ABSTRACT

Academic performance was known to be a cumulative index of one’s psycho-social and educational functioning. It was believed that the vision and hearing-impairments of adolescents interacted with age specific stressors, leading to the restricted utilization of available resources, despite of their efforts. Such experiences and their diverse reactions often manifested in numerous emotional, behavioural, and performance related deficits. This study examined the psycho-social dynamics of academic performance of adolescents, having visual and hearing impairments, as compared to those not having any impairment.

The following hypotheses were tested:

- Adolescents having vision and hearing-impairment and no impairment at different educational levels (class VIII and X), and males and female will vary significantly on psycho-social and performance variables. Impairment or the absence of it, educational levels and gender will have interaction effects on psycho-social and performance variables.
- The psycho-social variables will relate to each other.
- The background variables will relate to psycho-social variables
- The background and psycho-social variables will relate to academic performance.
- Background and psycho-social variables will differentially predict the academic performance of students in different categories.

The sample consisted of 270 visually and hearing-impaired, and non-impaired adolescents of class VIII and X and both sexes, out of which 79 were visually impaired (selected from two residential senior secondary special schools); 80 were hearing-impaired (selected from one special and
one integrated secondary school); and 111 were non-impaired (chosen from two government senior secondary school) in Delhi. There were 161 class VIII and 109 class X, and 142 male and 128 female students. Students were between 13-21 years of age and majority of them were from low or low-middle class family background. The students having more than one impairment were not included in the sample. An ex-post facto 3x2x2 factorial design was used. The first three units indicated the category of students, the second the educational level and the third two units of gender.

Four types of variables were used- (1) Matching variables (category of students, educational level and gender); (2) Background variables (age, parental education, parental occupation, family income, number of siblings, type of disability, severity of disability, age of onset of disability, parents status of disability and pre-schooling experience); (3) Measured variables (self reported- stress, self-esteem; teacher ratings on - social-emotional adjustment, behavioural problems, study related behaviour and extra-curricular activities; and observed variables - classroom behaviour-inattentiveness, study involvement and withdrawal behaviour); and (4) Academic Performance (marks in final examination)

Data were collected by using questionnaire technique, observational methods and school record sheets. The first part of questionnaire sought background information, like, age, gender, class, parental education and occupation, family income, age of onset of disability, severity of disability, parents’ status of disability, and whether one had preschool experience. Students’ stress was measured by using Hopkin’s Symptom Checklist, consisting of 30 items on dimensions of anxiety, somatization, mental weakness, depression, lack of efficiency, obsessive compulsive and psychological fatigue. The second part included a modified version of Basavanna’s Self-Esteem Scale consisting of 28 items. The third part
measured teacher's ratings on Meadow-Kendall Social-Emotional Adjustment Scale consisting of 49 items spread over three dimensions, like, sociable-communicative behaviour, compulsive-dominative behaviour, and anxious behaviour. In the fourth part, teachers reported on a sheet regarding their observations on frequently occurring behavioural problems on individual student, his/her study related behaviours and extracurricular participation. The fifth part included structured observation schedule, used for observations by the investigator. Lastly, the final examination marks of students in different subjects were noted, which were later averaged to indicate academic performance.

Analysis of variance was done to find out the main and interaction effects of category of students, educational level and gender on different psycho-social and performance variables. t’ tests were done to find out the differences between paired comparison of categories on different psycho-social and performance variables. Correlation analyses were done to assess degree of association among psycho-social variables, between psycho-social and background variables and the relationships of psycho-social and background variables with academic performance. Step-wise multiple regression analyses were done to identify different contributing factors of academic performance. Percentages were computed on data relating to different background variables like, students having pre-school experience, having impaired parents, staying in the hostel, etc.

Following were the findings:
The main effects of category showed that the visually impaired were significantly less stressed, had positive self-esteem, fewer behavioural problems, more positive study related behaviours and better academic performance, than the hearing-impaired and non-impaired. While there was no difference in social-emotional adjustment between the two sensory
impaired groups, they were better adjusted socially and emotionally than the non-impaired students. The hearing-impaired exhibited fewer behavioural problems, more positive study related behaviours like, attentiveness, study involvement and withdrawn behaviour, and better academic performance than the non-impaired, but they were equally stressed and low esteemed. Both the impaired groups participated more in extra-curricular activities than the non-impaired.

Class VIII students showed lower self-esteem, fewer behavioural problems and extra-curricular activity participation, but were more attentive and involved in study, hence performed better in school than class X. Students in both the classes experienced stress equally, but showed good social-emotional adjustment.

