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THE PSYCHOLOGICAL INFLUENCE OF SELF-ESTEEM AND MOTIVATION ON STUDENTS ANXIETY

MARINELA SÎRBU [a] TINCUȚA PETCU ACAR [a] MIRELA-CLAUDIA MOMANU [b]

[a] *Hyperion University, Faculty of Psychology and Educational Sciences Department of Psychology*

[b] *State University of Moldova, Doctoral School of Social Sciences, Chişinău, Republic of Moldova*

Abstract

In an educational environment characterized by increased competition and a growing awareness of the importance of academic performance, many students feel overwhelmed, which leads to increased levels of stress and anxiety. In addition, the modern academic environment is marked by a multitude of factors that can influence students' mental health. In such a context, it is crucial to understand how self-esteem and motivation influence these emotional experiences and how they can be used to support students' mental health. The research conducted aims to highlight the influence of students' self-esteem and motivation on their anxiety levels. The purpose of this research is complex and derives from the urgent need to address mental health issues among students. The objectives pursued within the research relate to the need to understand the interactions between self-esteem, motivation and anxiety. This is an insufficiently explored area of research, and a deeper understanding of these relationships may provide important clues for the development of effective interventions. Currently, most studies analyze each variable in isolation, and an integrative approach can bring new perspectives and solutions to the problems that students face. The research conclusions highlighted the connection between the studied concepts, namely self-esteem, motivation and anxiety, analyzed on a sample of 128 students. The relevance of this topic also emphasizes the importance of continuing research in the field of mental health and education, to ensure that students benefit from the necessary support during the formative period of their lives. This research is, therefore, not only an academic exploration, but also a necessary step towards improving the lives of students as a whole. In conclusion, the context and justification of this research is based on the urgent need to address mental health issues among students, by understanding the complex relationships between self-esteem, motivation and anxiety.

Key words: *self-esteem, motivation, anxiety, students.*

Corresponding author: Tincuța Petcu Acar

E-mail address: acartincuta@gmail.com

1. INTRODUCTION

Anxiety not only affects students' mental health, but also has serious implications for academic performance and interpersonal relationships. Students who experience severe anxiety may have difficulty concentrating, may avoid social interactions, and may exhibit avoidance behavior — all of which have a direct impact on their educational experience.

Anxiety also affects the social sphere, influencing how an individual interacts with others. Social anxiety disorders, for example, are characterized by an intense fear of negative evaluation and avoidance behaviors toward social situations, which limits interactions and leads to social isolation (Stein, Bandelow & Hollander, 2005). This withdrawal can have significant effects on quality of life, reducing opportunities for personal and professional development and contributing to feelings of loneliness and dissatisfaction. Studies show that social isolation can intensify anxiety symptoms and worsen comorbidity with depression (Stonerock et al.,2015).

Self-esteem refers to an individual's perception of their own self-worth and is a key predictor of emotional well-being. Healthy self-esteem contributes to self-efficacy and resilience, helping students cope more effectively with challenges. On the other hand, low self-esteem can worsen feelings of helplessness, facilitating the development of anxiety and other mental health issues.

Throughout life, self-esteem develops and adjusts based on various external and internal influences, such as emotional support from close ones, experiences of success and failure, as well as the expectations imposed by society or the social context in which the individual lives (Orth & Robins, 2013). High self-esteem can contribute to overall well-being and the development of a sense of self-efficacy—that is, the belief that a person can effectively cope with challenges and manage obstacles. In contrast, low self-esteem is often correlated with emotional difficulties, increased vulnerability to stress, and a predisposition to mental health issues such as anxiety and depression (Orth et al., 2012). At the same time, self-esteem significantly influences physical health through its positive effects on the immune system and the ability to cope with chronic stress. Studies show that individuals with high self-esteem have lower levels of cortisol—the stress hormone—and a lower risk of developing stress-related conditions such as high blood pressure or heart disease (Taylor & Stanton, 2007).

Motivation, on the other hand, influences students' attitudes and behaviours toward learning. Intrinsic motivation, which stems from the desire to learn for the pleasure and satisfaction brought by the learning process, is associated with academic engagement and also with academic performance among students. Extrinsic motivation, which focuses on obtaining external rewards, can lead to a more stressful educational experience and increased anxiety, especially when students feel pressured to meet others' expectations.

In contemporary research, motivation is often described as having two main dimensions: intrinsic motivation and extrinsic motivation. Intrinsic motivation

refers to the ability to enter an activity for the satisfaction it provides, the pleasure of learning, creating, or solving a problem (Deci & Ryan, 1985).

Motivation can also be understood as a dynamic interaction between internal and external factors. According to self-determination theory (Deci & Ryan, 1985), motivation is not limited to the desire to achieve a goal, but also involves how a person perceives control over their actions and the satisfaction derived from the activity itself. Intrinsic motivation refers to engaging in an activity because of the direct pleasure or satisfaction it brings, without the need for an external reward.

People who are intrinsically motivated participate in activities because they find them interesting, challenging, or inherently satisfying. This type of motivation is associated with the state of flow. Activities that induce flow are those that create a balance between the demands of the task and the individual's skills, positively impacting satisfaction and performance.

Extrinsic motivation refers to involve or develop an activity to obtain an external result or reward. Rewards can be of various types, including tangible rewards (money, prizes) or intangible ones (appreciation, social status). Extrinsic motivation is often seen as an important factor in achieving external goals, but research suggests that extrinsic motivation may be less sustainable in the long term and less satisfying than intrinsic motivation (Deci, Vallerand, & Ryan, 1991).

In recent decades, self-esteem has been a widely studied subject, and recent research has made significant contributions to understanding how this construct influences mental health, interpersonal relationships, and academic performance. Additionally, modern studies have expanded the perspective on the dynamics of self-esteem by exploring its interactions with motivation and anxiety in the academic context, which is relevant for understanding the specific challenges faced by students. A large body of recent research confirms that high self-esteem is associated with better mental health and a lower risk of depression and anxiety.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVES

The objectives of the research focused on the need to understand the interactions between self-esteem, motivation, and anxiety.

Another important objective of this research is to raise awareness about mental health among students.

2.2. HYPOTHESES

To achieve the research objectives, the following hypotheses were formulated:

H1: There is an association between self-esteem and anxiety among students.

H2: There is an association between intrinsic motivation, extrinsic motivation, lack of motivation and anxiety among students.

H3: There is an association between self-esteem and intrinsic motivation, extrinsic motivation, lack of motivation and anxiety among students

3. METHOD

3.1 The participants

The sample of subjects on which the research was conducted consists of 128 students of both genders, with an average age of 30 years, who are enrolled in undergraduate studies in years I, II, and III.

The composition of the sample by gender shows that there were 30 male students and 98 female students (a significant proportion). The composition of the sample by year of study shows that there were 22 students from year I, 71 from year II, and 35 from year III.

3.2 The instruments

The Rosenberg Self-Esteem Scale is a psychometric tool developed by Morris Rosenberg in 1965 that measures a person's overall level of self-esteem. This scale is one of the most widely used and valuable instruments in psychological research related to mental health and personal development. According to Rosenberg, the scale demonstrates good internal consistency, with a Cronbach's alpha coefficient of 0.89. The scale was validated by correlating the scores obtained with various measures of psychological health and subjective well-being, which strengthens its credibility as a tool for measuring self-esteem (Blascovich & Tomaka, 1991).

The Academic Motivation Scale was developed by Vallerand and colleagues in 1993 under the name "Academic Motivation Scale (AMS-C 28) College (CEGEP) Version" and published in the journal *Educational and Psychological Measurement*, volume 52(53), pages 1992-1993. It contains 28 items that make up three subscales.

The DASS questionnaire – "Depression, Anxiety, and Stress Scales" – is an instrument created by S.H. Lovibond and P.F. Lovibond and adapted in Romania by Adela Perţe (coordinator) and Monica Albu under the name DASS-21R (Lovibond & Lovibond, 1995). This instrument consists of three scales corresponding to the assessment of negative emotional states such as anxiety, depression, and stress. Each scale contains 7 items, which are randomly interspersed, and each item is completed by the respondent through self-assessment."

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3.3 Procedure

The research began with establishing the study topic, followed by identifying the purpose and objectives of the research. Being a correlational study, the type of sample on which the questionnaires would be applied was determined, in order to measure the dependent variables whose correlations were intended to be studied. The three questionnaires used were combined into a single questionnaire created on the Google Forms platform and administered online over six months (October 2024 – March 2025). The resulting database, containing responses from 128 study participants, was coded for processing in the statistical software to test the research hypotheses. The obtained results were analysed and the conclusions of the study highlighted the obtained results, taking into account the research limitations as well as possible future directions. The ethical code of the psychology profession and data confidentiality according to GDPR were respected

3.4 The design

For this research, two categories of variables were studied:

1. Dependent variables: Self-esteem, Intrinsic motivation, Extrinsic motivation, Lack of motivation, Anxiety.
2. Independent variables: Gender, Year of study, Place of origin, Occupation, Marital status

The research design is non-experimental (Vasiliu, 2018), of the type:

N: O1 O2 O3, where O1 represents the measurement of anxiety, O2 represents the measurement of self-esteem and O3 represents the measurement academic motivation in students.

4. RESULTS

The conclusion of the normality study is similar to that of the histogram analysis, namely that due to the variable distributions not resembling a normal distribution, it is necessary to apply non-parametric statistical tests to verify the research hypotheses (Vasiliu, 2018).

To test the first hypothesis, which suggests that there is an association between self-esteem and anxiety among students, the Spearman correlation test was applied (table 1).

Table 1 : Spearman correlation test for self-esteem and anxiety

		1.	2.
1. Anxiety	Correlation Coefficient	1.000	
	Sig. (2-tailed)		
2. Self-Esteem	Correlation Coefficient	-.523	1.000
	Sig. (2-tailed)	.000	

The statistical conclusion suggests that there is a significant correlation between self-esteem and anxiety, which is negative and of moderate intensity. This means that when a student's level of self-esteem decreases, their level of anxiety increases significantly. The effect size ($r^2 = 0.273$) indicates that approximately

27.3% of the variation in anxiety scores can be explained by the variation in self-esteem scores. According to widely accepted standards for interpreting effect size (Cohen, 1988), this value corresponds to a strong effect, which gives a strong practical and theoretical relevance to the identified relationship.

To test the second hypotheses, which suggests that there is an association between intrinsic motivation, extrinsic motivation, lack of motivation and anxiety among students, the Spearman correlation test was applied (table 2).

