PREDICTORS OF ACADEMIC PERFORMANCE AMONG AT-RISK ROMANIAN YOUTH

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Predictors of Academic Performance among At-Risk Romanian Youth

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Abstract

    Problem Statement: *Many Romanian adolescents experience life situations that they find difficult to cope with. Prior research has suggested that the youth who obtained academic results despite being exposed to risk factors were academically resilient. In this context, understanding the factors that predict academic achievement is very important in the process of counselling and improving at-risk students' performance.* ***Purpose of the Study:*** *The main objective of this study is to investigate personal and family factors that predict academic performance for at-risk youth, as well as to investigate coping mechanisms associated with academic resilience.* ***Methods:*** *Data was collected from a final representative sample of 329 ninth through twelfth grade urban Romanian adolescents (mean age = 16.1 years, 62.6% females and 37.4% males). The variables measured were: the personality factors openness and consciousness – previously associated with academic achievement; coping mechanisms; the stressful events experienced within the last two years; parents' education and involvement in extracurricular activities.* ***Results:*** *The statistical analysis indicated that at-risk students have significantly lower academic performances, suggesting that the stress associated with the risk factors influences their achievement. A linear regression analysis identified that the academic performance of at-risk adolescents is largely predicted by family factors – the mother's education, and personal factors – sex, age and two coping mechanisms with a negative association: deletion of concurrent activities and negativism. Contrary to expectation, the majority of the assessed personality characteristics or coping mechanisms did not influence academic achievement.* ***Conclusions:*** *These findings have implications for understanding how*

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academic success can be promoted in at-risk adolescents. Educational counselling suggestions are discussed.

Keywords:
Coping mechanisms; Academic resilience; Risk factors; Academic achievement; Counselling.

1. Introduction

The academic performance of at-risk youth and its associated factors have been intensively researched during the past decades (Waxman, Gray, & Padron, 2003; Sandoval-Hernandez & Cortes, 2012). Understanding the factors that influence both school performance and failure is necessary in order to design and implement effective educational interventions. Academic achievement has been proved to be associated with multiple positive outcomes, such as continuing higher education, superior career potential and greater positive self-esteem. Although it is well documented that at-risk students tend to perform worse at school, several studies have identified youth who are academically successful despite their adverse background (Cunningham & Swanson, 2010; Sandoval-Hernandez & Cortes, 2012).

Students who achieve despite facing risk factors that increase the possibility of academic failure are called educationally resilient. Numerous Romanian students face adverse situations that endanger their personal, educational and social development. Many teenagers, while dealing with the challenges associated with the developmental period of adolescence, are also exposed to family conflicts, poverty, behaviour problems, community violence, chronic disease or loss of a loved family member. The educational needs of at-risk students are varied and personalized programs need to be designed in order to best address them.

Resilience is defined as a "dynamic process encompassing positive adaptation within the context of significant adversity" (Luthar, Cicchetti, & Becker, 2000: 543). The construct of "educational resilience" or "academic resilience" is not viewed as a fixed attribute, but as something that can be promoted by focusing on "alterable" factors that can impact an individual's success in school (Waxman, Gray, &

Padron, 2003). Students can be academically resilient and still have challenges in other aspects of their lives.

Sandoval-Hernandez & Cortes (2012) view educational resilience as an ecological construct that encompasses: (1) personal factors – self-confidence, effort and motivation in education; (2) family factors – emotional support, material/economic support, example (resilience); (3) school factors – emotional support/social recognition, logistic support/administrative management, student-teacher relationship/example; (4) community factors – economic distracters and infrastructure. The environmental and the personal characteristics of adolescents play an important role in their academic success. Most of the current research on academic resiliency revealed that there are several predictors, including gender (Tufiş, 2008), family background, socioeconomic status, ethnicity, learning environment, classroom instruction and motivational aspects (Waxman, Gray, & Padron, 2003) that influence academic performance significantly.