Females showed less positive self-esteem, but more positive study orientation, attentiveness, involvement and better academic performance than males. The two experienced stress equally and had similar level of social-emotional adjustment.

The visually and hearing-impaired students in class VIII experienced higher stress and had lower self-esteem, but the non-impaired class X were more stressed and had lower self-esteem. The visually impaired and the non-impaired class VIII students were better adjusted socially and emotionally than class X, but the hearing-impaired students in class X were better adjusted. Visually impaired class X students had better academic performance, while the class VIII in hearing-impaired and non-impaired category performed better. Males, the visually impaired and non-impaired, showed higher self-esteem than their female counterparts.
Correlations among psycho-social variables showed that the visually and hearing-impaired, and the non-impaired in class VIII and X, males and females who experienced more stress or were unable to handle stressful life situations, showed less positive self-esteem and social-emotional adjustment. Positive self-esteem enhanced students’ social-emotional adjustment. Such students exhibited fewer behavioural problems and had more positive study orientation.

Results on correlations between background and psycho-social variables revealed that older students in class VIII, and younger in X were more stressed. Older females in class X and having visual impairment had less positive self-esteem. Though the older students in all groups were better adjusted socially and emotionally, they exhibited more behavioural problems. Those who became visually impaired at a later age were poorly adjusted.

The sensory impaired students from lower socio-economic status were more stressed. However, better socio-economic condition helped the hearing-impaired, class VIII and females to protect their self-esteem. Mothers’ education facilitated self-esteem in case of class X students.

Stress adversely affected academic performance of the visually impaired, non-impaired, class X, male and female groups. Class X and male students who had positive self-worth feelings performed better in school. Good social-emotional adjustment enhanced, while more behavioural problems hampered academic performance of male and female students in three categories and two classes.

Thus, in general lower stress, positive self-esteem, good social-emotional adjustment, fewer behavioural problems, attentiveness, more study
involvement and more positive study orientation enhanced students' academic performance.

Relationship between background variables and academic performance revealed that the older total deaf hearing-impaired having more number of siblings showed poor academic performance. The visually impaired experiencing the impairment at a later age also performed poorly. In general, parents' education, occupation, family's financial status facilitated academic performance of all students except the visually impaired. While all background variables had positive association with academic performance of the hearing-impaired, fathers' occupation of the non-impaired was related to their performance.

Positive study behaviour was found as an important factor facilitating academic performance of male and female students in three categories and two classes. Other classroom variables like, study involvement and inattentiveness also predicted academic performance of male and female students in different categories and classes, showing the influence of classroom activity participation on the performance of students. Social-emotional adjustment was a common positive predictor of academic performance of students having impairment and not having it. Positive self-esteem predicted performance of the visually impaired, but interestingly, it was stress in case of the hearing-impaired. Background variables like, mothers' education and age predicted academic performance of the hearing-impaired students only. Self-esteem was relevant to the performance of females but not males.

Computation of frequencies and percentages showed that two visually impaired (2.5%), three hearing-impaired (3.75%) and one non-impaired (0.01%) had impaired parents. Most of the visually impaired (78.48%), all
hearing-impaired (100%), and only two (1.8%) of the non-impaired students had pre-school experience. Most of the visually impaired (93.67%), very few hearing-impaired (6.25%) and none of the non-impaired students were staying in the hostels. In case of the hearing-impaired, the impairment was present at birth for a majority (91.3%), while blindness was congenital only for 50.6% of visually impaired students.

Following conclusions were drawn from the above findings:

1. Hearing-impaired adolescents were highly stressed and had low self-esteem as compared to the visually impaired and the non-impaired.
2. Adolescents having no impairments exhibited poor social-emotional adjustment, and most behavioural problems in comparison to the sensory impaired adolescents.
3. Visually impaired adolescents had positive classroom behaviour (attentiveness, study involvement, study orientation and less withdrawn behaviour) and better academic performance than the hearing-impaired and non-impaired.
4. Students in class VIII were more stressed and had lower self-esteem. They were more attentive, more involved in study, and thus, performed better in academics than class X students.
5. Females had lower self-esteem than males. However, they showed more attentiveness and study involvement, and hence better academic performance.
6. Visually and hearing-impaired students in class VIII were more stressed and had lower self-esteem than their counterparts in class X, whereas the reverse was true in case of the non-impaired students.
7. Visually impaired and non-impaired students in class VIII had better social-emotional adjustment than their counterparts in class X, whereas hearing-impaired students in class VIII had poor adjustment.
8. Visually impaired and non-impaired male students had higher self-esteem than females, whereas hearing-impaired males had lower self-esteem.

