



Research article

CORRELATION BETWEEN RESILIENCE, COPING STRATEGIES AND ACADEMIC ACHIEVEMENTS AMONGST HIGH SCHOOL STUDENTS

Garyfallia Mitoli, PhD. Student

Department of Psychology, SWU "Neofit Rilski"

Email: g.mitoli@yahoo.com

Abstract

This study investigates the complex relationship between resilience, coping strategies, and academic performance in high school students. The research builds on previous studies that emphasize the role of resilience in rebounding from adversity and the importance of coping strategies in maintaining psychological well-being. The study focuses on high school students, with a particular interest in understanding the role of demographic factors in shaping resilience and coping strategies. A comprehensive methodology was employed, including the analysis of resilience and coping strategies through established scales and their correlation with academic performance metrics. The study established a strong, positive correlation between average grades, mental resilience, and the ability to manage problems.

Keywords: resilience, coping strategies, academic achievements, school

Introduction

The multitude of definitions of resilience highlights the multidimensional and multifaceted nature of the term characterizes resilience as a developmental process and a dynamic skill, rather than as a passive aftereffect or a temperamental trait (Yates, Tyrell & Masten, 2014) which has validity in a multitude of systems, from individuals and families, to institutions and societies (Masten, 2014a). The same year, Masten amended the definition to include "successful adjustment in some adversity," ultimately defining resilience a "the ability of a dynamic system to successfully adapt to disturbances that threaten the system's operation, viability or development" (Masten, 2014b, p. 17). This newer definition shows that individuals change according to the circumstances to deal with danger.

Over the years, resilience began to be described more dynamically, as the ability of a dynamic system to endure or recover after significant threats, achieving stability, sustainability or development (Masten, 2014b). The American Psychological Association defines a person's resilience, both as individuals' ability to utilize psychological, social, cultural and natural resources that maintain well-being, as much as their sufficiency to seek individually or collectively these resources (Southwick, Douglas-Palumberi & Pietrzak, 2014).

In another attempt to define the term, researchers stated that resilience is considered a protective mediator that positively affects individuals to cope with stressful situations (Jackson,

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Firtko &Edenborough, 2007). Moreover, resilient individuals have the ability to adapt according to the circumstances (Cicchetti, 2010).

In many reports, the dual aspect of resilience is described, as it appears on the one hand to constitute an inherent characteristic of the person's personality to face difficult situations and on the other hand it is a dynamic process, in which resilience occurs as an outcome of positive adaptation and coping with stressful situations (Patterson &Kelleher, 2005).

Resilience is described as a process with multifaceted dimensions that study both individual and environmental factors(Reyes & Elias, 2011).Inherent resilience is developed and strengthened through supervision and counseling, with practical application, with emotional education, empathy and the support that comes from social networks (Grant & Kinman, 2012). Therefore, resilience is considered to be an innateability, which can be developed and learned throughout one's life (Masten&O'Dougherty Wright, 2010). This ability can be cultivated through the following (Wald et al., 2006):

- problem solving
- emotions management
- creative and critical thinking
- goal setting
- personal characteristics, such as self-esteem, optimism
- self-confidence
- social networks
- acquiring positive experiences

Consequently, as defined by the American Psychological Association, resilience is not a fixed and established trait in every person, but it rather encompasses attitudes, actions, and thoughts that can be mastered and developed. In this way, resilience is variable and determined by the environment in which the adversity takes place, as stated by many researchers, it is a dynamic process during events and over time (Luthar et al., 2000; Masten, 2001; Masten, 2007) Additionally, resilience includes the interaction between risk, vulnerability and protective factors, which are deployed to change the difficulties that the individual faces (Olsson et al., 2003; Masten, 2014 a). Thus, resilience appears as a dynamic process of interpreting resistance to risk and the process by which individuals manage to cope with stressful situations (Windle et al., 2011). Therefore, resilient person are able to develop healthy interpersonal relationships and also set high goals, because through every difficulty they try to find the positive side and this gives them a sense of self-confidence.

In conclusion, resilience can be defined as the positive resource that can be activated in the context of stress to prevent the development of negative mental health outcomes. As a protection mechanism, resilience increases the likelihood of adaptive responses. In this way, resilient individual sharness positive emotions to recover and adapt to adverse situations (Makryonitou &Loudianou, 2016).

This study aims at investigating the complex relationship between resilience, coping strategies, and academic performance in high school students. The research builds on previous studies that emphasize the role of resilience in rebounding from adversity and the importance of coping strategies in maintaining psychological well-being.

