CHAPTER - I

INTRODUCTION

Even when there were no measures to identify the hidden treasures of human potentialities, the blinds' calibre, exhibited in different fields of arts and sciences, and not only that, even in fine arts and architecture, was enviable even to their sighted competitors of the field. Perhaps it may be surprising for some, if not for all, that one of the wonders of the world, the Taj Mahal at Agra, was a product of the creative power of a blind architect, Ustad Isa, just to quote one example. The prolific writer of the famous classics, Iliad and Odyssey was a Greek blind poet, named Homer and the writer of "Paradise Lost" and "Paradise Regained" known as one of the greatest poet of English literature was no other man but the adventitiously blind Milton.

Setting aside the colossal figures of the classic and the old, the Greek Homer, the English Milton and the Indian Hindi poet Surdas, the world feels very much indebted to the contributions of Miss Hellen Keller, who opened the flood gates of new life and hopes for the blinds. The service she rendered to humanity, specially to the blind lot, is worth thousand
laurels. She let the blind shed away their feeling of worthlessness and realize the pinnacle of glories the blind can reach, enjoy their achievement and contribute creatively and productively towards the progression of their society and eventually towards the whole humanity.

Now when the objective and the scientific measures have been developed to discover the hidden Milton's and the sleeping Hellen Keller's among the neglected lot of the blind for whom another gray is needed to write some more elegies on the country churchyards - these measures are generally not applied to benefit from the best in man, unfortunately if he, she falls in the big chunk of the population of the unsighted 28 million in the world and 3.4 million in India (Park and Park, 1991). However, the brilliant stars among the blind are still illuminating innumerable horizons of knowledge, arts, music, sciences, and literature in different parts of the world and in different walks of life, just to name a few - Louise Braille, a French blind teacher who developed the braille alphabet, by which blind can read and write; Dr. Taha Husain, former Vice-Chancellor, Jama-e-Azhar University, Qahira and Ex-Minister of Education in Qahira; Dr. Santog, Supreme Court Judge in Germany; Mr. Sadan Gupta who was elected as member of parliament from Bengal state, 1957; Sheikh Omar Abdel Rahman, resident of Egypt, a spiritual head of an Egypt-based militant Islamic sect called the Islamic group and an orator of international repute; Mr. Roongta, advocate in Supreme Court and Secretary National
Fedration for the blind - branch of Asian Blind Union; Dr. Fatima Shah of Pakistan, President of International Federation of the Blind and President of Pakistan Federation of the Blind; Mr. Ravendra Kumar Jain, Music Director of a high calibre; Mr. Satish Bhootani, Radio artist; Mr. J.L. Kaul, General Secretary Confederation of the Blind; Mr. Johnson, Director of the training centre for the Blind, Ludhiyana; Mr. Shabbir Masoodi, Advocate in Kashmir; Dr. Tasadduq Husain and Dr. Piyush Mathur, Reader, A.M.U. Aligarh; Dr. S.R. Mittal Reader, Jamia Millia Islamia, New Delhi; Mr. Tamboli, Reader in N.C.E.R.T. (special education); Mr. V.P. Verma, Reader, Delhi University, Delhi; Mr. A.K. Mittal, Former Director and Principal J.P.M. Senior Secondary School for the Blind, New Delhi, Mr. Shamshad Husain Ansari, Advocate in High Court, Allahabad and Vice-President, U.P. State Branch National Association for the Blind; Mr. M.M. Mohammad, Public Prosecutor in Trivendrum; Dr. Shiv Jatan Thakur, a blind scholar and member Bihar Public Service Commission, for whom State government had recommended for the Award of Padam Shree for his efficient functioning as a member of commission; Late Syed Husain Qasmi, who worked on mathematics, specially on abacus (braille); Sheikh Abdullah M.Al-Ghanim, Vice Minister in Saudi Arabia and President of world blind union; Sir John Wilson of England, President, Commonwealth Society for the welfare of the blind; Mr. Lal Advani, Former Director of National Institute for Visually Handicapped, Dehradun, Director N.A.S.E.O.H, B.R.A. New Delhi; Consultant of
The variety of fields, and also the eminence, the blind have reached point to the complexities a research worker will be exposed to, if he ventures to explore the hidden treasures of cognitive and non-cognitive abilities among the blind. As such it seems very necessary to clarify certain problems of the field at the conceptual level at the very outset.