However, current literature is unclear as to what are the specific mechanisms that lead to academic success for at-risk youth (Gross, 2011), and conflicting results have been reported. Tufiş (2008) asserted that family background and parental education effects are much stronger than school, neighborhood, and community effects. On the other hand, Sandoval-Hernandez & Cortes (2012) claimed that students' self-confidence and motivation are the most important factors in predicting educational resilience. Gross (2011) points out that gender and family variables are weaker predictors of academic outcomes than community variables and individual characteristics.

In order to support academic performance and to reduce dropout rates it is necessary to identify the specific factors that influence the educational resilience of at-risk Romanian adolescents. Many of them experience life situations that they find difficult to cope with and affect their school activities.

The main objective of this study is to investigate personal and family factors that predict academic performance for at-risk Romanian urban youth. The more information is known about the influences and the barriers of academic achievement, the more counsellors and educators will be able to provide specific and efficient interventions.

2. Method
2.1. Participants

The participants were students of five high schools in Bucharest, placed in different zones of the city and with distinct levels of academic success rate. The selection of the participants was based on grade, age and consent, approximately 100 teenagers from each institution being targeted initially. Exclusionary criteria in selecting the final sample for analysis included: extensive missing data, presence of psychotic symptoms during the testing period, diagnosis of current clinical mood disorder. Eighty seven adolescents from the targeted sample did not bring the signed informed consent forms from their parents, 39 refused to complete the questionnaires and 45 handed incomplete questionnaires.

Data was collected among a final representative sample of 329 ninth through twelfth grade urban Romanian adolescents. The final sample of teenagers included in this cross-sectional research study ranged from the ages of 14 to 19 (M = 16.1 years, SD = .91) and included 62.6% females and 37.4% males. They had an average overall grade of 8.06 (SD = 1.24) and experienced on average 2.15 risk factors (SD = 2.03).

2.2. Measures

The Stressful Events Scale is a measure adapted from the modified Holmes and Rahe stress scale for non-adults – used to identify the existence of risk factors. It is a 40-item scale that assesses many life domains: family difficulties (death of a parent, violent parents, parent working abroad, etc.), medical issues (chronic disease, long hospitalization, disability, etc.), schools problems (grade failure, suspension, etc.), financial problems (debt, receiving a social scholarship, low family income, etc.), and friend problems (death of a close friend, unplanned pregnancy/abortion, becoming involved in gangs, drug consumption). Adolescents responded by placing a check next to the event/events that they had experienced during the past years and felt it difficult to cope with. The scale also included a completion item, were the adolescents could write their stressful experiences that were not previously mentioned. At-risk youth is defined by the presence of one or more stressful events.

The COPE Questionnaire (Carver, Scheier, & Weintraub, 1989) is a 60-item questionnaire intended to measure 15 different coping mechanisms: Active approach, Planning, Deletion of concurrent activities, Positive interpretation and growth, Restraint, Acceptance, Religious approach, Use of socio-instrumental support, Use of socio-emotional support, Expressing the emotions, Denial, Mental disengagement, Behavioural disengagement, Substance consumption and Humour. It was translated, adapted and validated on Romanian population (Crașovan & Sava, 2013) with internal consistency values ranging from .48 to .94 for the initial scales.

Academic performance was measured by self-reported overall average grade.

Parental education – students were asked what form of schooling their mother and father had completed.

The extracurricular activities in which the students participated were self-reported. The following were taken into account: student council, sports, band/choir, theatre, newspaper/magazine/school library, school clubs, school projects, volunteering.

The IPIP-NEO-PI (*International Personality Item Pool representation of the NEO PI-R*) (Goldberg, 1999) was used to assess the relevant personality traits. A selection of the Conscientiousness and Openness to Experience factors was included in the questionnaire: the facets Self-Efficacy, Dutifulness, Achievement-Striving, Self-Discipline, Cautiousness, Emotionality, Adventurousness, and Intellect, with internal consistency values ranging from .68 to .82, calculated for the Romanian population.

2.3. Procedure

The questionnaires were presented as part of a larger study conducted with the approval of the Faculty of Psychology and Educational Sciences. The instruments were applied in a pen-and-paper form, during the winter of 2014-2015. The teenagers were asked to transmit to their parents the request for them to participate in the study and both student and parent signed informed consent forms prior to participating. The questionnaires were completed at the high schools, during the Counseling and orientation class, with permission from the respective form masters. The completion of the questionnaires lasted approximately one hour. The adolescents' questions about the survey

items were answered and clarified. All participants were notified that the information collected was confidential and their personal data was protected. They were also informed that they could withdraw from the study before completing the questionnaires.

