

Stressful academic situation at school: risk and protective factors

Tatiana Meshkova ^(1,2), Olga Mitina ^(1,3), Victoria Yurkevich ^(1,2)

1 – Moscow City University of Psychology and Education; 2 – Psychological Institute of Russian Academy of Education; 3 – Moscow State University, Psychological Faculty

Introduction:

High academic stress at magnet schools for gifted children in Russia maintain high demands for student's good health. However many adolescents from schools with stressful academic programs have many somatic complaints.

The aim of this study was to investigate risk and protective factors of school maladjustment among students of magnet Russian schools.

Partisipants:

200 adolescents from 5 to 11 grade (mean age 13.3, Std 1.8) from two magnet Moscow schools for gifted children were tested. One school (A) had school boarding, other (B) had not. School A was represented by 55 boys and 37 girls; school B – by 54 boys and 54 girls (fig.1).

Methods:

Two anonymous questionnaires with 3-point and 5-point Likert scales were developed to assess several factors of risk and protection of school maladjustment, including academic stress, day regimen, relations with peers and teachers, school environment. At school A there was opportunity to receive school psychologist expert judgement of some student's characteristics: academic performance, persistence, motivation, level of aspiration, creativity, and giftedness.

35 items from both questionnaires were chosen for assessment of maladjustment. They include items concerning permanent fatigue feeling, worry of academic failure, somatic complaints (headache, visceral pains, sleep disturbances), affective failure, irritation, worry and depressive states. Rawscores were summarized, and composite score was used as maladjustment level. Fig.2 demonstrate score distributions for boys and girls separately. One can see that second peak of bimodal distribution due to girls prevalence. Quartile method allowed differentiate two groups with high and low risk of maladjustment (HR group – with scores 41 and above; and LR group – with scores 20 and below). Each group consists of 40 adolescents. ANOVA, Cross-classification tables, and T-test for independent samples were used for comparison between HR and LR groups (Statistica 6).

Structural equation modeling was used to confirm the hypothesis that academic stress and day regime disturbance may provoke fatigue, affective failure, worry, which are mediators in causing somatic complaints and health problems. Student's personal features as motivation level, persistence, giftedness perhaps may have the protective effects.

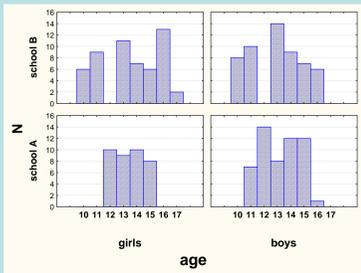


Fig.1 Participants distribution

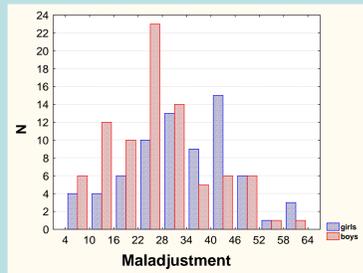


Fig.2 Composite score distribution

Results and discussion:

2x2 cross-classification tables demonstrate the biases of students ratio between HR and LR groups dependent on gender (Chi-square=7.00; p=0.008) and school specificity (Chi-square=8.88; p=0.003). Girls and students from school B predominate within HR group (Fig. 3 and 4.).