Table 2: Spearman correlation test for motivation and anxiety

		1.	2.	3.	4.
1. Anxiety	Correlation Coefficient	1.000			
	Sig. (2-tailed)				
2. Intrinsic Motivation	Correlation Coefficient	-.083	1.000		
	Sig. (2-tailed)	.354			
3. Extrinsic Motivation	Correlation Coefficient	.186	.601	1.000	
	Sig. (2-tailed)	.036	.000		
4. Lack of Motivation	Correlation Coefficient	.328	-.349	-.140	1.000
	Sig. (2-tailed)	.000	.000	.015	

Statistical conclusion for second hypothesis: there is a significant correlation between lack of motivation and anxiety, which is positive and of low intensity. This means that when a student's lack of motivation increases, their level of anxiety also increases significantly. The effect size ($r^2 = 0.107$) indicates that approximately 10.7% of the variation in anxiety scores can be explained by the variation in lack of motivation scores. According to widely accepted standards for interpreting effect size (Cohen, 1988), this value corresponds to a moderate effect. The observed effect is unlikely to have occurred by chance, given the level of statistical significance obtained ($p < 0.05$). The magnitude of the effect suggests a considerable practical relevance, meaning that the results are not only significant, but may also have concrete implications for understanding and managing the relationship between the analyzed variables.

Additionally, there is a significant correlation between extrinsic motivation and anxiety, which is also positive and of low intensity, meaning that when a student's extrinsic motivation (external pressure) increases, their level of anxiety also increases significantly. The effect size ($r^2 = 0.034$) indicates that approximately 3.4% of the variation in anxiety scores can be explained by the variation in extrinsic motivation. According to widely accepted standards for interpreting effect size (Cohen, 1988), this value corresponds to a low effect. Although significant, the results do not have substantial practical importance.

In order to test the third hypotheses, which suggests that there is an association between self-esteem and intrinsic motivation, extrinsic motivation, lack

of motivation and anxiety among students, the Spearman correlation test was applied (table 3).

Table 3: Spearman correlation test for self-esteem and motivation

		1.	2.	3.	4.
1. Self-esteem	Correlation Coefficient	1.000			
	Sig. (2-tailed)				
2. Intrinsic Motivation	Correlation Coefficient	.261	1.000		
	Sig. (2-tailed)	.003			
3. Extrinsic Motivation	Correlation Coefficient	-.011	.601	1.000	
	Sig. (2-tailed)	.901	.000		
4. Lack of Motivation	Correlation Coefficient	.272	-.349	-.140	1.000
	Sig. (2-tailed)	.002	.000	.015	

Statistical conclusion for the third hypothesis indicates that there is a significant correlation between lack of motivation and self-esteem, which is negative and of low intensity. This means that when a student's lack of motivation increases, their level of self-esteem significantly decreases. The effect size (r^2 = 0.074) indicates that approximately 7.4% of the variation in self-esteem scores can be explained by the variation in lack of motivation scores. According to widely accepted standards for interpreting effect size (Cohen, 1988), this value corresponds to a moderate effect. The effect appears to be quite important from a practical point of view. In addition, the effect is significant.

There is also a significant correlation between intrinsic motivation and self-esteem, which is positive and of low intensity. This means that when a student's intrinsic motivation increases, their level of self-esteem also increases significantly. The effect size (r^2 = 0.068) indicates that approximately 6.8% of the variation in self-esteem scores can be explained by the variation in lack of motivation scores. According to widely accepted standards for interpreting effect size (Cohen, 1988), this value corresponds to a moderate effect. The effect appears to be quite important from a practical point of view, especially that the effect is significant.

5. CONCLUSIONS

The results of the conducted research confirm findings from various researches, which indicate that high self-esteem not only reduces the risk of depression and anxiety but also contributes to the development of effective coping strategies, supports emotional self-regulation, and facilitates healthy social integration.

In this context, the psychological interpretation of the results obtained in testing the first hypothesis takes into account the fact that there is an association

between self-esteem and anxiety among students, which is negative and of medium intensity. This means that when a student's self-esteem decreases, their level of anxiety increases significantly. The relationship between self-esteem and anxiety is particularly evident in the academic context, where pressure and expectations can create a stressful environment for students. Those with low self-esteem exhibit higher levels of social anxiety and academic stress. These students tend to interpret feedback more negatively, which affects their motivation and performance. They have a more vulnerable perception of their own worth, which exposes them to a greater risk of developing anxiety and feeling overwhelmed by academic demands, ultimately leading to elevated anxiety levels.

For the second hypothesis, the psychological interpretation of the results obtained in testing this hypothesis considers the fact that there is a significant correlation between lack of motivation and anxiety, which is positive and of low intensity. This means that when a student's lack of motivation increases, their level of anxiety also increases significantly. Additionally, there is a significant correlation between extrinsic motivation and anxiety, which is also positive and of low intensity. This suggests that when extrinsic motivation (external pressure) increases in a student, their level of anxiety also significantly increases. Lack of motivation is often associated with states of apathy, low energy, and, in more severe cases, depression or anxiety. This form of demotivation can occur when a person does not perceive the activity as bringing any meaningful benefits or when, in the face of a task, they see no possibility of success. In such conditions, anxiety levels tend to rise considerably.

Considering the third hypothesis, the psychological interpretation of the results obtained in testing this one considers the fact that there is a significant correlation between lack of motivation and self-esteem, which is negative and of low intensity. This means that as a student's lack of motivation increases, their self-esteem significantly decreases. There is also a significant correlation between intrinsic motivation and self-esteem, which is positive and of low intensity. This suggests that when a student’s intrinsic motivation increases, their level of self-esteem also significantly increases. Amotivation is linked to a lack of self-determination and a sense of incompetence or absence of a clear goal. Individuals in a state of amotivation have neither internal nor external stimuli pushing them to act, and they are less able to engage in day-to-day activities, which may contribute to a low self-image and, consequently, low self-esteem. On the other hand, intrinsic motivation is considered the purest form of motivation, being associated with the pleasure an individual experiences when engaging in an activity of personal interest, such as a hobby or creative pursuit. This type of motivation can be internalized and integrated into one’s identity and values, thereby contributing positively to the strengthening of an individual’s self-esteem.

Recent research in the field of self-esteem shows that this construct plays a vital role in young people's mental health, social adjustment, and academic performance. Cultivating healthy self-esteem has become essential for youth, and academic institutions bear an increasing responsibility to provide emotional support and psychological resources to help students develop a balanced self-image

and cope with the pressures they face. Thus, self-esteem remains a relevant and current topic of research, whose theoretical and practical implications are crucial for supporting psychological well-being and academic success.

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PSYCHOLOGICAL IMPLICATIONS OF PREGNANCY LOSS IN WOMEN

MARINELA SÎRBU [a] GABRIELA MARINESCU [a] MIRELA-CLAUDIA MOMANU [a]

[a] *Hyperion University, Faculty of Psychology and Educational Sciences Department of Psychology*

Abstract

The loss of a pregnancy, whether voluntary or involuntary, represents an experience with a traumatic charge that can be felt immediately or much later than the moment of the occurrence of the stressful situation. International statistics and research draw attention to the large number of women who experience pregnancy loss and to the phycological effects consisting of anxiety, depression, post-traumatic stress, sometimes suicide attempts. The present research aimed to identify the possible psychological implications of pregnancy loss, analyzing constructs such as neuroticism, self-esteem and resilience as well as the correlations between them. The sample under study consisted of 520 women over 18 years of age, coming from both urban and rural areas, with different levels of education. The comparative analysis of the two samples consisting of women who had experienced pregnancy loss and those who had not experienced pregnancy loss revealed that there were differences regarding the level of resilience between the two groups. The analysis also revealed a strong negative correlation between neuroticism and self-esteem, and a strong positive correlation between self-esteem and resilience in case of women who experience pregnancy loss.

Keywords: *pregnancy, miscarriage, neuroticism, self-esteem, resilience*

1. INTRODUCTION

The study was conducted based on the premise that pregnancy loss—whether involuntary or intentional—is a traumatic experience with short-, medium-, and long-term effects. Supporting this premise are various statistical data and studies which have shown that women who experience pregnancy loss can develop a wide range of psychological issues, with varying degrees of risk.

According to the World Health Organization, approximately 73 million induced abortions occur annually, of which 5.6 million involve adolescents aged 15 to 19. Each year, between 4.7% and 13.2% of maternal deaths can be attributed to unsafe abortion.

Corresponding author: Gabriela Marinescu

E-mail address: doramarinescu@yahoo.com

An article published in 2024 in the journal *Social Sciences*, authored by Guillemont Jonathan, Zhang Sue, and Warner Mildred, states that the global population is undergoing a marked decline, with Africa being the only continent not following this trend. Some regions and subregions are expected to experience significant population decreases. Compared to its 2022 population, by 2086 at its global peak, Asia will have lost 350 million people (−6.5%), Europe 135 million (−18%), and Latin America 56 million (−7%).

The psychological consequences of abortion include an increased risk of anxiety, depression, post-traumatic stress disorder, and suicide (Quenby et al., 2021). A meta-analysis conducted in England in 2018 on a sample of approximately 4,000 women who experienced early pregnancy loss revealed a high incidence of anxiety, depression, and post-traumatic stress following the event. It also highlighted the need for further research to manage these medium- and long-term psychological effects, especially considering the high frequency of early pregnancy loss and its significant contribution to the general psychopathology of the population (Farren et al., 2018).

A 2024 study conducted in the UK on a sample of 218,990 women followed over the period 2006–2020 found that pregnancy loss is associated with an increased risk of common mental disorders later in life. These findings may help improve long-term monitoring and prevention of common mental health issues among women with such a history (Shen et al., 2024).

Studies have also found a correlation between pregnancy loss and self-esteem, as the death of a child significantly affects how grieving parents perceive the world, family, and themselves. Furthermore, maternal functioning appears to play a moderating role in the relationship between pregnancy loss and reduced self-esteem (Wonch, Cacciatore, Shreffler & Pritchard, 2016).

The difficulties faced by women who experience pregnancy loss are not limited to psychological issues but also include social and cultural challenges. A relevant example is a 2018 study conducted in Australia, in which women who had experienced pregnancy loss reported feeling socially isolated. They noted that the societal tradition of not disclosing a pregnancy until after the first trimester contributed to the stigmatization of miscarriage and led to weaker support experiences (Bellhouse, Temple-Smith & Bilardi JE, 2018).