A legally blind is one who can see only the top letters on Snellen Chart from a distance of twenty feet (6 m) with his or her eye with best correction or who has visual acuity of 20/200. A normally sighted person sees at 200 ft. (60 m). They are also considered legally blind if their peripheral vision is reduced to an angle of 20 degrees or less, such type of vision is known as "gun barrel" or tunnel vision. Children having tunnel vision can see material printed on regular size type. Blindness is the total loss of ability to see or the partial loss of vision that eye-glass cannot correct sufficiently for the purpose of daily life.
In India, over 80,000 children go blind every year and 50 per cent of them die and the remaining 40,000 remain sightless for the rest of their lives, as reported by Mr. Alan Johns, President of the International Agency for prevention of Blindness (IAPB) who visited India in 1991 (The Hindustan Times, Jan 12, 1991).

The major causes of blindness are malnutrition, infectious diseases and injuries. If a woman has a German measles (Rubella) in the first few months of her pregnancy, the chances of vision problem in newborn baby are considerably high. Among the major eye diseases causing blindness in adults are glaucoma, diabetic retinopathy, semile cataracts, and senile retinal degeneration.

Regular examinations of children by an ophthalmologist or an optometrist, medication and a change in diet, prompt treatment for an eye injury, vaccination for rubella disease may prevent blindness up to a great extent. In cataract, removal of intra-ocular lens is the only method for treating it. In some cases blindness is due to opacity of cornea, by transplanting cornea of donated eye, the normal vision may return. Congenital blindness may be caused by gonorrhea organisms in the mother's uterus, it is now prevented by placing a solution of silver nitrate in the eye of all newborn infants.

A factor which adds to the gravity of the problem is that blindness limits the range and variety of experiences,
physical mobility and interaction of the individual with his environment. It is a major factor that does not allow majority of the people to view the personality make-up of the blind in an objective manner.

The work in the field of handicapped in general and the blind specifically being still in the age of infancy, different types of experimentation are being carried out the world over, by the conscientious welfare institutes. The programmes for educating the visually impaired and blind are running all over the world. The children usually educated in special schools - until the beginning of the 20th century, residential schools in the United States provided education for the visually impaired and blind children; three such schools founded between 1832 and 1833 are still serving the blind. Till the late 1970, 30% of visually handicapped school age population in the United States was enrolled in 54 residential schools for the blind (Lexicon, p.331).

In India, where there were only 32 schools for the blind in 1947, the number has now gone up to around 300. However, the number of schools is still insufficient as only 15,000 students are able to get education through these schools. (Hindustan Times, May 27, 1993).

Amadou - Mehtar M' Bou Director - General of UNESCO, spoke over the segregation of disabled persons in special school, "very often the society even tends to deliberately
ignore them, preferring to reject them, to treat them as outcasts, to shut them up in special institutions whose principal purpose is to allow society to forget them - whereas what the handicapped need on the contrary, is to get out of their ghettos, assert themselves as individuals in their own right, participate fully in social and cultural life, and perhaps even become essential contributors to productive activity". Isolation is one of the serious aspect of the oppression of disability. (Sanyal B.C., et. al., 1985)

Scientifically, it has been established that disabled children with mild handicaps make better progress academically and psychologically, if they are given an opportunity to study with normal children in regular classes. In India such types of arrangement is known as integration and in U.S.A. it is called as main streaming. In India, a revised scheme for Integrated Education for Disabled Children was started in 1987 - 88 to integrated disabled children to common school. The full financial assistance is given by central government to state government / U.T. administrations / voluntary organisations for necessary facilities for disabled children in the school. Financial assistance is also given to the selected universities / institutions through U.G.C. to run training courses in special education for teachers of handicapped children. Training facilities are also provided by N.C.E.R.T. and four regional colleges of Education. The scheme of Integrated Education for disabled children is an operation in Andhra Pradesh,
Blhar, Goa, Gujarat, Haryana, Jammu and Kashmir, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, Delhi, Andaman and Nicobar Islands and Daman and Diu. At present 30,000 disabled children are being enrolled under this scheme (India, 1992, p.88).

Traditionally, blind people were educated through Braille, but the pattern is changing. As there are many people who are partially blind, we need to have things like powerful magnifiers, overhead projectors and closed-circuit televisions, as reported by Mr. Lal Advani.