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Hypotheses

1. The main hypothesis is that there is a relationship between resilience and coping strategies with school performance.

1.1 The relationship that develops between resilience and school performance is positive.

1.2 The relationship between adolescents' ability to manage problems and school performance is positive.

1.3 The relationship between resilience and coping strategies with school performance is positive.

Method

Sample

The sample of the research consisted of junior high schools students of the Secondary Education Department, aged 13 - 15 years. Sample size consisted of 110 individuals.

The tools

The tool that used is a questionnaire. More specifically, three questionnaires were given to complete. For the students academic performance we calculated the yearly grade average of the students in our sample. For the collection of data regarding the demographic profile of the participants, a short structured closed-ended questionnaire was provided in which students were asked to fill in information regarding gender, age, class, number of family members. The other two questionnaires are:

1. Emotion Resilience Scale (RS) by Wagnild & Young (1993)

Previously published studies have reported Cronbach alpha internal consistency coefficients ranging from .76 to .91, test-retest reliability indices ranging from .67 to .84, with sufficient synchronous validity with criterion validity morale scales (.54, .43 and .28) and life satisfaction (.59 and .30) and its degree of correlation with other tools has been assessed, including those measuring perceived stress (-.67 and -.32), depression (-.36), but also self-esteem (.57) (Mamalikou, 2012, Nearchou et al., 2012). This scale was translated into Greek by Mamalikou (2012) and has been used by her in a sample of adults and adolescents. In the sample of adolescents, the reliability indices of the main scale and its subscales ranged within acceptable values, with a range from $\alpha = .70$ to $\alpha = .89$ and it was confirmed that this scale of mental resilience can be used in the adolescent population.

2. Coping Scale for Children and Adolescents (CSCA) by Brodzinsky et al. (1992)

The scale shows satisfactory internal reliability ($\alpha = .76$) and the stability of the repeated measures (Test-Retest Stability) was $r = .73$. Also, the sample used for its control did not include children attending special schools, but students from integration departments (Brodzinsky et al., 1992). In Greece, this questionnaire was translated and used for the first time by Papakonstantinopoulou (2018) with positive results.

The reliability coefficients

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The reliability coefficients for the two subscales used in the study had a very high Cronbach's Alpha index. Specifically, for the first scale, which measures **mental resilience**, **Cronbach's Alpha had a value of 0.884**, while on the **problem management ability scale Cronbach's Alpha index it had a slightly lower value, at 0.819**, which is very satisfactory for the continuation of the statistical analysis checks.

Duration of the research

It is estimated that the duration of the research will be about 45 minutes. This means that students and teachers will not commit for more than two teaching hours, according to the instructions of the Greek Educational Policy Institute.

Methods of data analysis

The program SPSS was used for data analysis. Throughout the study, various data analysis methods were employed to evaluate and interpret the data.

Results

The sample had higher numbers of girls with their percentages being 56.4 % and 43.6% for boys.

Table 1

Gender Frequency

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Boy	48	43,6	43,6	43,6
	Girl	62	56,4	56,4	100,0
	Total	110	100,0	100,0	

This distribution shows the frequencies and percentages of individuals across different ages in a given sample of 110 individuals. The majority are aged 14 (39.1%), followed by ages 15 (30.0%) and 13 (28.2%). There's a small percentage (2.7%) categorized under "Other".

Table 2

Age Frequency

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	13	31	28,2	28,2	28,2
	14	43	39,1	39,1	67,3
	15	33	30,0	30,0	97,3
	Others	3	2,7	2,7	100,0
	Total	110	100,0	100,0	

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The group is almost evenly split between the 2nd Year and 3rd Year of Junior High, with a slight majority in the 3rd Year (50.9%). This shows an almost equal distribution across the two classes.

Table 3
Class Frequency

Class		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 nd Year Junior High	54	49,1	49,1	49,1
	3d Year Junior High	56	50,9	50,9	100,0
	Total	110	100,0	100,0	

In this distribution, families with 4 members are the most common, constituting 56.4% of the total. Families with 5 members follow at 22.7%, then families of 3 members at 9.1%, 6 members at 5.5%, families of 7 or more at 4.5%, and finally, families with only 2 members are the least common at 1.8%.

Table 4
Members of the Family Frequency

Members of the Family		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	1,8	1,8	1,8
	3	10	9,1	9,1	10,9
	4	62	56,4	56,4	67,3
	5	25	22,7	22,7	90,0
	6	6	5,5	5,5	95,5
	7+	5	4,5	4,5	100,0
	Total	110	100,0	100,0	

Average Grades Scores

The average grades score is $M = 17.44$ ($SD = 1.72$) suggests that the sample group generally performs well academically, though there is some variability in grades.