This paper aims to deepen the understanding of the impact of pregnancy loss on constructs essential to quality of life, such as neuroticism, self-esteem, and resilience, with the hope that the findings will lead to greater awareness of this reality and the development of new approaches in social policy.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

The objectives of the research focused on:

-Identifying the impact of pregnancy loss on the level of resilience among women who have experienced this event.
- Identifying the correlations between the variables neuroticism and self-esteem, as well as between self-esteem and resilience, in women who have experienced pregnancy loss.

2.2. HYPOTHESES

To achieve the research objectives, the following hypotheses were formulated:
H1: There are differences in the level of resilience between women who have experienced pregnancy loss and those who have not encountered this event.
H2: There is a correlation between the level of neuroticism and self-esteem in women who have experienced pregnancy loss.
H3: There is a correlation between the level of self-esteem and resilience in women who have experienced pregnancy loss.

3. METHOD

3.1 The participants

The sample consisted of 520 female participants, with an average age of 35 years. Of these, 57% reside in urban areas, while 43% live in rural areas.In terms of educational attainment, 61.2% of the respondents reported having completed higher education, whereas 38.8% indicated having completed secondary education.Regarding relationship status, 77.2% of the participants reported being involved in a stable relationship (formalized or not), while 22.8% were not in such a relationship at the time of the study.With respect to employment status, 67.8% of the respondents were employed, whereas 32.2% were not professionally active.Parental status was also considered an independent variable: 72% of the participants reported having children, while 28% did not identify as parents.Additionally, 40.1% of the respondents acknowledged having experienced the loss of one or more pregnancies during their lifetime, while 59.9% had not experienced in such an event.

3.2 The instruments

The Neuroticism Scale used in this research is part of the International Personality Item Pool (IPIP) testing set developed by Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., and Gough, H. C., and published in 2006 in the *Journal of Research in Personality*. This scale measures an individual's emotional stability and their tendency to experience

negative emotions such as anxiety, anger, or depression. It demonstrates a high level of internal consistency, with a reported Cronbach's alpha coefficient of 0.89 (Goldberg et al., 2006).

The Self-Esteem Scale, developed by psychosociologist Morris Rosenberg in 1965, is currently the most widely used instrument for assessing self-esteem in the social sciences. It was introduced in the author's work *Society and the Adolescent Self-Image*, published by Princeton University Press, and it provides a global measure of self-acceptance and perceived self-worth. According to Rosenberg, the scale demonstrates good internal consistency, with a Cronbach's alpha coefficient of 0.89.

The Resilience Questionnaire was developed by Professor Dr. Al Siebert Lawrence Albert (1934–2009), an American author and educator renowned for his work in the field of psychological resilience. The instrument evaluates an individual's capacity to adapt positively to stress, adversity, and life challenges.

3.3 Procedure

The three scales were incorporated into a Google Forms questionnaire, along with socio-demographic items and items related to students' activities, which were included as independent variables. The questionnaire was distributed online to the respondents. Participants in the study were informed about the research objectives, the scales used, voluntary participation, the confidentiality of the data, and the use of the data exclusively at the sample level. Additionally, respondents were informed about their right to withdraw from the study without any further consequences. The ethical code of the psychology profession and data confidentiality according to GDPR were respected.

3.4 The design

For this research, two categories of variables were studied:

1. Dependent variables: Neuroticism, Self- Esteem and Resilience
2. Independent variables: age (over 18), lever of study (higher education/secondary education), residential environment(urban/rural), relationship status (stabile relation/unstable relation), employment status (employed/not professional active),parental status (being or not being a parent), pregnancy loss experience (yes/no).

The final sample resulting from data collection comprised 520 women aged over 18, who took part in the research voluntarily and under conditions of anonymity.

The sampling strategy employed in this study represented a combination of simple random sampling and the snowball sampling method. The latter was specifically used to identify female individuals who had experienced pregnancy loss, a population considered sensitive and presumed to have undergone a traumatic event.

4. RESULTS

The collected data were analyzed in terms of the distribution of the obtained values. The results of the descriptive analyze indicated that all the dependent variables follows a normal distribution.

Based on these results, since the normality of the distribution is confirmed for all the dependent variables analyzed, the hypotheses were tested using the appropriate parametric tests (Pallant, 2007).

To test the first hypothesis, which suggests there are differences in the level of resilience between women who have experienced pregnancy loss and those who have not encountered this reality the independent samples t-test was applied (table 1).

Table 1 : Independent simple test for Resilience

		Levene's Test for Equality of Variances		T-Test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Resilience	Equal variances assumed	16.45	.000	3.69	518.00	.000	4.68	1.27	2.18	7.17
	Equal variances not assumed			3.91	514.07	.000	4.68	1.20	2.33	7.02

The Independent simple test for Resilience indicate there is a statistically significant difference between the group of women who experienced pregnancy loss and the group of women who did not (p = .000). Therefore, the null hypothesis is rejected, and it can be concluded there are differences regarding the level of resilience between the two groups mentioned above.

Additionally, the calculation of effect size yielded the following values:

- Cohen's d = (7967 - 6031) ⁄ 1435.142153 = 1.348995
- Glass's delta = (7967 - 6031) ⁄ 1285 = 1.506615
- Hedges's g = (7967 - 6031) ⁄ 1462.892036 = 1.323406

The Cohen's d coefficient value of 1.348995 indicates a strong effect size."

To test the second hypotheses, which suggests there are correlations between the level of neuroticism and self-esteem in women who have experienced pregnancy loss the Pearson correlation test was applied (table 2).

Table 2: Pearson correlation test for Neuroticism and Self-Esteeam

		1.	2.
1. Neuroticism	Pearson Correlation	1.000	
	Sig. (2-tailed)		
2. Self-Esteem	Pearson Correlation	-.561	1.000
	Sig. (2-tailed)	.000	

It was found that, within the group of women who have experienced pregnancy loss, there is a statistically significant correlation ($p = 0.000$) between neuroticism scores and life satisfaction levels. This correlation is negative and of moderate to strong intensity ($r = -0.561$). This result indicates that, for women who have experienced pregnancy loss, there is an inverse relationship between the level of neuroticism and self-esteem — meaning that higher levels of neuroticism are associated with lower levels of self-esteem.

Given the statistical significance ($p < 0.05$) and the effect size ($r = 0.561$), the validation of Hypothesis No. 4 is supported, which posits that there is a correlation between levels of neuroticism and self-esteem among women who have experienced pregnancy loss.

In order to test the third hypotheses, which suggests there are correlations between the level of self-esteem and resilience in women who have experienced pregnancy loss the Pearson correlation test was applied (table 4).

Table 4: Pearson correlation test for Self-Esteem and Resilience

		1.	2.
1. Resilience	Pearson Correlation	1.000	
	Sig. (2-tailed)		
2. Self-Esteem	Pearson Correlation	.510	1.000
	Sig. (2-tailed)	.000	

It was found that, within the group of women who have experienced pregnancy loss, there is a statistically significant correlation ($p = 0.000$) between self-esteem scores and resilience levels. This correlation is positive and of moderate intensity ($r = 0.510$). This result indicates that, among women who have experienced pregnancy loss, there is a direct relationship between self-esteem and resilience — that is, higher levels of self-esteem are associated with higher levels of resilience.

Given the statistical significance ($p < 0.05$) and the effect size ($r = 0.510$), the validation of Hypothesis No. 6 is supported, which posits that there is a correlation between self-esteem and resilience in women who have experienced pregnancy loss."

5. CONCLUSIONS

The present study aimed to address a sensitive topic—namely, the psychological implications of pregnancy loss on women in Romania. To this end, three key constructs relevant to personal development and environmental adaptation were selected for investigation: neuroticism, self-esteem, and resilience.

The present research aims to contribute to raising awareness among the general public, policymakers, and, not least, women themselves regarding the psychological effects that voluntary or involuntary pregnancy loss may have on those affected. The ultimate goal is to foster a sense of responsibility and promote actions that enhance individuals' quality of life."

The sample studied consisted of 520 respondents, all voluntary and anonymous female participants, who completed online forms containing questionnaires for the assessment of neuroticism, self-esteem, and resilience.

The results obtained after testing each hypothesis revealed the following findings: There are differences in resilience capacity between women who have experienced pregnancy loss and those who have not gone through this experience. The changing roles of women in society are consistent with the results, which show that women who have experienced pregnancy loss exhibit higher levels of resilience than those who have not faced this type of difficult situation.This may indicate that the modern woman, having gained access to education and employment, and having focused on personal development and civic participation, has redefined the coordinates of self-fulfillment and developed strong mechanisms for environmental adaptation. Thus, pregnancy loss no longer constitutes an irreparable loss or a threat to social identity, but rather an experience that a woman is able to overcome, especially when her self-worth is no longer tied solely to motherhood. Her perceived usefulness and contribution to societal development may motivate her to cope with the stress associated with pregnancy loss.

This explanatory assumption does not minimize the profound emotional impact that pregnancy loss can have on the individual. Women who develop a neurotic personality structure as a consequence of pregnancy loss are at real risk of experiencing a significant decline in self-esteem .Moreover, the correlation analysis between the variables of neuroticism, self-esteem, and resilience among women who have experienced pregnancy loss reveals that neuroticism correlates negatively with self-esteem, while self-esteem and resilience are positively correlated.

The findings of this research open new avenues for the development of truly supportive and applicable social policies, both for women who have experienced pregnancy loss and for the prevention of unwanted pregnancies, which often result in abortions involving a high degree of psychological and physical risk."

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DEPRESSION IN WOMEN VICTIMS OF VIOLENCE – NEUROPSYCHOLOGICAL PERSPECTIVES

ANCULETE ȘTEFANIA LETIȚIA [a] ELIZA, NICOLAESCU [b]

[a] *Ion Creangă State Pedagogical University of Chișinău*

[b] *Hyperion University, Faculty of Psychology and Educational Sciences Department of Psychology*

Abstract

Violence against women represents a pervasive global issue with significant psychological and neurobiological repercussions. A substantial proportion of women exposed to domestic or gender-based violence—whether physical, verbal, sexual, or economic—develop mental health disorders, with depression being one of the most common. This article examines the neuropsychological dimensions of depression in women victims of violence, emphasizing structural and functional brain changes identified through recent research. Alterations in the prefrontal cortex, cingulate cortex, and hippocampus are particularly relevant, affecting attention, autobiographical memory, and emotional regulation. The fragmentation of memory caused by traumatic experiences, coupled with cognitive distortions and reduced coping capacities, contributes to the onset and persistence of depressive symptoms and PTSD. In addition to mapping the affected brain areas, this study highlights the psychological consequences of victimization, including suicidal ideation, low self-esteem, social withdrawal, and difficulties in emotional adaptation. Based on this understanding, the article argues for the development of targeted psychological intervention strategies, incorporating elements of cognitive-behavioral therapy (CBT), trauma-informed care, and mind–body approaches. These interventions can enhance cognitive flexibility, reduce emotional distress, and promote social reintegration. Neuropsychologically informed support has wide applicability in medical, therapeutic, social, and educational contexts, providing critical tools for improving the mental health and quality of life of women victims of violence.