There are about 35 million disabled people in India (India, 92) and only 10% of them are covered with various rehabilitation services. This is primarily due to the fact that concerted efforts in this direction were started only since 1981 - The International year of the Disabled. Financial outlays are yet to rise to match the problems of the handicapped.

Government of India provided schemes for the welfare of the disabled like, free aids and appliances to the handicapped assistance for voluntary organisations, working for the welfare of handicapped upto an extent of 90% of the expenditure, scholarship to all handicapped students from class IX and beyond, and a number of concessions and facilities have been provided including 3% reservation in group C and D posts in Civil services
under central government for the visually, hearing and orthopaedically handicapped. About 400 organisations receive grants under one scheme or the other for welfare programmes of the disabled.

President of India gives National Awards instituted by the Ministry of Welfare to best employers of the handicapped/employees/self employed persons in the Government, public and private sectors. Placement Officers of the handicapped are also eligible for the awards are given in the categories orthopaedically, visually, hearing and mentally retarted persons and leprosy cured. Technology awards for the welfare of handicapped are also presented every year for the best technological inventions in three types of disabilities, namely, orthopaedically handicapped, speech and hearing handicapped and visually handicapped.

Ms Indira Kumari, Tamil Nadu Social Welfare Minister, said that state government proposes to setup a National Institute for the blind on the lines of the one in Calcutta and Hyderabad and Chief Minister of Andhra Pradesh, Mrs. Jai Lalitha has written to the Union Welfare Minister for setting up the institute (The voice of FOD, Jan-June, 93, p-16).

From the 183rd birth anniversary of Louis Braille, January 4, the Blind Relief Association has introduced a computerised braille text-book printer for producing braille
books. The conventional system of transcription and printing of braille books has been found very slow and quite expensive. With the result the students were facing great difficulties in getting text-books (The voice of FOD, Jan-June 93, p.13).

Mr. Milan Das, a senior research Officer at National Institute for Visually Handicapped, Dehradun invented a Geometry-kit-cum-braille slate, the first of its kinds in the country. It will help the visually disabled learn to draw geometrical figures and write braille. Mr. Milan Das was presented National Technology Award by the President of India, Dr. S.D. Sharma.

In India itself the Ministry of Health and Family Welfare is to set up a National Organisation dedicated to the cause of combatting blindness. The organisation is to implement Rs. 550 crore project to cover 12 million cases of cataract for which funds are coming from the World Bank. Blindness affect millions in the world and India has one of the largest concentrations in the World (The voice of FOD, Jan-June, 93, p.13).

It is certainly encouraging that different types of activities are being introduced for boosting up the morale of the blind children, The National Association for the Blind, New Delhi in collaboration with the Car Racing Trust, sponsored by Ceat Tyres, organised a car rally on the 4th April, 1993. (The voice of FOD, Jan-June 93, p.12).
March 21, 1993 was observed as "World Disabled Day" to increase awareness of responsibilities among people to ensure a happy and bright future for those whose present has been made difficult by their circumstances and disability. (Times of India, March 21, 1993).

It is a sanguine sign that the blind here now attracted the attention of the humane research workers who have started exploring the slumbering powers of the untrodden personalities of the blind, though the field is at a very early stage of its development rather at its infancy stage yet some valuable works and their findings may be quite interesting to note for any one and specially for the present worker who wants to explore further and identify different abilities and characteristics of personality on both the cognitive and non-cognitive levels.

On Intelligence there was significant difference between blind and sighted children (Tillman, 1967; Smits, 1976; Vanderkolk, 1982) and Singh (1985) found no difference between blind and sighted on sub-test of WAIS-R verbal (Hindi). Vanderkolk (1977) also explored that age and level of education of visually impaired is related to intelligence test scores. Eaves and Lonof (1970) found that blind had higher I.Q. scores than sighted.

On tactual performance the blind were better than sighted (Gottesman, 1971; Rai, 1982) but Kool and Rana (1979) found that blind subjects were poorer than sighted on tactual
performance. On tactual performances the one year old children preferred satin 2 years old kitchen scrubber and 3 years old needle point canvas. Adult preferences were inversely related to children's preferences.

Blind and sighted were similar on perception (Gottesman, 1971); visual imagery and visual experiences may not be necessary for tactile perspective taking (Heller & Kennedy, 1990). The blind mannerism had specific neuro-pathological substrate (Jan, Groenveld and Sykanda, 1990). The blind subjects identified pictures with same ease as blind folded sighted subjects and Memory performance was similar in both the groups. (Pring, Freestone and Katin, 1990).