The hypothesis that stated that there is a relationship between resilience and coping strategies with school performance in relation to demographic characteristics, based on the correlation matrix, showed that there are significant and strong positive relationships between Grades Average, Mental Resilience, and Ability to Manage Problems in the sample studied. There is a strong, positive correlation between Grades Average and Mental Resilience ($r(108) = 0.847$ $p = .000$), a strong, positive correlation between Grades Average and Ability to Manage Problems

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($r(108) = .813$ $p = .000$) and a strong, positive correlation between Mental Resilience and Ability to Manage Problems ($r(108) = .833$ $p = .000$). The ability of students to manage problems and cope with academic challenges is closely linked to their resilience and coping strategies.

Table 5
Correlations

Correlations				
		Grades Average	Mental Resilience	Ability to Manage Problems
Grades Average	<i>r</i>	1	,847**	,813**
	<i>p</i>		,000	,000
	<i>N</i>	110	110	110
Mental Resilience	<i>r</i>	,847**	1	,833**
	<i>p</i>	,000		,000
	<i>N</i>	110	110	110
Ability to Manage Problems	<i>r</i>	,813**	,833**	1
	<i>p</i>	,000	,000	
	<i>N</i>	110	110	110

** . Correlation is significant at the 0.01 level (2-tailed).

As said before from the table 5 one can clearly see that there are significant and strong positive relationships between Grades Average, Mental Resilience, and Ability to Manage Problems in the sample studied.

Discussion

The study established a strong, positive correlation between grades average, mental resilience, and the ability to manage problems (a strong, positive correlation between Grades Average and Mental Resilience $r(108) = .847$ $p = .000$, a strong, positive correlation between Grades Average and Ability to Manage Problems $r(108) = 0.813$ $p = .000$ and a strong, positive correlation between Mental Resilience and Ability to Manage Problems $r(108) = 0.833$ $p = .000$). A substantial portion of the variability in mental resilience and ability to manage problems could be explained by grades average, indicating a significant relationship between academic performance and these psychological traits. This correlation underscores the interplay between academic success and psychological resilience, suggesting that students who perform well academically also tend to be more resilient and better at managing problems.

Resilience is commonly defined as the ability to adapt and bounce back from adversity (Masten, 2001). It involves the utilization of personal and environmental resources to overcome challenges and maintain positive functioning (Rutter, 2012). Coping strategies, on the other

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hand, refer to the specific actions and behaviors individuals employ to manage stressors and maintain psychological well-being (Luthar et al., 2000).

Chemers et al. (2001) highlight the importance of academic self-efficacy and coping ability in predicting students' classroom performance, personal adjustment, stress, and health. This underscores the significant impact of coping skills on students' overall well-being and academic outcomes. Additionally, Downes et al. (2017) provide insights into executive functioning from preschool to adolescence, highlighting the developmental changes in executive skills during this critical period. This developmental aspect is crucial in understanding how adolescents' problem-solving abilities and coping strategies evolve as they progress through school, ultimately influencing their academic performance.

Furthermore, Banerjee et al. (2019) aim to investigate the relationship between resilience, stress-coping strategies, and learning approaches in predicting academic performance in undergraduate medical students. This study highlights the interconnectedness of resilience, coping strategies, and academic achievement, emphasizing the relevance of these factors in the academic context. In conclusion, the literature underscores the critical role of resilience and coping strategies in students' academic performance and well-being. Effective coping skills, problem-focused strategies, and resilience-related approaches are essential in mitigating academic stress and promoting positive academic outcomes in students.

Conclusion and Suggestions for Future Research

In summary, the study's findings are pivotal in shaping educational practices, research, and policies, emphasizing the need to consider a broader range of factors, beyond just academic abilities, in fostering student success and well-being.

There is a gap in understanding how resilience and coping strategies directly versus indirectly influence academic performance. While these factors undoubtedly impact well-being, their direct role in academic success remains less clear. While demographic factors are known to influence resilience and coping, the literature lacks a comprehensive understanding of how specific factors like parental education level, socio-economic status, and family dynamics precisely impact these variables in adolescents. Finally, there is a need for longitudinal studies that track changes in resilience, coping strategies, and academic performance over time, providing a clearer picture of how these relationships evolve during adolescence.

Future research should focus on exploring the indirect effects of resilience and coping on academic performance, possibly through factors like stress reduction, improved mental health, and increased engagement in learning. More detailed studies are needed to understand the role of specific demographic factors, such as family structure, socio-economic background, and cultural influences, on resilience and coping in adolescents. There is a scope for intervention-based studies that aim to enhance resilience and coping skills to observe subsequent changes in academic performance and well-being.

Research could explore holistic educational models that integrate resilience and coping skills training into the curriculum and assess their long-term impact on academic and personal development. Finally, investigating the role of parental attitudes, home environment, and

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school culture in shaping resilience and coping strategies would provide a more comprehensive understanding of these factors in academic settings.

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