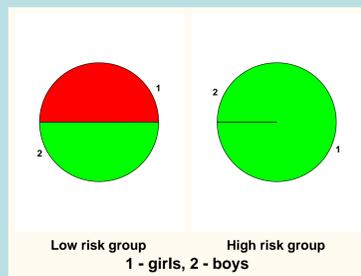


Fig.3

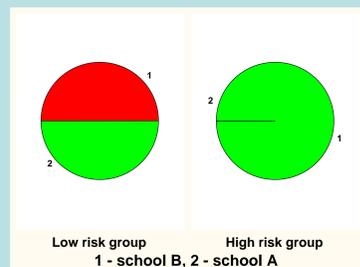


Fig.4

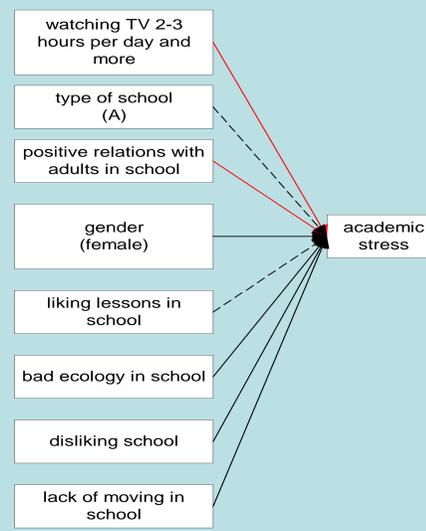


Fig.8 Stress: Risk and protection

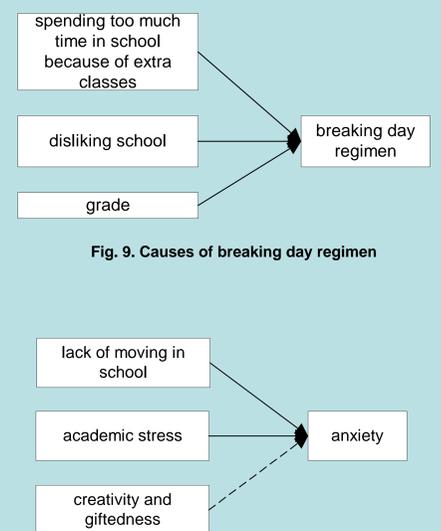


Fig.9 Causes of breaking day regimen

Fig.10 Causes of anxiety

Oneway ANOVA shows significant gender and school differences (Fig. 5, 6). Composite score of maladjustment correlates with student's age (Spearman R=0.242; p=0.003): the highest scores were obtained for older students, especially those, who were preparing to final examination at grades 9 and 11 (Fig.7). Difference between 10 and 11 grades estimated by Mann-Whitney test was significant (U=21,5; p=0.02).

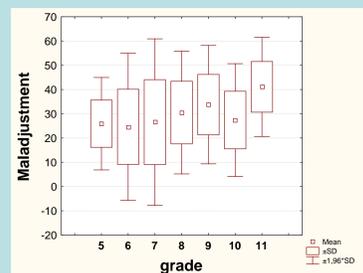


Fig.7

Among hypothesized protective factors as motivation, giftedness, persistence and other, motivation has the most significant correlation with maladjustment level (Table 1). High persistence, academic performance and creativity also may be protective factors of maladjustment.