The studies on divergent thinking were also conducted and brought into light the fact that blind and sighted did not differ on divergent thinking and the sight and day school blind males were more divergent than their female counterparts (Tisdal and Black Hurst, 1971). The results of another study done by Kamila (1984), indicated that the normal were more fluent, flexible and original than the blind counterparts.

On convergence principle, kennedy and cambell (1985) found that convergence was evident in blind people in two functionally different activities haptic spaces reaching and walking.
Anderson & Fisher (1986) found that nominal realism, as an attribute of operational thought remained a characteristic of blind subjects thinking longer than it did for sighted subjects.

Blind and sighted subjects were similar on the development of cognitive abilities. (Barlow, 1986; Jurrmaa, 1984). The cognitive development in blind occurs with an acceleration between the age of 7 - 12 years (Jurrmaa, 1984). 1 - 4 years developmental lag was observed in blind children as compared to sighted and partially sighted children. Blind children made developmental delays at the age of 11. (Wan-Lin, 1986) visual impairment affects the total process of gathering and exchanging information and also affects the motor skill, language development, cognitive development and social skills (Jan, sykanda and Groenveld, 1990). Blind children differing greatly from both sighted and partially sighted on conservation tasks - (Wan-Lin, 1986).

A core knowledge of spacial system is required for both blind and sighted to use maps. (Landan, 1986). On reproducing kinesthetically based movements, congenitally blind, adventitiously blind and sighted subjects performed equally good. (Arnold, 1988).

There were minor differences in the self-concept of blind and sighted subjects. Self-concept in area specific in
nature and school experience affects both sighted and blind children in a similar way. (Obaikor, 1986).

On short term retention, Singh (1984) found that the sighted subjects reduced the effect of response biasing on pre-selection of target, while blind did not alternate the effects of response biasing. On digit span sub-test, congenitally blind and adventitiously blind differed significantly. (Singh & Sharma, 1984).

Totally blind were more confident about their performance on short term recognition memory than the partially sighted. The blind subjects recognized auditory stimuli better than the partially sighted. The total blind subjects were superior in auditory - memory training. (Pozhar, 1985).

Both students (blind and sighted) and teachers had an over all positive attitude towards micro-computer and very positive attitude towards instructional programme (Sanford, 1984). Lauer and Mowisaski (1986) discussed the new profession of prescribing, interfacing, and training people in the use of computer aids for visually impaired persons and the cost of providing computer access to visually impaired persons. In the development of word processing skill in the visually handicapped students, the conceptual framework activities at the project site - a module developed to introduce students to Braille-Edit word processing system were brought to light (Koenig, Mack, Schenk and Ashcroft, 1985).
Visual impairment obstructs the achievement of conservation. (Tait, 1990) The blind children were not as successful as the other children (sighted) at hiding activity. (Bigelow, 1991).

It is very interesting to note that a recent study discovered an edge in achievement for the blind as compared to the sighted. The achievement of blind children in Hindi, English and Social Sciences was higher than the sighted peers in an integrated educational setting. (Singh, 1984).

As far the findings on the non-cognitive personality aspect of the blind, the adjustment of blind and sighted subjects was similar (Hamed, 1965); Emotional and social adjustment of blind and sighted children was found to be almost the same. There was no significant difference on adjustment between younger and older blind subjects. No significant difference was found between male and female adolescents in social and emotional adjustment (Kaur, Singh & Jain, 1978); Qadari & Husain, 1982, found that the blind were from psychological broken homes and suffered emotional maladjustment. The blind subjects felt that the defect of vision adversely affected their education, employment, mobility and socialization. (Nemshick, McCay and Ludman, 1986). Visually handicapped were poorly adjusted in emotional, social and educational ground, they were also poor in their total adjustment (Sarita & Sharma 1987); Blind infants exhibited a more limited repertoire of facial expressions and less
responsiveness. They less frequently attempted to initiate contact with their mothers or comply with simple request and prohibitions than the sighted (Troster and Brembring, 1992); Blind possessed higher level of anxiety than the sighted (Mittal, 1988); while the finding of Wilhelm (1989) revealed that totally blind and low vision scored the same on fear and anxiety scale, subjects had the tendency of fear for bodily injuries; Sighted and blind were almost similar on personality measures; The perception of family environment in the blind subjects was highly negative while in sighted, it was highly positive; Age, education and perceived environment of family had an influence on the development of personality of both blind and sighted subjects (Mittal, 1988); Gupta (1988) found no significant difference on perceptual and motor performance of high and low scoring subjects on 16 personality factors and on an excitability rating scale.