Keywords:*caffeine,schizophrenia, epilepsy, positive and negative affect*

1. INTRODUCTION

Multiple studies show that nearly half of the women who have been exposed to various forms of domestic or gender-based violence (physical, verbal, sexual, economic, etc.) develop different mental disorders (Table 1): anxiety, depression, post-traumatic stress symptoms, feelings of helplessness and worthlessness,

Corresponding author: Anculete Ștefania Letiția
Email address: letitia.anculete@yahoo.com

psychomotor agitation, high levels of distress, and a lack of initiative to adopt help-seeking behaviors (Chandan et al., 2020; Dutton et al., 2006; Lövestad et al., 2017; Torres García, Vega-Hernández, et al., 2021; Zhang et al., 2024).

Violence against women thus creates a traumatic framework within which various mental disorders may develop. Moreover, if violence against women is widespread, its normalization by society hinders access to clinical services. This generates the need to study in more detail the conditions in which these disorders arise in female victims of violence, so that coherent, tailored, and effective psychological intervention programs can later be developed.

Various studies on violence victims (IPV, gender-based violence) have shown that, in general, they develop moderate or severe symptoms of depression, anxiety, or PTSD. These symptoms, in turn, generate attentional and memory deficits, impairment of autobiographical memory, executive and planning function disturbances, and slower information processing speed, as well as cognitive sequelae resulting from direct cranial trauma (Table 1) (Billoux et al., 2016; Daugherty et al., 2019; Dotson et al., 2020; Koroglu & Durat, 2025; Kwako et al., 2011; Torres García, Vega-Hernández, et al., 2021).

It has also been observed that individuals diagnosed with depression show significant alterations in dorsal cortico-limbic networks, particularly in the prefrontal cortex and cingulate cortex (Table 1), which mediate attention, information processing, and autobiographical memory (Hameed et al., 2020).

Previous fMRI meta-analyses have already demonstrated that hippocampal volume reduction and dysfunction are central to the onset of depression (with an 8% decrease in the left hippocampus and 10% in the right, and a significant association between depressive episodes and the right hippocampus) (Rosso, 2005), as well as PTSD (Smith, 2005).

Another study found that women diagnosed with major depression showed significant hippocampal volume reduction associated with childhood trauma, suggesting that prior brain changes may serve as vulnerability factors for the onset of depression or PTSD, rather than consequences of the disorders themselves (Lupien et al., 2009).

Given the high prevalence of depressive disorders among women victims of violence (Daugherty et al., 2019)—which may also involve serious outcomes such as suicidal behavior—this article focuses on the emergence of depression in this population and its consequences.

Violence-induced trauma has the capacity to create “disconnections” or “splits” in the victim’s memory between pre- and post-traumatic episodes, impairing their ability to clearly understand and integrate their experiences. These disjunctions generate a state of confusion and lay the groundwork for the development of depressive and PTSD symptoms (Bedard-Gilligan & Zoellner, 2012; Riedsser & Fischer, 2007).

From a psychiatric perspective, the DSM-5-TR (American Psychiatric Association, 2022) defines depressive disorders—including mood disorders, major depressive disorder, persistent depressive disorder, premenstrual dysphoric disorder, substance/medication-induced depressive disorder, depressive disorder

due to another medical condition, and other specified and unspecified depressive disorders—as being characterized by sadness, emptiness, or irritability, accompanied by somatic and cognitive changes that significantly affect the individual's functioning.

Vasile A. I., as cited in Trifu et al. (2021), summarizes the general symptomatology of depression as follows: “insomnia/hypersomnia; loss of interest in previously enjoyed activities; feelings of guilt or worthlessness; low energy or fatigue; poor concentration; increased or decreased appetite; psychomotor agitation or retardation; suicidal ideation, plans, intentions, or attempts, past or present.”

From an etiological standpoint, Kielholz (as cited in Tudose et al., 2011) classifies depression based on origin into: somatogenic (symptomatic or organic depression), endogenous (schizoaffective, bipolar/unipolar, or involutional depression), and psychogenic (neurotic, exhaustion, or reactive depression).

The cognitive perspective (Leahy et al., 2022) defines a major depressive episode by the presence of at least five out of nine symptoms for a minimum duration of two weeks, including depressed mood, suicidal ideation, anhedonia, guilt or worthlessness, sleep disturbances, weight change, psychomotor changes, fatigue, concentration difficulties, and/or indecisiveness. Behavioral theories describe depression as a result of loss or absence of reinforcement, or the inability to obtain rewards.

Furthermore, these theories identify clear behavioral predictors of depression, including stressful life events and their consequences, loss of rewarding behaviors, interpersonal dysfunctions, poor assertiveness, and social withdrawal.

Various cognitive-behavioral theories posit that cognitive processes—especially negative thinking supported by dysfunctional beliefs—play a central role in the development and persistence of depression. Additional research highlights that persistent worry and rumination are also key features of depression, originating from the idea that both conscious and unconscious cognitions act as stimuli generating emotional, physiological, and behavioral response patterns (Chen, 2024; David, 2012).

On a psychological level, the experience of victimization is proven to negatively impact a woman’s emotional stability. Victims may develop suicidal ideation, multiple somatizations, low self-esteem, generalized disability, and behavioral issues. Even when a woman becomes accustomed to the abusive situation, this adaptation does not shield her from psychological consequences, particularly when her self-esteem is compromised, coping strategies are dysfunctional, and psychological discomfort persists in interactions with the abuser (Torres García, Pérez-Fernández, et al., 2021).

Finally, social interaction is also compromised, as the abuser’s efforts to isolate the victim generate deficits in social skills, assertiveness, initiative, and decision-making. The resulting insecurity fosters submission, compliance, and negative self-perceptions, often accompanied by intense guilt (Torres García, Pérez-Fernández, et al., 2021).

2. OBJECTIVES AND HYPOTHESSES

a. OBJECTIVES

To identify brain areas involved in the development and maintenance of depression in women victims of violence, and to explore whether specific neuropsychological profiles can guide psychological interventions.

b. HYPOTHESSES

If specific brain regions involved in depression due to violence-related trauma are identified, this knowledge may help design effective psychological interventions aimed at reducing depressive symptoms.

3. METHOD

3.1. PARTICIPANTS

Seventeen studies were analyzed, including meta-analyses and empirical research on the relationship between trauma, cognitive impairment, and depression in women victims of violence. Findings emphasize hippocampal volume changes, autobiographical memory impairment, and attentional dysfunction.

3.2. RESEARCH DESIGN

The study consists of six case reports, compiled from data gathered through the administration of the PANAS-GEN, the Lazarus Clinical Interview, and psychological observation.

For the research design, the following variables were analyzed:

1. Dependent variables: positive and negative affective states
2. Independent variables: coffee consumption

The case reports will be presented as follows, under the codings of E1, E2, E3 (Epilepsy PatientS Case Reports) and S1, S2, S3 (Schizophrenia Patients Case Reports)

4. PRESENTETION OF CASE REPORTS

A series of key elements from all these studies helped construct a “composite profile” of the brain regions involved in the onset of depression in victims of violence. On a cognitive level, these findings guide us toward identifying the types of cognitive, memory-related, and attentional processes that are affected. With this knowledge, we can develop psychological intervention programs specifically targeting these patterns, so that changes in behavior, attitudes, and perspectives may, through neuroplasticity, lead to

the restoration and regulation of the neural networks previously affected by dysfunction.

Table 1 Summary of the Impact of Violence on Neuropsychological, Emotional, and Brain Areas

Impact of Violence		
Neuropsychological Impairments	**Emotional Impairments**	**Involved Brain Areas**
Autobiographical memory dysfunction	Confusion, cognitive inflexibility	Hippocampus, prefrontal cortex
Attention deficits	Irritability, hypervigilance	Dorsal cortico-limbic networks
Executive dysfunction (planning, decision-making)	Emotional instability, impulsivity	Prefrontal cortex, anterior cingulate cortex
Information processing deficits	Anxiety, stress	Prefrontal cortex, amygdala
Working memory impairment	Feelings of helplessness	Hippocampus, dorsolateral prefrontal cortex
Delayed recall	Emotional withdrawal	Hippocampus, medial temporal lobe
Verbal memory impairment	Low self-esteem	Temporal lobe, limbic structures
Concentration difficulties	Guilt, depressive thoughts	Cingulate cortex, prefrontal cortex
Dissociation, memory fragmentation	Identity confusion, avoidance behaviors	Hippocampus, orbitofrontal cortex

*Note: Autobiographical memory is affected by the fractures/splits caused by violence-related events and must be specifically addressed in psychological intervention, as these splits contribute to cognitive inflexibility, making beliefs and thought patterns resistant to change; for this reason, it is listed separately.

The results obtained from the analysis of reviewed studies and the six clinical case reports reveal a complex and interdependent picture of how violence affects the psychological and neurocognitive structures of women victims. From a neuropsychological perspective, a specific pattern of cognitive impairments was identified, characterized by difficulties in concentration, memory disturbances (particularly autobiographical and working memory), slowed information processing, reduced planning and decision-making abilities, and the emergence of dissociative phenomena. These manifestations are correlated with structural and

functional changes in key brain areas such as the hippocampus, prefrontal cortex, cingulate cortex, and amygdala.

One of the most relevant findings is the impairment of autobiographical memory, which is essential for the construction of personal identity and self-reconstruction following trauma. In women who have experienced violence, this memory is often fragmented, unclear, or dissociated, leading to major difficulties in building a coherent life narrative. This disruption is frequently accompanied by increased cognitive rigidity, which makes it harder to restructure negative thinking and adapt to new perspectives.

On the emotional level, there is a high prevalence of depressive and anxiety symptoms, often accompanied by intense feelings of guilt, shame, worthlessness, and low self-esteem. Psychological suffering manifests through social withdrawal and a significant decrease in help-seeking behaviors, further reinforcing the victim's isolation and sense of helplessness.

These results support the hypothesis that cognitive and emotional dysfunctions are not merely consequences of trauma but also act as maintaining and aggravating factors for psychological distress when intervention is lacking. In this context, the brain's capacity for adaptation and reorganization—through neuroplasticity—becomes essential in therapeutic approaches. Reviewed studies confirm that well-targeted psychological interventions, such as cognitive-behavioral therapy (CBT), mindfulness-based therapies, or "mind-body" approaches, can help reduce symptoms by activating alternative brain circuits and restoring cognitive and emotional flexibility.

