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SUMMARY AND CONCLUSIONS

The present study was inspired by the contention that, while much hue and cry is made about adult stress, the phenomenon of 'stress' in children is relegated to a position of lesser importance. Psychologists have demonstrated that children are also prone to stress and that stress has a debilitating impact on them. (For specific studies, please refer to review chapter).

In the Indian context, there is considerable paucity of research in the area of children's stress. Thus, this was made the main focus of the present study. Specifically, the main objectives of the present study were: (a) to identify the behavioral correlates of stress; (b) to study the nature and magnitude of the relationship between stress and academic performance; (c) to study whether stress and academic performance were affected by variables such as type of school, sex, and class factors and their interactional effects.

Eight types of schools, namely, Public school, Central school, Government school, N.D.M.C. school, Missionary school, Private Management school, Aided school and Unaided Regional Trust school were included in the analysis. The sex factor was studied at two levels viz -
boys and girls and likewise class was also studied at two levels - class I and II; (d) Finally, the relationship of stress and academic performance with the school organisational climate was studied. In order to fulfil the above objectives, 9 specific hypotheses were laid-down. These hypotheses, depending on whether they have been validated or rejected are discussed in the forthcoming section.

Stress was measured by using a behavior checklist which was specially designed for the purpose by the researcher. The behavior checklist yielded a two dimensional scoring of stress - (a) 'stress intensity score' which indicated the overall magnitude of stress, and (b) 'stress symptoms score' which was indicative of the total number of stressful symptoms present in each child.

The academic performance of students was adjudged by the percentage of marks they obtained in the final examination.

To study the organisational climate of each school, the standardized School Organisational Climate Description Questionnaire (SOCDQ) by Moti Lal Sharma was used.
The results obtained are summarised as follows:

IDENTIFICATION OF THE BEHAVIORAL CORRELATES OF STRESS

1. 'Stress' as measured by the behavior checklist containing 25 items, was found to be constituted by eight factors. These were:

(i) **Psychomotor symptoms factor** consisting of:
   a. disruptiveness,
   b. attention seeking,
   c. restlessness,
   d. destructiveness and
   e. hyperactivity.

(ii) **Mental Symptoms factor** consisting of:
   a. anxiety,
   b. inability to have fun,
   c. depression,
   d. lack of interest in the environment and
   e. tension.

(iii) **Low self-esteem factor** consisted of
   a. nervousness,
   b. lack of self confidence and
   c. emotional lability.
(iv) **Attention symptoms factor** constituted by:
   a. inattentiveness and
   b. shortness of attention span.

(v) **Conversion symptoms factor** which included:
   a. thumb sucking,
   b. social withdrawal,
   c. tics and
   d. nail biting.

(vi) **Withdrawal symptoms factor** consisting of:
   a. truancy and
   b. constant physical ailments.

(vii) **Hostility factor** which was constituted by:
   a. proneness to become flustered and
   b. stuttering.

(viii) **Anger symptoms factor** consisting of:
   a. irritability and
   b. argumentativeness.

**RELATIONSHIP BETWEEN FACTORS OF STRESS AND ACADEMIC PERFORMANCE**

2. Only two complete factors, namely, attention symptoms factor and anger symptoms factor were found to significantly predict academic performance.
3. In the remaining six factors, only some of the constituent variables were found to be significant predictors of academic performance. The specific pattern was as follows:

(i) In factor 1 (Psychomotor symptoms factor), the variables restlessness, destructiveness, attention seeking and disruptiveness were found to be significant predictors of academic performance. The fifth constituent variable, hyperactivity, was however, not found to affect academic performance.

(ii) In factor 2 (Mental symptoms factor), the variables, lack of interest in the environment, anxiety and tension were found to be significant predictors of academic performance, while the other two variables, inability to have fun and depression were not found to affect it.

(iii) In factor 3 (Low-self-esteem factor), only one variable, namely, lack of self confidence was found to predict academic performance. The other two variables, emotional lability and nervousness were not found to do so.

(iv) In factor 5 (Conversion symptoms factor), only one constituent variable, namely, tics was found to predict academic performance. The
remaining three variables - thumb sucking, nail biting and social withdrawal were not found to be related to it.

(v) In factor 6 (Withdrawal symptoms factor), while truancy was found to predict academic performance, constant physical ailments was not found to do so.

(vi) In factor 7 (Hostility symptoms factor), while proneness to become flustered was found to predict academic performance, stuttering was not found to do so.