... Many visually impaired children had fear and ambivalence on visual prostheses and aids and they often reject their uses, (Freedman, 1985). No clear and definite changes were evident in the subjects, behaviours on treatment programme (Pilazesi, 1986); Luiselli (1985) found that programme that combined responses - contingent prompting and reinforcement procedures was successful in increasing the quantity of task that each blind severely retarded completed. Lack of assertive behaviour developed a sort of helplessness with a structured intervention resulting in improved assertiveness skills, blind or partially sighted
individuals could increase their effectiveness in communicating with others and they could also control their emotions. (Harrell and Strauses, 1986).

The locomotor of blind children was related to their development of object performance, despite developmental delays in both abilities, locomotion and object reach. (Bigelow, 1992).

The disabled subjects including blind also follow the same general pattern of able bodied youth subjects. (Sherril, et.al. 1990); blind, orthopaedically handicapped and hearing impaired subjects were poor in self-concept in comparison to normal children, (Mishra, 1990). It was also found that there is a relationship between sensory impairment and the frequency and severity of self-injurious behaviours. (Rodringues, 1982).

The presence of stereotypic behaviour in all blind children is a fallacy. Where the impairment is in the visual tract of the central nervous system, stereotypic behaviours in blind children were performed. (Iverson, 1984).

Home sickness caused by loss of sight of veterans impeded the rehabilitation, and management in a residential settings. (Taylor, 1986).

Thus, the above findings, though very encouraging for the blinds in most of the cases, are still inconclusive yet, at the same time, are very challenging for the research workers to
delve deeper and explore further the reservoir of potential of the blind in both cognitive and non-cognitive domains.

The present study is thus a humble attempt in this regard, "A comparative study of cognitive and non-cognitive personality dimensions of visually impaired students studying in special and integrated educational settings".

The study has been taken up with the following objectives:

**Differences On Intelligence:**

1. To explore the differences on intelligence between the blind students studying in the special school environment and the blind students studying in the integrated school environment.

2. To find out the sex-wise differences on intelligence between the blind subjects in their special and integrated school environment.

3. To identify the inter-sex differences within special school environment on intelligence.

4. To measure the inter-sex differences on intelligence within the integrated school environment.
Differences On Creativity:

1. To find out the differences on creativity between the blind students studying in the special school environment and the blind students studying in the integrated school environment.

2. To identify the sex-wise differences on creativity between the blind subjects in their special and integrated school environment.

3. To explore the inter-sex differences within special school environment on creativity.

4. To measure the inter-sex differences on creativity within the integrated school environment.

Differences On Personality:

1. To identify the differences on personality between the blind students studying in the special school environment and the blind students studying in the integrated school environment.

2. To explore the sex-wise differences on personality between the blind subjects in their special and integrated school environment.

3. To measure the inter-sex differences within special school environment on personality.
4. To find out the inter-sex differences within the integrated school environment on personality.

On the basis of the work done so far in relation to different behavioural and personality dimensions of the blind, as well as on the basis of the experience of the present worker for a considerable period both as a classmate and as a research worker in the company of the blind, it is hypothesized that:

1. There shall not be very significant differences between the blind students studying in the special school environment and the blind students studying in the integrated school environment on the measure of intelligence.

2. Comparisons between the boys in special and integrated schools as well as the girls in special and integrated school environment will not reveal significant differences on intelligence.

3. There may be some differences on intelligence between the male and female subjects in both the school environment, special and integrated.

4. On the measure of creativity it is expected that the blind students in the integrated school environment will be more creative than their counterparts in the special school environment.
5. The boys and girls in the integrated school environment will exhibit a higher level of creativity than their counterparts in the special school environment.

6. The inter-sex comparisons within the same school environment will also show the superiority of girls over the boys on the measure of creativity.

7. It is expected that on personality characteristics there shall be some differences between the blind studying in the special school environment and those studying in integrated school environments.

8. There may be a few differences of personality characteristics between the boys of the two school environments as well as the girls of the two school environment, i.e. special and integrated.

9. There shall be no significant differences in personality characteristics between the boys and girls if compared in the same school environment.

The next Chapter deals with the review of related studies.