Another significant aspect observed is the impact of trauma on a woman's ability to relate to others. Violence has a direct effect on social skills and emotional expression, often resulting in reduced social interaction and increased compliance and submission to the abuser. Furthermore, the social isolation imposed by the aggressor limits the victim's access to emotional support, increasing the risk of developing severe affective disorders.

Consequently, the results demonstrate the urgent need for psychological intervention programs that not only aim to reduce clinical symptoms but also focus on personal identity rehabilitation, restoration of autobiographical memory, social reconnection, and strengthening of cognitive and emotional capacities. Only through an integrated, neuropsychologically-informed, and personalized approach can true psychological healing and reintegration be achieved for women victims of violence.

4. CONCLUSIONS & DISCUSSION

The current analysis emphasizes the profound psychological and neurocognitive consequences of violence on women, especially the onset and persistence of depressive symptoms. The research supports the idea that prolonged exposure to trauma leads to measurable and significant changes in brain functioning, particularly in regions responsible for autobiographical memory, emotional regulation, executive functioning, and decision-making. These findings

contribute to a more nuanced understanding of the cognitive-emotional patterns seen in women who have experienced intimate partner or gender-based violence.

One of the central conclusions is that depression in these women is not simply a psychological reaction to external abuse but a condition deeply embedded in neurobiological mechanisms. The observed impairments in autobiographical memory, attentional control, and information processing are tied to dysfunctions in the hippocampus, prefrontal cortex, and cingulate cortex, among others. These neural disruptions impact a woman's ability to make sense of her experiences, seek help, and reestablish social connections—all of which are vital for psychological recovery.

As such, interventions that aim to support women in this context must be informed by neuropsychological insights. Psychological therapies that integrate trauma-focused techniques, cognitive restructuring, emotional regulation training, and social reintegration components have the potential to reestablish damaged networks through the brain's plasticity. Interventions should also emphasize the reconstruction of autobiographical memory, as its impairment plays a critical role in identity disintegration and cognitive rigidity. Furthermore, increasing access to mental health services and psychoeducation programs for this population is vital, especially in social contexts where violence against women is normalized or minimized.

Despite the strength of these findings, several limitations must be acknowledged. Firstly, the conclusions are drawn from a limited number of clinical cases and existing literature, which may not fully capture the diversity of experiences among all women victims of violence. The sample size and qualitative nature of the data limit generalizability. Secondly, many studies in the literature rely on self-reported symptoms or retrospective accounts, which may be influenced by recall bias or emotional suppression. In addition, most neuroimaging data are correlational, meaning that while structural and functional brain alterations are observable, establishing clear causality remains challenging.

Moreover, cultural, socio-economic, and individual variability among women are not fully addressed in the reviewed data. Factors such as access to healthcare, education, financial independence, and the presence of support networks can significantly alter both the impact of violence and the effectiveness of psychological interventions. These variables should be more systematically integrated into future research to provide a more comprehensive and equitable framework for support.

In conclusion, this research highlights the importance of neuropsychologically informed interventions tailored to the unique profiles of women who have suffered from violence. While promising, these conclusions should serve as a foundation for more extensive empirical studies that further explore the relationship between trauma, brain functioning, and recovery. Bridging neuroscience with clinical practice offers a path forward in developing therapeutic strategies that are not only effective but also respectful of the deep psychological wounds caused by interpersonal violence.

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EXPLORING THE RELATIONSHIP BETWEEN SELFESTEEM AND RESILIENCE IN PREADOLESCENT INSTITUTIONALIZED YOUTH

ALINA-CRISTINA SOARE [a]
[a] *Ion Creanga State University, Chișinău, Republic of Moldova*

Abstract

This research examines how self-esteem and resilience are connected in a group of institutionalized children aged 11 to 15, a population often exposed to emotional neglect and disrupted social bonds. The study involved 100 children living in Romanian residential care facilities. They completed two validated self-report instruments: the Rosenberg Self-Esteem Scale (RSES) and the Child and Youth Resilience Measure – 12 items (CYRM-12). Data were analyzed using Pearson correlation and linear regression.

The findings revealed a strong, positive correlation between self-esteem and resilience, indicating that children with a more favorable view of themselves were also more likely to adapt effectively to adversity. The regression analysis further showed that self-esteem was a significant predictor of resilience, explaining nearly half of the variance in resilience scores.

These outcomes align with previous psychological frameworks that describe self-esteem as a protective psychological resource (Orth & Robins, 2014; Masten, 2014). The study points to the potential benefit of interventions in residential care that focus on strengthening children's sense of self-worth as a means to foster emotional stability and resilience.

Keywords: *resilience, self-esteem, institutionalized children, psychological adjustment*

1. INTRODUCTION

Resilience is commonly understood as a multifaceted psychological capacity that enables individuals to recover from hardship and maintain functional emotional and behavioral regulation in the face of adversity (Masten, 2014). During preadolescence, a stage often characterized by identity exploration, increasing social awareness, and heightened emotional sensitivity, this capacity becomes particularly crucial. For children living in institutional care, where routine disruptions, limited emotional support, and unstable caregiving are often part of daily life, the development of resilience may be significantly impaired (Johnson et al., 2006).

Corresponding author: Alina- Cristina Soare

E-mail address: soare.alina-cristina@upsc.md

While resilience can be shaped by both external and internal protective factors, self-esteem has consistently emerged as one of the most influential internal resources. As defined by Rosenberg (1965), self-esteem refers to the general sense of self-worth and personal value. Research has linked high self-esteem to better emotional regulation, stronger problem-solving strategies, and increased perseverance in stressful contexts (Orth & Robins, 2014). It may also serve as a psychological buffer that reduces vulnerability to emotional distress (Van Breda, 2018).

Despite these associations, there is still limited empirical data on the relationship between self-esteem and resilience among children in institutional settings, particularly during the sensitive window of preadolescence. Previous findings have mostly focused on broader youth populations or family-based environments, often overlooking the distinct socio-emotional dynamics within residential care contexts (Cameron et al., 2013).

To address this gap, the current study investigates the association between self-esteem and resilience in institutionalized children aged 11 to 15. This age group was selected for its developmental relevance, as it marks a formative stage in which psychological traits such as self-concept and coping abilities begin to consolidate. Understanding how these constructs interact in vulnerable populations may offer insights for the design of targeted psychosocial interventions aimed at strengthening adaptive functioning and long-term emotional well-being.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

This study aims to explore how self-esteem contributes to the development of resilience in children aged 11 to 15 living in institutional settings. Both constructs are widely recognized in developmental psychology as essential for adaptive functioning, particularly in contexts marked by limited emotional security and chronic social disruption. Given the heightened vulnerability of children raised without consistent caregiving, understanding this relationship may yield valuable insights for intervention planning.

The research is guided by the following objectives:

1. To evaluate the strength and direction of the association between self-esteem and resilience among institutionalized preadolescents.
2. To investigate whether self-esteem acts as a significant statistical predictor of resilience in this population, using linear regression analysis.

2.2. HYPOTHESES

Based on the theoretical framework and previous research, the study proposes the following hypotheses:

H1: There is a statistically significant positive correlation between self-esteem and resilience among institutionalized children aged 11 to 15.

H2: Self-esteem significantly predicts resilience in institutionalized children, as demonstrated through linear regression analysis.

3. METHOD

3.1 The participants

The study involved a total of 100 children currently residing in residential care institutions across various regions of Romania. Participants ranged in age from 11 to 15 years, with the gender distribution comprising 54 boys and 46 girls. Inclusion criteria required that participants be currently institutionalized, fall within the target age range, and possess the cognitive and emotional capacity to understand and respond to standardized self-report questionnaires.

Recruitment was based on convenience sampling, with collaboration from institutional staff who facilitated access. Prior to data collection, informed consent was obtained from legal guardians or institutional representatives, and assent was secured from each child. All procedures adhered to established ethical guidelines, ensuring the anonymity, confidentiality, and voluntary nature of participation. Institutional approval was granted before the initiation of the study.

3.2 Instruments

To evaluate the psychological variables under investigation, two widely recognized and psychometrically validated self-report instruments were employed:

1. Rosenberg Self-Esteem Scale (RSES): Originally developed by Rosenberg (1965), the RSES is a 10-item scale designed to assess global self-worth. Each item is rated on a 4-point Likert scale, from *strongly disagree (0)* to *strongly agree (3)*. Items 3, 5, 8, 9, and 10 are reverse-coded to control for response bias. The total score ranges from 0 to 30, with higher values indicating stronger self-esteem. This scale has been extensively validated in both clinical and general populations, demonstrating strong internal consistency and construct validity.

2. Child and Youth Resilience Measure – 12 items (CYRM-12): The CYRM-12 is a brief adaptation of the original CYRM developed by Ungar and Liebenberg (2011) to assess multidimensional resilience in young populations. The instrument includes 12 items, each rated on a 3-point Likert scale, with total scores ranging from 12 to 36. Higher scores reflect greater levels of perceived resilience. The CYRM-12 captures aspects of individual capacity, relationships, and contextual support, and has shown reliable cross-cultural applicability in diverse settings.

3.3 Procedure

Data collection was carried out on-site, during prearranged sessions within the participating residential care facilities. Children completed the RSES and CYRM-12 questionnaires in small group formats, each session being facilitated by a licensed psychologist familiar with working with vulnerable youth populations. The average administration time was approximately 20 minutes per group.

To enhance comprehension and ensure accuracy, instructions were read aloud, and participants were encouraged to request clarification for any item they did not understand. All questionnaires were completed anonymously, with no personal identifiers recorded, thereby safeguarding participant confidentiality throughout the process.

Following data collection, responses were entered into SPSS (Statistical Package for the Social Sciences) for analysis. The statistical procedures applied included descriptive statistics, Pearson correlation, and simple linear regression to examine the relationships between the measured variables.

4. RESULTS

4.1 Descriptive statistics were calculated for the main variables of interest: resilience, self-esteem, and age.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Scor rezilienta	100	10	22	16.23	2.403
Scor stima de sine	100	18	45	32.19	6.610
Varsta	100	11	15	12.77	1.325
Valid N (listwise)	100				

The descriptive analysis indicated that the average self-esteem score among participants was $M = 32.19$, a value that falls within the moderate to moderately high range. This suggests that, despite the challenges associated with institutional living, many children maintain a relatively positive self-image, which may reflect the presence of compensatory psychological resources.