9. Higher stress was associated with low self-esteem and social-emotional adjustment of males and females in three categories and two classes. Positive self-esteem was associated with better social-emotional adjustment.

10. Higher stress raised the number of behavioural problems and good social-emotional adjustment reduced these.

11. Older students in class VIII were more stressed, than older students in class X.

12. Older visually impaired, class VIII and females had lower self-esteem.

13. Older students exhibited more behavioural problems.

14. Those becoming visually impaired at a later age had poorer adjustment and academic performance.

15. Stress had negative correlations with academic performance of visually impaired, non-impaired, class X, male, and female students.

16. Class X and male students having positive self-esteem had academic performance.

17. Good social-emotional adjustment, positive study orientation and classroom behaviour were positively correlated with academic performance of all students.

18. Students exhibiting fewer behavioural problems had better academic performance.

19. Academic performance showed decline with age, number of siblings and severity of impairment for the hearing-impaired students, and with age of onset for the visually impaired.

20. Study related behaviour contributed positively to academic performance of all students. Social-emotional adjustment and other classroom variables also predicted academic performance. Self-esteem
predicted performance of the visually impaired and females, while stress proved to be a better predictor in case of the hearing-impaired.

21. Background variables, like, age and mother education were important predictors of academic performance of the hearing-impaired students.

22. Most of the students had non-impaired parents. All hearing-impaired, most visually impaired, and only few non-impaired had pre-school experience. Majority of the visually impaired resided in hostels.

23. Deafness was congenital in case of almost all hearing-impaired and half of visually impaired students.

Some of the significant implications of the finding were as follows:

The finding that the hearing-impaired, non-impaired and class VIII adolescents were more stressed, and had less positive self-esteem had implications for intervention programmes, that could address the needs of the older students, and prevent the negative experiences and impact on academic and all round development. The introduction of stress management education could be important (Sakano, Sato, Matsumoto and Suzuki, 1998) at the secondary school stage. Educational sessions on stress management including components of nature and variety of stressors, impact of these stressors on body and mind, the intervening factors, relation of these with academic performance, practical ways of coping, and the information about available social support could be organized frequently with the help of professional experts. They could be taught how to attain physical and mental self-control by progressive muscle relaxation, autogenic training, and other relaxation techniques, such as Yoga. They could be given counseling and taught strategies of cognitive self-control for modifying the appraisals of the harmful stimuli, of dysfunctional thoughts, raising self-efficacy for problem solving, and controllability,
maintaining self-confidence, and the modification of beliefs of perceived social support during stressful periods.

The programmees for the hearing-impaired students should have a specific disability component, and an expert in total deaf communication skills. For them any intervention must have a strong component of effective communication and social interaction. One such intervention programme could be social skill training (personal and social skill) focusing on total communication skill including sign language, finger spelling, gesture and lip-reading. The summer camps, out door adventure course and other group activities could supplement the above, and help to accelerate their interaction outside the school and thus realize their capabilities in areas other than language. All programmes could be used as a composite package to help them to widen their social network, promote effective communication and thereby reduce stress and facilitate their self-esteem.

The finding of high stress in the hearing-impaired had implication for parental counselling, as they were a powerful force in monitoring the child's progress. They could be given the total communication training having a component of psycho-social development. Proper emphasis should also be given to regular parents-teachers interaction to ensure their child's psycho-social and academic progress. Some awareness programmes focusing on early identification, preventive measures and importance of pre-schooling should be initiated for parents of all impaired children. Recently, on 2nd October 2000, the Indira Gandhi National Open University signed a Memorandum of Understanding with Rehabilitation Council of India in order to promote education for the empowerment of persons with special needs, which included an audio-video based motivational extension programme for the parents of disabled children.
The findings had some policy implications for teacher training programmes especially, in special education (in-service, orientation and re-orientation). Teachers should be specially trained as teacher counsellor, which could result in right understanding and diagnosis of the problem at right time, appropriate psycho-social assessment and counselling to the needy students. Those provided by NCTE, RIEs and RCI have to be sincerely reviewed and strengthened (EFA, 2000). The efforts made by the Ministry of Social justice and Empowerment in providing teachers training for visually impaired and hearing-impaired were encouraging in this regard but must be carried out more systematically for the improvement in teaching methods and teaching aids.