Thus academic performance can be predicted by restlessness, destructiveness, attention seeking and disruptiveness (psychomotor symptoms factor); by anxiety, tension, and lack of interest in the environment (Mental symptoms factor); by lack of self confidence (low self-esteem factor); by inattentiveness and shortness of attention span (attention symptoms factor); by tics (conversion symptoms factor); by truancy (withdrawal symptoms factor); by proneness to become flustered (Hostility symptoms factor); and by irritability and argumentativeness (anger symptoms factors).
STRESS INTENSITY

4. Stress intensity was found to differ significantly between the eight types of schools. Thus, hypothesis 3-a which stated that stress intensity will vary as a function of the type of school in which children study, was validated.

5. The Government school was found to have significantly greater stress intensity than all the other schools. The specific ranks of the eight types of schools in terms of their stress intensity scores were as follows:

(i) Government school;
(ii) NDMC school;
(iii) Central school,
(iv) Public school,
(v) Aided school,
(vi) Unaided Regional Trust school,
(vii) Private Management school and
(viii) Missionary school.

6. Boys and girls were found to differ significantly in regard to stress intensity. Thus hypothesis 4-a which stated that the intensity of stress will vary as a function of the sex factor, was validated.
7. This sex difference, wherein boys showed greater stress intensity than girls was found to be significant in three types of schools, namely, Government school, Public school and Private Management school. In the remaining five schools, the sex differences were not significant.

8. Class factor was not found to be significant in influencing stress intensity. In other words, the stress intensity scores of class I and II students did not differ significantly. Thus hypothesis 5-a which stated that stress intensity will vary in terms of children studying in class I and II, was validated.

9. The interactional effect between type of school and sex factor was found to be significant in affecting stress intensity. Specifically, the Aided school, Central school and Missionary school accounted for the maximum interaction between type of school and sex. The interactional effect was somewhat less in other schools.

10. The interactional effect between type of school and class factor was also found to be significant in affecting stress intensity. The NDMC school,
Aided school, Unaided Regional Trust school, Private Management school and Missionary school accounted for the maximum interactional effect between type of school and class factor. In the remaining schools, the interactional effect was somewhat less.

11. The remaining interactional effects between:
   a. type of school, sex and class and
   b. sex and class, were not found to be significant in influencing stress intensity.

Thus, hypothesis 6-a which stated that, stress intensity will vary in terms of the interaction amongst variables such as type of school, sex and class in which the child studies, was validated.

STRESS SYMPTOMS

12. The stress symptoms scores were found to vary significantly in the eight types of schools. Thus hypothesis 3-a which stated that, "the number of stress symptoms will vary as a function of the type of school in which children study", was validated.
13. The Government school had significantly a higher stress symptoms score than all the other schools. The specific ranks of the eight types of schools in terms of their stress symptoms scores were as follows:

(i) Government school,
(ii) Central school,
(iii) NDMC school,
(iv) Aided school,
(v) Public school
(vi) Unaided Regional Trust school,
(vii) Private Management school, and
(viii) Missionary school.

14. Boys and girls were found to differ significantly in terms of their stress symptoms scores. Thus, validating hypothesis 4-b which stated that the number of stress symptoms shown will vary as a function of the sex factor.

15. These sex differences in which boys showed significantly greater stress symptoms scores than girls, were found to be significant only in three schools, namely, Government school,
Public school and Private Management school. In the remaining five schools, the sex differences were not found to be significant.

16. 'Class' as a factor was not found to affect the stress symptoms scores, thus rendering hypothesis 5-b which stated that the number of stress symptoms will vary in terms of children studying in class I and II, invalid.

17. The interactional effect between type of school and sex factor was found to be significant in influencing the stress symptoms scores. Specifically, the Aided school, and Missionary school were found to account for the maximum interaction between type of school and sex factor. The interactional effects were less in the remaining schools.

18. The remaining interactional effects, viz.

(i) between type of school and class,

(ii) sex and class, and

(iii) type of school, sex and class,

were not found to be significant in terms of stress symptoms scores.

Thus, hypothesis 6-b which stated that the interaction amongst variables such as type of school, sex and class in which the child studies, was partly validated.
STRESS INTENSITY AND STRESS SYMPTOMS

19. Stress Intensity and stress symptoms scores were found to be highly positively correlated. This trend was obtained in the case of all boys and girls, all class I and II children, in all the eight types of schools, and within each school in the case of boys and girls and class I and II students.

Thus, when the stress intensity was found to be high, the stress symptoms were also found to be larger in number.

STRESS INTENSITY AND ACADEMIC PERFORMANCE

20. Stress Intensity and Academic Performance, were found to be significantly negatively related, in general. This trend was obtained in the case of boys and girls in general too. Thus hypothesis 8-a which stated that, "stress intensity will influence the academic performance of children" was validated.