The mean resilience score was $M = 16.23$, pointing to a moderate level of adaptive capacity. While this implies that participants exhibit some degree of psychological flexibility, it also highlights a continued susceptibility to emotional stress, likely linked to the unstable social environments in which they live.

The mean age of the sample, $M = 12.77$, confirms that the study focused on preadolescents, a developmental stage often marked by heightened emotional sensitivity, increased self-awareness, and early identity formation—factors that make psychological resilience particularly relevant.

4.2 To test the relationship between self-esteem and resilience, a Pearson correlation analysis was performed.

The Pearson correlation analysis revealed a statistically significant and strong positive association between self-esteem and resilience ($r = .679$, $p < .001$). This coefficient indicates a substantial effect size, with the squared correlation ($R^2 = .461$) suggesting that approximately 46% of the variance in resilience scores can be explained by variations in self-esteem.

Table 2. Pearson Correlation Between Self-Esteem and Resilience

		1.	2.
1. Scor rezilienta	Pearson Correlation	1	.679**
	Sig. (2-tailed)		.000
	N	100	100
2. Scor stima de sine	Pearson Correlation	.679**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

From a psychological perspective, this relationship highlights the central role of self-perception in shaping adaptive responses to adversity. Children who view themselves positively—who feel competent, valued, and capable—appear better equipped to engage in emotional regulation, maintain behavioral control, and interpret challenging experiences in constructive ways.

In institutional care settings, where consistent emotional support is often lacking, self-esteem may serve as a critical internal anchor, offering a sense of stability and personal worth. These findings support the development of interventions that strengthen self-esteem as a pathway to enhancing resilience in vulnerable youth populations.

4.3 To determine whether self-esteem predicts resilience, a simple linear regression analysis was conducted. The Coefficients Table is presented below.

Table 3. Linear Regression Coefficients Predicting Resilience from Self-Esteem

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	8.285	.886		9.352	.000
	Scor stima de sine	.247	.027	.679	9.154	.000

a. Dependent Variable: Scor rezilienta

The linear regression model revealed that self-esteem significantly predicts resilience in institutionalized children aged 11 to 15. The standardized beta coefficient ($\beta = .679$, $p < .001$) indicates a strong predictive relationship, while the unstandardized coefficient ($B = 0.247$) suggests that for every one-point increase in self-esteem, the resilience score increases by approximately 0.25 points. The model explained 46.1% of the total variance in resilience ($R^2 = .461$), a proportion considered substantial in behavioral research, reflecting the notable contribution of self-esteem to the adaptive capacity of this population.

From a psychological standpoint, these findings underscore the idea that self-esteem operates as an internal driver of resilience, not merely correlating with it but actively shaping how children respond to stress. Children with a stronger sense of self-worth are more likely to exhibit emotional balance, cognitive flexibility, and effective coping mechanisms in the face of adverse conditions. Within the institutional environment—often marked by instability, emotional neglect, and

fragmented social support—self-esteem appears to serve as a psychological buffer, reinforcing autonomy and reducing vulnerability.

These results point toward the importance of developing strength-based interventions that focus on enhancing children's self-concept, not only to support immediate psychological functioning but also to foster long-term resilience and adaptive development in at-risk populations.

5. CONCLUSIONS

This study explored the relationship between self-esteem and resilience among institutionalized children aged 11 to 15. The results demonstrated a strong, statistically significant correlation ($r = .679$, $p < .001$) and confirmed that self-esteem is a significant predictor of resilience, accounting for 46.1% of the variance in resilience scores ($R^2 = .461$). These findings suggest that self-esteem functions not only as a correlate of resilience but as a core psychological resource that supports emotional and behavioral adaptation in contexts marked by adversity.

From a developmental and psychological perspective, the findings highlight the value of positive self-perception as a protective factor. Children who perceive themselves as competent and valued are more likely to exhibit emotional regulation, maintain internal equilibrium, and apply effective coping strategies—even when raised in environments lacking consistent familial support. Within institutional care, where opportunities for emotional affirmation may be scarce, self-esteem may serve as a stabilizing internal mechanism, contributing to resilience formation.

Based on these insights, the study recommends the introduction of targeted interventions in residential care settings, focusing on the enhancement of self-worth through structured psychological support, mentorship programs, and identity-building activities. Such efforts could play a vital role in strengthening both the short-term adjustment and long-term resilience of institutionalized children.

Despite its contributions, the study is limited by its cross-sectional design and reliance on self-report instruments, which may introduce bias and restrict causal interpretations. Future research should consider longitudinal approaches and incorporate broader contextual and interpersonal factors to provide a more nuanced understanding of resilience pathways in vulnerable child populations.

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THE IMPLICATIONS AND PSYCHOLOGICAL EFFECTS OF WAR FROM THE PERSPECTIVE OF ROMANIAN VETERANS

TICEA, ALEX-ANDREI [a]
[a] *Hyperion University, Faculty of Psychology and Educational Sciences*
Department of Psychology

Abstract

This mixed-method study examined the complex interaction between post-traumatic stress disorder (PTSD), social relations, health conditions and the treatment history of Romanian war veterans. The aim of the survey was to provide an integrated understanding of these factors by using both quantitative analysis (N=93) of the survey data and in-depth qualitative interviews (N=4). Quantitative findings revealed a significant negative correlation between the severity of PTSD symptoms and social relation scores, suggesting that higher levels of post-traumatic stress are associated with increased social difficulties. However, generic quantitative predictors such as medical conditions and treatment history did not show significant predictive power in the statistical model. The qualitative component provided a key insight into these unpredictable findings, highlighting the highly individualised nature of trauma experiences, the specific type of support that was sought (often physical rather than psychological), and the crucial role of unmeasured factors such as active coping mechanisms, informal social support and participation in specialised programmes (such as Invictus). Qualitative analysis has also shown that the posttraumatic adjustment process is influenced by these various individual and contextual factors. The study underscores that while statistical associations provide a broad picture, qualitative insights are essential for understanding the clinical and contextual significance of veterans' experiences and the multifaceted factors influencing adaptation and barriers to care. This Mixed-Methods approach yields a more nuanced understanding than either method alone, emphasizing the need for tailored, holistic support systems that acknowledge the complexity of veterans' realities.

Keywords: *PTSD, war veterans, social relationships, reintegration, Mixed-Methods*

1. INTRODUCTION

During military deployments, the primary focus of the staff is on operational tasks and security (see Hosek, Kavanagh & Miller, 2006). Meanwhile, their civilian counterparts often bear the full brunt of domestic responsibilities, including childcare and financial matters (Merolla, 2010; Wood, Scarville, & Gravino, 1995). Contrary to optimistic expectations about reunification, the post-departure period often presents considerable difficulties (see Sahlstein, Maguire, & Timmerman, 2009; Wiens & Boss, 2006). Some experts even argue that the process of returning

Corresponding author: Alex-andrei Ticea
E-mail address: ticeaalexandrei@gmail.com

to civilian life may be more difficult than the initial adjustment to service (Huebner, Mancini, Wilcox, Grass & Blum, 2007; Mmari, Roche, Sudhinaraset & Grass, 2009). These barriers may contribute to an increase in the level of depression, anxiety and symptoms of post-traumatic stress disorder (PTSD) among soldiers and their spouses, together with an increase in marital conflicts in the first six months after return (Nelson *et al*. 2007; Renshaw, Rodrigues & Jones, 2008).

"*The Relational Turbulence Model*" by Solomon and Knobloch (2001) and Solomon and Knobloch (2004) provides a framework for understanding couples' experiences during transitional phases. Model characterizes these transitions as periods of disruption in interpersonal relationships, marked by significant shifts in how partners perceive and interact (Knobloch, 2007). During such times, even ordinary occurrences can take on amplified importance, profoundly impacting the relationship (Solomon, Weber, & Steuber, 2010). The challenges associated with reintegrating after deployment can be enduring and stressful (Orsillo *et al*., 1998). More recent investigations reveal that veterans returning from operational deployments are at an increased risk for various mental health conditions, including PTSD (Basham, 2007), depression and anxiety (Morissette *et al*., 2011; Wright *et al*., 2012), alcohol and drug addictions (Jacobson *et al*., 2008), and heightened suicidal ideation and mortality (Thoresen, & Mehlum, 2004).

The consequences of armed conflict extend beyond the people who are the victims and have a significant impact on their families and society at large (Mileti, Drabek, & Haas, 1975). In this context, social support, especially from the family, is an essential part of the healing process and can prevent the onset of PTSD (Bisson *et al*., 2007; Chatters, & Taylor, 2005). However, PTSD, a common condition among war veterans, can have a negative impact on overall social functioning and has a significant impact on family dynamics and functioning. Family members can therefore be a source of support but can also face difficulties on their own because of the psychological problems of the veteran (Mužinić-Masle, & Vondraček, 2002).

Considering that most of the research on this topic originates from studies primarily involving North American populations, and acknowledging the distinct significance of local cultural, historical, and military factors, the current study employs a Mixed-Methods approach to examine the reintegration challenges specific to Romanian veterans. The study aims to identify the relevant psychological and socio-contextual mechanisms and investigate their associations with social functioning and current mental well-being. By adopting an exploratory design that combines qualitative interviews with statistical analysis, this research endeavours to illuminate the factors influencing the post-mission adaptation process within the Romanian context.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

This paper aimed to investigate the psychological implications and effects of exposure to war in Romanian veterans, with a particular focus on the difficulties in

reintegrating and socialising after the war. The aim of the study was to identify the psychological and social context mechanisms that underlie these difficulties and to examine their impact on veterans' well-being and social relations, with their families and friends. The study also considered the impact of related medical conditions, and the type of treatment received, if received.

2.2. HYPOTHESES

Hypotheses (Qualitative)

1. PTSD symptomatology is associated with negative constructs that develop difficulties in establishing and maintaining significant social relationships among Romanian veterans.
2. Certain PTSD symptoms, such as avoidant behaviours, flashbacks, and sleep/concentration/eating disorders, are perceived by Romanian veterans as having a more pronounced negative impact on the quality of social interactions compared to other symptoms, such as hypervigilance or irritability.
3. Active coping mechanisms, such as emotional resonance or post-traumatic growth, are associated with better social adaptation and a reduced perception of the negative impact of PTSD symptoms on interpersonal relationships among Romanian veterans.
4. The presence and quality of support relationships (social and general) with family and friends after deployment play a significant role in the reintegration process of Romanian veterans and can mitigate the negative effects of PTSD on social relationships.