For the non-impaired students it was necessary to plan some attitudinal interventions for teachers that could have some positive motivational strategies. The teacher training programmes should be improved drastically in content and methodology. Although the NPE Review Committee (1992) recommended the need for in-service training and educational programmes once in every five years for all teachers, the condition of schools having situated in underdeveloped areas required frequent programmes. The finding that females had lower self-esteem necessitated the inclusion of a component on gender sensitization to reduce gender inequality, and to encourage female participation in all school activities.

The finding that parental education helped in combating stress, enhancing self-esteem, fostering good adjustment, reducing behavioural problems and better academic performance of their children was crucial for the Government’s policy on adult education. NPE (1986), CABE (1991) and Programme of Action (1992) emphasized the need of adult education, which should be strengthened to cover general population as well as the parents of impaired children. The efforts of the Government to make use of non-formal
education and distance education mode to reach more disabled children were encouraging in this regard.

The finding that the non-impaired students exhibited more behavioural problems and lower score on all psycho-social variables and academic performance was a challenge to the teachers and the educational system as such. It was desirable to make the value education compulsory in schools to inculcate some social, moral and spiritual values in students. Parents should be made active partners in this process. This may require wide campaigning, and organizing of orientation and awareness programmes. The vocationalization of education could help in reducing the number of behavioural problems by engaging students in productive and result-oriented activities, having a direct bearing on their future job prospects.

One strategy to reduce the academic stress and enhance academic performance of the hearing-impaired students, could be to introduce the open school examination system where the facility of clearing one/two subjects at a time would be helpful to them. The total communication for the hearing-impaired students, their parents and teachers required quick development of Indian Sign Language as many of the intervention programmes for these groups were based on language. Though the National Institute for the Hearing Handicapped and some NGOs in collaboration with Christoffel Blinden Mission have started the work. Steps should be taken to fasten the work along with NGOs. Separate fund should be allocated for some kind of general community awareness programmes on disability, which could bring a change in the people's attitude, and thus, reduce the amount of stress produced by the social environment on the impaired persons.
The findings on stress had implications for cognitive appraisal theory of stress developed by Lazarus (1978), which stated that the relationships that occurred between the individual and the environment were mediated by cognitive appraisal processes. If the person was able to handle the demands, he/she felt less threatened or stressed. The present finding showed that the visually impaired students stayed in residential schools, and as many of their needs (like, food, safety, social life, emotional sharing, etc.) were met within the school and their daily life hassles were less. They were less stressed as compared to the hearing-impaired students, whose communication and interaction with the environment was hindered. Thus, the processes of stress operating in sensory impaired groups were little dissimilar to the non-sensory impaired group, needing further theory development.

A second theoretical implication was related to the finding on self-esteem for the three groups of students. Both social comparison (Festinger, 1954) and social-identity theories (Tajfel, 1982; Tajfel and Turner, 1979, 1982) advocated the fact of higher cognitive preference for intrapersonal similarities and interpersonal differences, as these would enhance the psychological distinctiveness of the selves. It was seen that visually impaired identified more with in-group members and used parallel comparisons, and thus, were able to maintain a higher level of self-esteem. But both the hearing-impaired and non-impaired students identified more with out-group members and used upward social comparisons to evaluate. Thus, though the theory of social comparison (Festinger, 1954) and self-identity theory (Tajfel, 1982) were operative for all groups, these were more true in case of visually impaired. These should be tested on group behaviour of different types of sensory impaired living in different environments for a better understanding of their constraints and challenges, and extended.
The finding that males in all categories except the hearing-impaired had higher self-esteem than the females had some implications for the theory of socialization, which posited that due to sex stereotypes and differences in child-rearing and the process of socialization, males had been the favoured group, affecting their self-identity positively. These theories should try to understand the socialization of hearing-impaired and other such groups.

There were few limitations of the study. The results of the study could be sample specific and may not be applicable to other groups like non-residential or integrated visually impaired students, hearing impaired students staying in residential setting or studying in integrated setting or even non-residential special schools, non-impaired students in central schools, public schools, etc., and integrated with non-impaired students. Therefore, more cross sectional studies should be undertaken to test the generalizability of present findings. The nature, sources and intensity of stress could be studied as well as casual factors along with the coping strategies. This may provide insight into their future psycho-social well-being. Some action research could be taken up to reduce stress, enhance self-esteem and social-emotional adjustment and to see the effects of these on their academic performance. It appeared that the social-emotional adjustment scale measured actually students' conformity and compliance behaviour. Other researchers could use a self-reported measure of social-emotional adjustment along with this scale to validate the results.