	5	5	1	6	26	39	97	10	6	4	11	9	30
9	101	9	4	2	11	17	38	103	16	5	2	9	15	33
10	99	14	3	2	7	22	40	102	14	8	2	6	7	19
11	77	17	5	3	11	24	34	95	13	7	1	9	14	34
12	98	12	5	3	8	17	37	78	12	7	3	12	16	33
13	91	10	5	1	8	18	31	82	11	3	1	8	13	26
14	95	12	8	2	7	17	32	85	11	5	3	12	7	28
15	86	16	7	3	7	19	30	94	12	4	2	6	5	29
16	99	9	6	2	10	23	28	83	12	6	4	11	9	33
17	99	5	5	3	5	15	32	79	7	3	2	8	3	33
18	90	4	5	3	6	18	38	108	7	3	2	8	7	26
19	106	10	7	3	7	16	30	90	13	6	4	6	11	36
20	84	15	5	2	5	14	38	74	7	6	2	7	15	34
21	85	12	7	5	7	23	37	83	14	4	1	10	10	33
22	83	10	5	1	9	24	39	109	14	5	6	13	8	36
23	94	16	5	2	12	21	41	99	8	5	3	9	5	29
24	106	13	3	1	8	15	30	112	11	6	5	8	9	28
25	94	7	7	2	5	22	31	87	15	6	3	7	8	30
26	79	12	6	3	12	23	39	97	10	7	5	6	6	25
27	105	14	10	3	6	18	36	86	17	6	3	11	8	37
28	91	11	5	2	11	20	39	103	15	8	4	5	12	34
29	126	10	4	1	12	23	30	95	7	2	1	10	10	41
30	101	9	7	2	6	18	21	78	5	4	4	5	9	35
31	85	13	5	1	9	00	31	96	7	8	5	12	8	35
32								81	8	5	1	10	6	30
33								91	14	5	3	4	00	41
34								90	9	9	4	8	12	35
35								103	13	5	2	5	00	27

S.No.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	87	11	8	3		18	14	90	8	7	1		10	11
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3	78	15	5	1		12	07	92	14	4	2		7	15
4	91	9	5	2		14	11	78	6	4	1		11	08
5	87	14	6	1		08	14	89	9	5	2		8	05
6	87	17	4	1		16	10	99	13	6	4		10	05
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21	104	11	3	1		21	07	95	9	7	5		6	09
22	91	15	3	3		14	15	85	9	3	1		11	12
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24	81	9	9	5		12	11	94	17	9	5		6	14
25	88	10	7	4		14	14	104	15	4	1		10	14
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28	89	12	6	1		18	07	116	10	7	1		10	09
29	108	6	6	2		14	05	86	14	5	3		9	08
30	87	10	8	3		06	05	87	11	6	2		15	06
31								109	15	3	4		5	12