Hypotheses (Quantitative)

1. SUM_PTSD scores are significantly associated with medical status and therapy time.
2. SUM_SAS-M scores are significantly associated with medical status and therapy duration.
3. There are no significant differences between the variances/distribution of scores across different groups.
4. Medical condition and therapy time groups significantly influence SUM_SAS-M scores.
5. Medical condition and therapy time groups significantly influence SUM_PTSD scores.
6. There is a significant negative relationship between SUM_PTSD scores and SUM_SAS-M scores (inversely proportional).

3. METHOD

Study Design

The present study employed an exploratory sequential Mixed-Methods design, commencing with a qualitative phase and subsequently followed by a quantitative phase. This approach facilitated an exhaustive examination of the intricate phenomena through interviews and subsequent statistical analysis. This analysis

enabled the discernment of relationships and patterns, thereby offering both a comprehensive understanding and statistical flexibility.

Participants

The study's sample population comprised of 93 Romanian war veterans. The qualitative phase of the study involved in-depth interviews with four male veterans (N=4). The quantitative phase of the study incorporated survey data from a total of 93 male veterans, with the initial four participants (N = 93) also included in the analysis. The participants involved in the qualitative phase were affiliated with the INVICTUS Romania organization, while the participants involved in the quantitative phase were both members and non-members of the organization. The age range of participants in the quantitative phase was not explicitly delineated as a selection criterion; however, it is described in the descriptive analysis (Table 1 in the original document shows age descriptive statistics for N=93).

Measures

PTSD Checklist for DSM-5 (PCL-5) –to test PTSD level as SUM_PTSD.

Social Adaptation Self-evaluation Scale –to test social functioning as SUM_SAS-M

Medical Conditions: A categorical variable indicating the presence and type of medical conditions (0=None, 1=Disabilities, 2=Chronic Illnesses, 3=Both).

Therapy/Recovery History: An ordinal variable indicating the duration of therapy or recovery sessions (0=None, 1=Approximately 1 year, 2=Approximately 2 years, 3=3 years and more).

Data Collection

A qualitative study was carried out using semi-structured interviews, which received approval from researchers in psychiatry and psychology. The purpose of these interviews was to explore various aspects of veterans' post-mission reintegration, including the psychological challenges faced, social relationships, coping strategies, access to healthcare services, and other pertinent issues. Additionally, a thorough collection of quantitative data was obtained through surveys administered both online and in print. These surveys included specified instruments and were distributed to the entire sample.

Data Analysis

Thematic coding, memo-writing, and visual analysis techniques, including Code Relations Browser and Code Trends were used to identify common themes. relationships between constructs, and patterns within individual narratives.

Quantitative data were analysed using IBM SPSS Statistics (latest version 30). Preliminary analyses included descriptive statistics (means, standard deviations, skewness, kurtosis) and tests for normality (Shapiro-Wilk, Kolmogorov-Smirnov) and homogeneity of variances (Levene's test). Considering the observed deviations from parametric assumptions, non-parametric methods and robust procedures were employed. Spearman's rho correlation coefficient was utilised to evaluate the relationships between variables, with the bootstrapping method (5000 re-samples, BCa 95% CI) employed to ensure the robustness of the findings. Also, Hierarchical

linear regression[1], employing bootstrapping (5000 re-samples, BCa 95% CI), was conducted to examine the predictive capacity of medical conditions and therapy history on SUM_PTSD and SUM_SAS-M scores. The relationship between SUM_PTSD and SUM_SAS-M scores was then examined using simple linear regression with bootstrapping (1000 re-samples, BCa 95% CI).

Triangularisation was employed to integrate the findings from both the qualitative and quantitative strands, thereby providing a more comprehensive and nuanced understanding of the research problem. This was achieved by validating the quantitative results through qualitative insights and explaining the quantitative non-findings through rich narrative data.

4. RESULTS

Qualitative Findings

The following section presents the findings derived from the qualitative research. A qualitative analysis of interviews with four veterans revealed several key themes related to post-mission reintegration and psychological well-being. Thematic analysis revealed prominent themes, including the significant emotional resonance of operational experiences, the utilisation of various coping mechanisms and resilience strategies, and instances of post-traumatic growth. Veterans participated in a discussion on the challenges encountered during the process of social reintegration, with a particular focus on the dynamics of family and friendship relationships. Furthermore, participants identified barriers that impede access to adequate post-traumatic care. Several specific PTSD symptoms have been documented as having a significant impact on social interactions. These symptoms include avoidant behaviours (e.g. isolation), flashbacks and sleep/concentration disturbances as seen in Figure 1. A thorough analysis of the relationships between these variables revealed a multifaceted interplay between emotional resonance, barriers to care, reintegration difficulties, coping mechanisms, post-traumatic growth, and acceptance. It is noteworthy that active coping mechanisms, including engagement in sports (for example, through INVICTUS Romania) and hobbies, emerged as significant factors in managing negative emotional impacts and facilitating adaptation.

[1] for additional research on the application of the bootstrap method to regression (and non-parametric data), see "**Some Bootstrap Methods for Regression and Time Series**", a PhD paper by Blandino from 2021.

Code Co-occurrence Model (Code Intersection)

Figure 1. Code Co-occurrence Model (Code Intersection) PTSD and Social aspects

Quantitative Findings

Quantitative data were analysed for a sample of 93 male veterans. The mean SUM_PTSD score was found to be 34.87 (SD = 11.76), and the mean SUM_SAS-M score was 24.54 (SD = 6.95). The distribution of SUM_PTSD scores exhibited positive asymmetry (Skewness = .94) and was slightly leptokurtic (Kurtosis = 1.01), while SUM_SAS-M scores demonstrated negative asymmetry (Skewness = -.83) with kurtosis approaching normality (.602). The results of the normality tests indicated that both the SUM_PTSD and the SUM_SAS-M scores were significantly non-normal at the global level ($p < .001$ for both via the Shapiro-Wilk and the Kolmogorov-Smirnov tests) as seen in Tabel 1, and Figure 2.

Tabel 1 - Univariate Normality Tests for SUM_PTSD and SUM_SAS-M (N=93)

Variable	Test	Statistic	df	Sig
SUM_PTSD	Shapiro-Wilk	0.955	93	<.001
	K-S (Lilliefors)	0.110	93	<.001
SUM_SAS-M	Shapiro-Wilk	0.950	93	<.001
	K-S (Lilliefors)	0.116	93	<.001

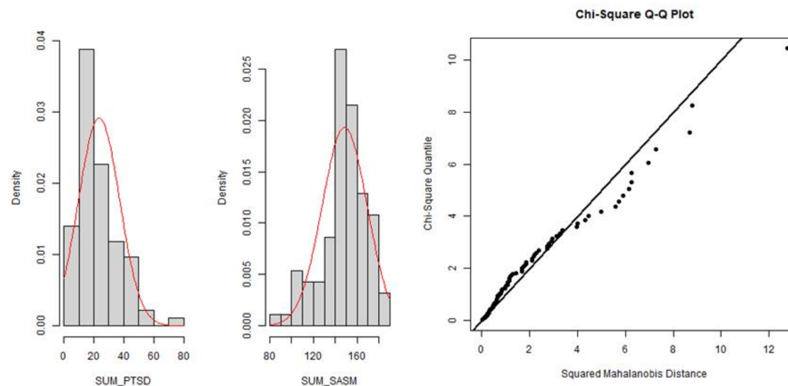

Figure 2. (Left) Univariate Normality Histogram. (Right) Q-Q Plot of SUM_PTSD and SUM_SAS-M

Furthermore, non-normality was observed within specific subgroups defined by medical conditions and therapy history. Levene's test indicated that the assumption of homogeneity of variances was met for SUM_PTSD across groups based on medical conditions and therapy history, and for SUM_SAS-M across medical condition groups. However, the homogeneity of variance was violated for SUM_SAS-M across therapy history groups (p = .013/.049). Spearman's rho correlation analysis, employing bootstrapping for enhanced robustness, revealed a significant negative correlation between SUM_PTSD and SUM_SAS-M scores (ρ = -.317, p = .002, 95% BCa CI [-.494, -.121]), thereby providing support for Hypothesis 6. This finding suggests that individuals with higher PTSD scores are more likely to exhibit lower social adaptation scores. A significant positive correlation of small magnitude was found between SUM_PTSD scores and medical conditions (ρ = .225, p = .030, 95% BCa CI [.016, .418]), providing partial support for Hypothesis 1 in a correlational context. No significant correlations were identified between therapy/recovery history and SUM_PTSD or SUM_SAS-M.

Hierarchical linear regression analysis, employing bootstrapping, did not find statistically significant predictive capacity for medical conditions (Block 1) or therapy history (Block 2, after controlling for Block 1) on either SUM_PTSD or SUM_SAS-M scores in this sample. Block 1 variables explained 7.2% of the variance in SUM_PTSD (R^2 = .072) and 5.6% in SUM_SAS-M (R^2 = .056). Block 2 added an additional 3.8% to the variance in SUM_PTSD and 4.3% in SUM_SAS-M. Individual dummy variables within these blocks were not statistically significant predictors. Thus, Hypotheses 1 (predictive aspect), 2, 4, and 5 were not statistically supported in the regression models. However, simple linear regression with bootstrapping showed that SUM_PTSD scores significantly predicted SUM_SAS-M scores (B = -.514, p = .002 Bootstrap, 95% BCa CI [-.917, -.168]), explaining 11.6% of the variance in SUM_SAS-M (R^2 = .116, Adjusted R^2 = .106), further supporting Hypothesis 6 as seen in Table 2.

Tabel 2. Summary of Simple Linear Regression Predicting SUM_SAS-M from SUM_PTSD (N=93)

Variable	B	SE Bootstrap	p-value Bootstrap	95% BCa CI
SUM_PTSD	-0.514	0.166	0.002	[-0.917, -0.168]
(Constant)	42.471	6.264	<0.001	[30.245, 55.254]

Triangularization

The integration of qualitative and quantitative results yielded a more nuanced interpretation. The strong negative correlation and predictive relationship between PTSD symptoms and social functioning (quantitative finding supporting Hypothesis 6) were richly illustrated by qualitative narratives describing avoidant behaviours and difficulties in social interactions due to trauma-related symptoms (supporting Qualitative Hypothesis 1, 2, and implicitly addressing aspects of Qualitative Hypothesis 3 regarding the prevalence of certain symptoms and Qualitative Hypothesis 4 regarding the need for support).