3. Results

Data was analysed using SPSS 20. Parental education data revealed that mothers' education levels were from 8 classes (6.4%), 10 classes (7.6%), high school (22.0%), professional school (16.8%), to college and other superior forms of education (47%). A single adolescent reported not having a mother. The fathers' education ranged from 8 classes (4.3%), 10 classes (7.1%), high school (25.0%), professional school (19.8%), to college and other superior forms of education (42.9%). Three participants reported not having a father.

With regard to the stressful events indicated, 252 adolescents indicated at least one risk factor (76.6%) and 77 of them (23.4%) denied experiencing a form of stress. The next step was to verify the existence of a statistically significant difference between the academic performance of low-risk and high-risk adolescents. Considering the great difference in group size, a Mann-Whitney U Test was used and it revealed that the high-risk adolescents (Mnd = 8.25) have a significantly lower overall average grade than the low-risk adolescents (Mdn = 8.86), U = 6803.5, p (two-tailed) = .000.

In order to examine the factors that predict academic performance of at-risk adolescents, the cases with one or more risk factors were selected for further analysis (Tiet, Huizinga & Byrnes, 2010; Terzi, 2013). The next step was to determine the associations between the individual, personality and family factors and the adolescents' academic performance and thus bivariate Pearson correlations were computed between the overall average grade and the other variables: parents' education, coping mechanisms, personality traits, sex, age and extracurricular involvement.

The overall average grade was positively associated at a .001 level (two-tailed) with mother's education $r(247)=.50$, father's education $r(243)=.414$, the personality trait Adventurousness $r(248)=.25$, and negatively associated with the variables Sex $r(248)= -.26$, Age $r(248)= -.26$, the personality trait Self-Discipline $r(248)= -.19$ and the coping mechanism Negativism $r(246)= -.21$.

The associations with the Extracurricular activities r(247)=.14, Achievement Striving 2 (248)=.17 and the coping mechanisms Planning r(246)= -.13 and Deletion of competing activities r(246)= -.13 had a lower significance level p < .05 (two-tailed).

In order to examine the separate impact of each factor, successive hierarchical linear models with different combinations of variables were estimated (Table 1). The necessary assumptions for distributions normality, outliers and multicollinearity were established for each model.

The first linear model introduced individual characteristics, sex and age as level 1 predictors, mother's education as level 2 and father's education as level 3. Due to the fact that father's education level explains only 1.6% of the academic performance variance and that it had a high correlation level with mother's education r(245)=. 669, p<.001 (two-tailed), the variable was dropped from further models.

Model 2 tests the impact of coping mechanisms that proved to be associated with the dependent variable, Negativism, Deletion of competing activities and Planning. As shown in Table 2, only Negativism has a statistically significant impact on the adolescents' academic outcome, being negatively associated.

Model 3 tests the impact of the personality facets Adventurousness, Self-Discipline and Achievement-Striving and attests that all have a statistically significant influence on the dependent variable.

Table 1 Hierarchical regression analyses: individual, family and personality effects on academic performance

Model	Step	Predictors	β	t	R^2	Adj. R^2	R^2 Change
1	1	Sex	-.26	-5.2	.13	.13	.13
		Age	-.19	-3.7			
	2	Mother's education	.36	5.2	.36	.35	.22
	3	Father' education	.16	2.4[*]	.37	.35	.01
2	1	Sex	-.26	-4.5	.13	.13	.13
		Age	-.22	-.37			
	2	Negativism	-.19	-3.3	.17	.16	.04
	3	Deletion of	-.08	-1.2[**]	.18	.17	.00

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			competing activities					
	4		Planning	-.02	-.4**	.18	.17	.00
3	1		Sex	-.22	-3.9	.13	.13	.13
			Age	-.22	-4.0			
	2		Adventurousness	.21	3.5	.19	.18	.05
	3		Self-Discipline	-.28	-4.2	.22	.21	.03
	4		Achievement Striving	.19	2.6	.24	.23	.02

p < .01, *<.05, **>.05

It should be noted that Sex and Age have a negative effect on the overall average grade. These results show that Romanian adolescents tend to have lower grades as they grow up and that boys tend to have a lower academic performance than girls. Also, the involvement in extracurricular activities was excluded from the regression models as it proved to have a weak influence on the variance of the dependent variable.