21. In regard to the eight types of school, the high negative correlation between stress intensity and academic performance was found to be significant in the N.D.M.C. school,
Missionary school and Private Management school. In the remaining schools, the obtained correlation coefficients were not found to be significant.

### STRESS SYMPTOMS AND ACADEMIC PERFORMANCE

22. A high negative correlation between stress symptoms scores and academic performance was obtained, in general. This trend was observed in the case of all boys and girls too, irrespective of type of school. Thus, hypothesis 8-b which stated that the, "number of stress symptoms will influence the academic performance of children", was validated.

23. In regard to type of school, the high negative correlation between stress symptoms scores and academic performance was obtained in the NDMC school, Missionary school and Private Management school. In the remaining schools, the correlation coefficients were not found to be significant.
ACADEMIC PERFORMANCE

Academic Performance was found to vary significantly between the eight types of schools, thus validating hypothesis 9-a which stated that, "the academic performance of children will vary as a function of type of school."

The Private management school and Public school while not differing among themselves, were found to have significantly better academic performance scores than the remaining schools. The specific ranks of the eight types of schools in regard to their academic performance scores was as follows:

(i) Private Management school,
(ii) Public school,
(iii) Missionary school,
(iv) Central school,
(v) NDMC school,
(vi) Unaided Regional Trust school,
(vii) Aided school, and
(viii) Government school.

Boys and girls were not found to differ in terms of their academic performance, thus rendering hypothesis
9-b which stated that, "the academic performance of children will vary as a function of sex factor", invalid.

The interactional effect between type of school and sex factor was not found to be significant in regard to academic performance.

**STRESS INTENSITY, STRESS SYMPTOMS AND ORGANISATIONAL CLIMATE**

Stress Intensity and the number of stress symptoms were not found to be related to the composite school organisational climate score, or the school organisational climate score reflecting group behavior characteristics of teachers.

There was a positive correlation between the school organisational climate score reflecting leadership behavior of principals and (a) stress intensity and (b) the number of stress symptoms manifested by students. Thus hypothesis 7 which stated that stress intensity and number stress symptoms will be a function of the organisational climate was partly validated.

**ACADEMIC PERFORMANCE AND ORGANISATIONAL CLIMATE**

Academic performance of students and the school organisational climate were not found to be related. Hypothesis 9-c which stated that the academic performance of children will vary as a function of organisational climate was thus rejected.
LIMITATIONS OF THE PRESENT STUDY

1. One of the limitations of the present study lies in the validation of the behavior checklist designed to measure stress. Only, content validity of the scale based on the judgemental opinion of experts and thereby selection of items which had a consensus opinion of 90% and above, could be established. The checklist could not be validated against any other existing scale primarily because of lack of availability of alternative scales. Other scales like those used by Holmes (1967), and Yamamoto et al (1979), measure stress in terms of stressful life events experienced, whereas in the present study, stress was measured in terms of behavioral manifestations. Scales, used by Quay (1965), and Rutter (1967), while dealing with the behavior problems of children, do not specifically use these as indices of stress, and thus, the present scale could not be validated against them either.

2. Since the nature of the present study was largely exploratory, only the incidence of stress in various types of schools was studied. The specific
causes of stress, and the reasons for variation in stress across schools could not be covered and thereby highlighted.

3. Another limitation of the present study stemming from its exploratory nature was, that only one school each, representing the eight types of schools were studied. Thus, what emerged was a trend and so the results must be generalised with caution.

4. The School Organisational Climate Description Questionnaire consisted of eight sub-tests. Ideally, stress and academic performance should have been studied in terms of each of these sub-tests and not only in terms of their composite scores. Probably then, a clearer picture about the nature of relationship of the school organisational climate with stress and academic performance would have emerged. However, since the focus the study was more in terms of highlighting the behavioral factors of stress, and studying the relationship between stress and academic performance, this aspect could not be covered.
SUGGESTIONS FOR FUTURE RESEARCH

1. The nature and intensity of stress in children could be studied specifically in terms of the causal factors.

2. Identification and Classification of the causal factors of stress, evaluating the individual contribution of each of these, could be attempted.

3. The specific school effects responsible for stress like school climate, physical structure of the school, faculty competence etc. could be studied.

4. The debilitating impact of stress on the health, growth and personality development of children could also studied.

5. Replication of the present study, using the same behavior checklist to index stress, would help in establishing its reliability and validity.

Despite the above limitations, the findings in the present study have clearly shown that stress in children can be identified in terms of its behavioral correlates, that stress adversely affects academic performance and that it varies as a function of type of school and sex.
factor. It is hoped that these findings if found consistent with larger samples of schools and classes, would be able to contribute to the solution of the long standing problem of relieving stress in children which affects their academic performance. Towards this end, the findings of this study have made a contribution.