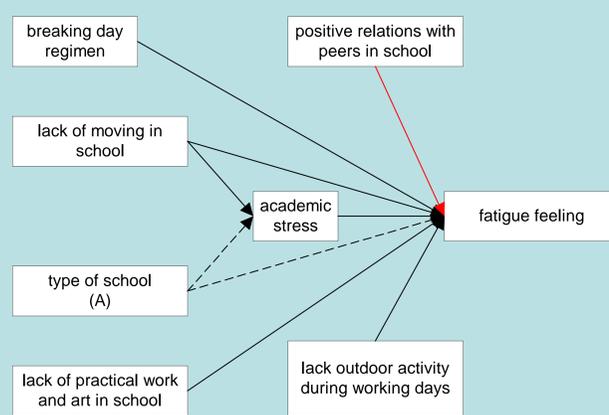


Fig.11 Fatigue feeling: Risk and protection

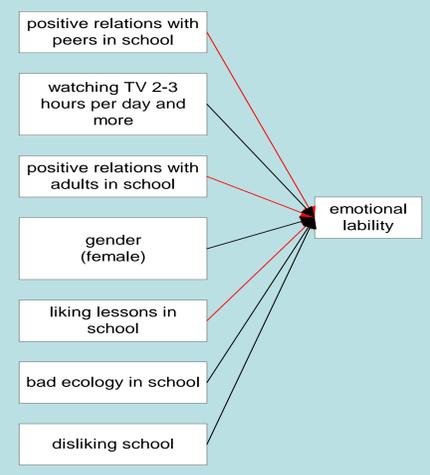


Fig.12 Causes of emotional lability

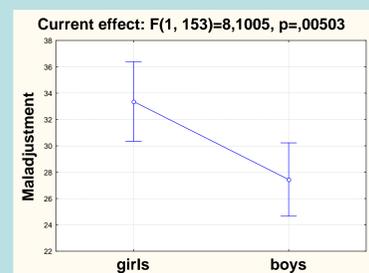


Fig.5

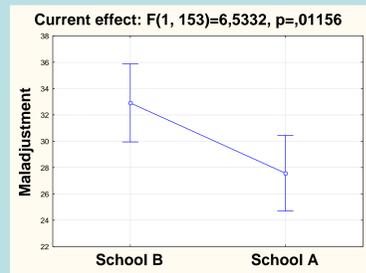


Fig.6

Table 1. Correlation between level of maladjustment and expert scores of students properties (School A, N=75)

Students features	R	p-level
Giftedness	-0,15	0,19
Academic motivation	-0,36**	0,001
Academic performance	-0,22*	0,05
Persistence	-0,27*	0,02
Level of aspiration	-0,04	0,71
Creativity	-0,22*	0,05

Structural equation modeling (Fig. 8-13) demonstrates some expected relations (black lines) with academic stress, fatigue feelings, anxiety and maladjustment, as disliking school, lack of moving and outdoor activity, breaking day regimen, spending too much time at school etc.

At the same time some unexpected risk factors were found (red lines), as positive relations with peer and adults at school. It is possible, that maintaining good relations with others requires more energy and intensify stress.

Some features as grade, creativity and giftedness, positive relations with adult in school sometimes have ambivalent effects. Those effects require further analysis.

Watching TV 2-3 ours and more per day may be considered as bad coping strategy, that emphasize fatigue and maladjustment.

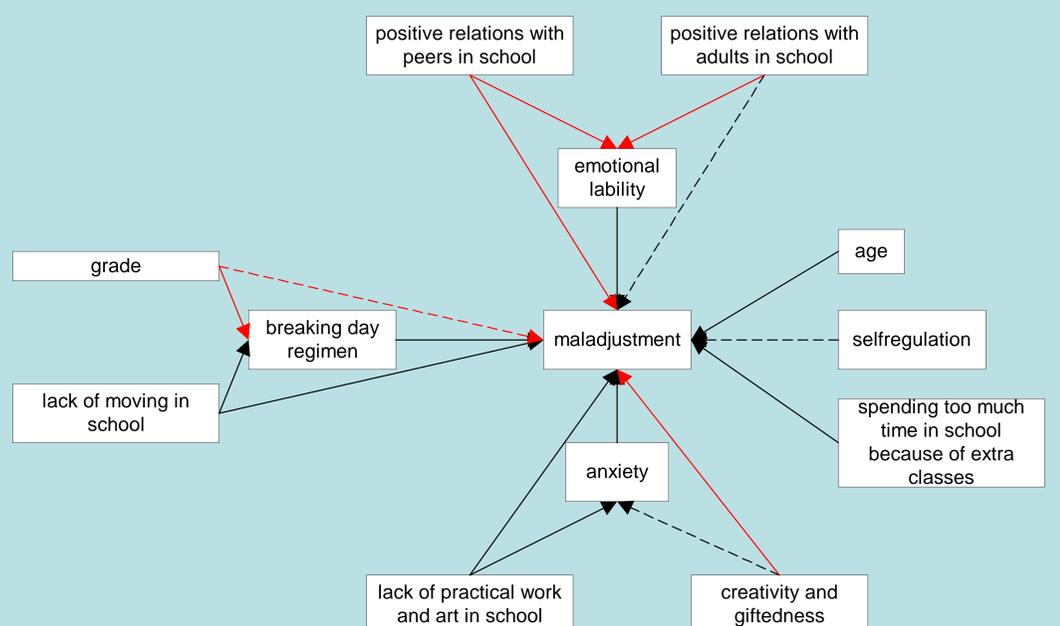


Fig.13. Maladjustment: risk and protection

→ Positive determination
 - - - - - Negative determination
 ——— Expected relations
 ——— Unexpected relations