The most relevant information is the fact that the personality trait Self-Discipline seems to have a negative influence on the overall average grade also.

The coping mechanisms Deletion of competing activities and Negativism have a negative effect as well, but this fact is consistent with the prior empirical evidence.

A final hierarchical linear model was constructed (Table 2), including the variables that best predict the variance of the overall average grade: Sex, Age, Mother's education, and Negativism.

Table 2 Hierarchical regression analysis: individual, family and personality effects on academic performance

Step	Predictors	β	t	R^2	Adj. R^2	R^2 Change
1	Age	-.164	-3.24	.139	.132	.139
	Sex	-.246	-4.92			
2	Mother's education	.402	7.57	.363	.355	.225
3	Negativism	-.126	-2.47	.381	.371	.018
4	Adventurousness	.116	2.10	.414	.397	.033

	Self-Discipline	-.180	-2.93			
	Achievement-Striving	.105	1.64			

p < .01

This last model explains approximately 40% of the overall average grade's variance, which shows that personal characteristics alongside one family factor have a significant influence on the academic success of at-risk adolescents.

4. Conclusions

The purpose of this study was to examine the variables influencing academic performance among at-risk adolescents. As stated earlier, educational resilient students manage to achieve academically despite adverse life situations. These results present several important aspects for professionals working with vulnerable youth.

Firstly, common factors mentioned in the literature as predictive of academic success were found to have a different effect in the case of at-risk Romanian adolescents. Personality traits as Openness and Self-Efficacy did not have a statistically significant effect on their academic outcome; neither did their involvement in extracurricular activities. That means that the school success of the at-risk youth is influenced by different personal characteristics that need to be further investigated in order to better design the intervention programs.

One of the most relevant findings is the fact that the overall average grade is negatively predicted by the personality trait Self-Discipline, meaning that at-risk students with lower self-discipline tend to have a better academic performance. The personality profile of the educationally resilient adolescents involves high adventurousness and achievement striving but a lack of self-discipline. A possible explanation for these results may be that at-risk youth develop diverse adaptive mechanisms that help them succeed in ways different from low-risk adolescents and that their resilience process is spontaneous, non-organized and unstructured. Further research is needed on this subject.

Secondly, from all the fifteen coping mechanisms investigated in relation to the overall average grade, only one had a statistically significant predictive influence, and that was Negativism. These findings suggest that coping mechanisms do not explain the educational resilience process in a statistically significant manner. It is possible that the

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mechanisms employed in stress management are different from those used to achieve academically.

Thirdly, the information about the negative predictive value of age and sex on the academic output may help educators and counsellors adapt their methodology in order to help adolescents achieve academic success. The results showing that at-risk male adolescents tend to have lower academic performance than girls confirm the research found in the literature, but it also should underline the fact that at-risk boy adolescents need additional support in order to succeed academically.

These findings ought to be considered in light of their limitations.

Firstly, the measure of the stressful events is based on previously identified adverse events. It may be possible that a wider range of stressful events could have been acquired if requested from the adolescents. Furthermore, the measure is a self-report type, which may involve reporting biases. Some adolescents may not have reported shameful emotional stressful events. In contrast, teenagers are the best informants for many of the items.

Secondly, this study was cross-sectional and therefore no clear temporal order of predictors and outcomes can be drawn.

Thirdly, the geographical validity of the findings may be of concern. The present results are based on a sample of Bucharest youth and further research is needed in order to verify their replication.

Implications for educational counselling practice may be drawn from this investigation. Understanding the factors that predict academic achievement is very important in the process of improving at-risk students' performance. School counsellors need to bear in mind the characteristics that promote educational resilience in order to better design and implement intervention programs.

Acknowledgement

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