The quantitative finding that medical conditions and therapy history did not significantly predict PTSD or social functioning (rejecting Quantitative Hypotheses 1, 2, 4, 5) was illuminated by qualitative insights. Veterans' accounts have indicated that the "therapy" received was predominantly physical in nature, with a paucity of psychological interventions. Furthermore, the analysis of qualitative data highlighted the critical aspects of general quantitative research, including active coping mechanisms (e.g. sports, hobbies) and informal social support (e.g. family, Invictus community), as significant moderators of the impact of medical conditions and trauma. These mechanisms potentially serve to buffer the direct predictive effect of medical conditions and trauma in the statistical model, a conclusion that could not be reached solely through quantitative means. The qualitative themes and codes of coping, post-traumatic growth, and acceptance (Qualitative Hypothesis 3) provided a crucial context for understanding the variability in outcomes and the resilience observed despite significant challenges that could not be addressed by a quantitative study. Furthermore, implicit support was provided for Qualitative Hypothesis 4 regarding positive factors.

The findings of the present study, based on a Mixed-Methods approach, revealed that, while PTSD significantly impacts social relationships, the influence of medical conditions and therapy history is complex and likely mediated or moderated by many hidden factors, such as coping strategies and social support. These factors were more deeply explored in the qualitative phase and are more likely to be of a high-quality design.

5. CONCLUSIONS

These findings underscore the significant impact of PTSD on the social functioning of Romanian veterans, highlighting the need for targeted interventions to address trauma symptoms and support social reintegration. The study also reveals the complexity of factors influencing adaptation, emphasizing that while

medical history and therapy are relevant, their influence is intertwined with coping strategies and the quality of social support. The discrepancy between the perceived need for psychological support and the reported prevalence of primarily physical therapy highlights a critical area for improvement in veteran care services in Romania. The findings support the importance of programs promoting active coping and community engagement, such as INVICTUS.

Quantitatively, a significant negative association was found between PTSD symptom severity and social relationship scores (Hypothesis 6 supported), indicating that higher levels of post-traumatic stress are significantly linked to greater difficulties in social adaptation. A significant but small positive correlation was observed between PTSD scores and medical conditions (partial support for Hypothesis 1). However, medical conditions and therapy history did not emerge as statistically significant predictors of PTSD or social functioning in the regression models (Hypotheses 1, 2, 4, 5 not supported predictively), but as reference to something hidden.

Qualitative findings illuminated these statistical results, highlighting the highly individualized nature of trauma impact and reintegration. Key themes included the intense emotional resonance of experiences, the crucial role of active coping mechanisms (such as engagement in sports and hobbies) and informal social support (family, community), and the perceived barriers to accessing adequate psychological care (with therapy often being primarily physical). Qualitative data provided rich context for understanding how factors not fully measured in the quantitative model, like effective coping and strong social support, likely moderate the impact of medical conditions and trauma, helping to explain the lack of significant predictive effects for those variables. Qualitative analysis also supported the negative impact of specific PTSD symptoms (avoidance, flashbacks) on social interactions (Qualitative Hypotheses 1 & 2) and underscored the importance of positive coping strategies (Qualitative Hypothesis 3) and support relationships (Qualitative Hypothesis 4).

Limitations

The present study is subject to certain limitations, including the relatively small sample size for the quantitative phase (N=93), which may have limited statistical power to detect small or moderate effects, also these limitations were addressed to a certain extent by the qualitative component. The qualitative sample size (N=4). However, even in this small sample, important insights have been gained.

Future directions

It is recommended that future research employ larger, longitudinal samples to enhance statistical power and explore causal pathways in post-traumatic adaptation. The development and utilisation of more precise quantitative metrics for therapeutic modalities, coping strategies, and the quality of social support are recommended. Further qualitative and Mixed-Methods research is required to explore barriers to psychological care and to delve deeper into the processes of adaptation. It is conceivable that the utilisation of a Structural Equation Model

(SEM) could serve as a pioneering model in addressing the "quantifying" domain, particularly in the context of research endeavours focused on the identification of "hidden variables" in the realm of trauma. This model has the potential to encompass a wide range of applications, including the study of post-traumatic stress disorder (PTSD) in military personnel and individuals exposed to traumatic events.

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AN INVESTIGATION OF STRESS IN BANGLADESHI CAREGIVERS OF CHILDREN WITH SPECIAL NEEDS

MAHADI-UI-MORSHED[a b], GINIA MIRDHA[c], MD MERAZ HOSSAIN[d], & HAMIDA NAZ[e]

[a] Lead Researcher, Centre for Research in Multidiscipline - CRM, & [b] BONDHU. [c] Assistant Counselling Psychologist, Department of Educational and Counselling Psychology, University of Dhaka, [d] PhD Scholar at National Forensic Sciences University, India. [e] Lecturer, Department of Psychology, Ideal College, Dhanmondi Dhaka- 1205, Bangladesh.

Abstract

This research examines the stress levels experienced by caregivers of children with neurodevelopmental disorders (NDD) in Dhaka, Bangladesh, with a particular emphasis on the impact of demographic factors. A cross-sectional survey methodology was utilized, involving a purposive sample of 564 caregivers. The stress levels were assessed using the stress subscale of the Bangla DASS-21. The findings from one-way ANOVA tests indicated no significant variations in stress scores based on the caregiver's age or gender. Nevertheless, notable differences in stress levels were identified in relation to educational background ($F_{18, 419} = 1.62$; $p = .05$), marital status ($F_{3, 564} = 3.86$; $p < .05$), and religion ($F_{3, 564} = 10.83$; $p < .01$). Correlation analysis revealed a positive association between age and stress levels ($r = .135$, $p < .01$), suggesting that older caregivers reported higher levels of stress. Furthermore, regression analysis demonstrated that caregiver age, educational attainment, and marital status were modest yet significant predictors, accounting for 1.8% ($R^2 = .018$, $p = .001$), 1.6% ($R^2 = .016$, $p = .002$), and 1.0% ($R^2 = .010$, $p = .016$) of the variance in stress scores, respectively. These results underscore the considerable stress burden faced by caregivers, particularly among older individuals, those with lower educational qualifications, and unmarried caregivers, highlighting the necessity for demographic-sensitive support initiatives.

Keyword: *Stress, & Special needs children's caregiver*

1. INTRODUCTION

Compared to caring for a child with usual development, caring for a child with special needs demands a higher level of psychological and physical resilience from

Corresponding author: Hamida Naz
E-mail address: hamida.psy2010@gmail.com

the caregiver (Lach et al., 2009). According to the DSM-5, neurodevelopmental illnesses appear during the developmental stage. These anomalies usually appear before the age of three, usually early in development. Developmental abnormalities that affect social, intellectual, professional, or personal functioning are hallmarks of the aforementioned illnesses. Although the impacts of neurodevelopmental illnesses vary, they frequently have an impact on the individual, family, and society on a mental, emotional, physical, and financial level.

Behavior issues, speech or language impairments, seizures, mobility disabilities, and a decreased capacity to live independently and attain economic self-sufficiency are all possible outcomes of these conditions. Down syndrome, cerebral palsy, autism spectrum disorder, and intellectual disability are examples of neurodevelopmental abnormalities that are frequently observed. The burden of raising a child with a neurodevelopmental handicap influences the development of psychological issues in those who provide care. Compared to the general population, caregivers of children with special needs are more likely to experience stress, anxiety, depression, and social isolation (Fatima et al., 2021). Beginning with the child's first diagnosis and continuing through long-term future planning, caregivers of children with neurodevelopmental disorders face many obstacles.

A study in Bangladesh revealed that caregivers experienced the greatest anguish during the first diagnosis of a neurodevelopmental issue, contemplating the disorder's causes, and organizing jobs and long-term housing for the kid. Substantially heightened parental stress was noted among females, the unemployed, and caregivers with lower educational attainment. The caregiver's stress levels escalated with the early diagnosis of their children. Parental stress escalates with the child's age (Haque et al., 2022). According to Haque et al. (2022), parents of children with neurodevelopmental disorders experience many significant stressors, such as the initial diagnosis, beliefs about the disorder's etiology, making plans for the child's future housing and employment, and dealing with sexuality-related concerns. The gender-specific stress experiences, particularly in mothers, may be affected by the intricate behaviors of children with ASD (Schnabel et al., 2020). Compared to parents of usually developing children, parents of children with autism spectrum disorder (ASD) reported higher levels of anxiety, depression, and stress-related disorders.

These disorders can significantly impair the functioning of families and marriages (Tracey Ward, 2019). Caregivers of children with autism spectrum disorder (ASD) have reported elevated levels of stress, social isolation, and compromised mental health. The mothers of patients exhibited low quality of life and life satisfaction levels (Öz et al., 2020). Schnabel et al. (2020) indicate that parents of children with autism spectrum disorder may develop post-traumatic stress disorder as a result of their children's demanding behaviors. Naheed et al. (2020) suggest that integrating mental health services into the treatment of moms

with children diagnosed with ASD may mitigate the depressive burden frequently encountered by these mothers and improve their overall quality of life. A study in India indicated that 64.3% of caregivers encountered severe stress, 21.7% faced moderate stress, and 13.8% dealt with mild stress (Ramachandran et al., 2020). This study seeks to elucidate the complexities of stress experienced by Bangladeshi caregivers of children with special needs. This study aims to further understand the specific constraints caregivers encounter in this context by analyzing the prevalence, contributing factors, and consequences of stress.

Research Question

What is the nature of stress on caregivers of children with special needs?

Rationale of the study

The incidence of neurodevelopmental disorders has emerged as a significant public health problem worldwide. A cross-sectional study in a rural area of Bangladesh revealed that the prevalence of autistic spectrum disorder and cerebral palsy was 0.75 and 5.6 per 1,000 children aged 18 to 36 months, respectively (Akhter et al., 2018). Researchers have underscored the significance of the caregiver's psychological well-being due to its secondary influence on the child's health, development, and functioning (Catalano et al., 2018). Nevertheless, the psychological well-being of caregivers for these children remains under examination. So, this study sought to address the vacuum by presenting a considerable number of research studies. The objective of the study is to ascertain the stress levels experienced by caregivers of children with neurodevelopmental problems. Furthermore, only a small number of studies have been carried out in poor countries; the bulk have been carried out in wealthy countries. This study would be important for the world community as well as for Bangladesh. Researchers, practitioners, psychologists, psychiatrists, and legislators would all benefit from this study. Additionally, it will add new insights to the existing study concerning the mental health state of caregivers.

2. OBJECTIVE

2.1. OBJECTIVE

Main Objective

To explore the stress on caregivers of special needs children. .

Specific objectives

i) To find out the stress level of caregivers of special needs children according to different age, gender, educational level, marital status, and religion.

ii) To explore the relationships among caregiver age, gender, marital status, religion, educational level, and stress levels.

iii) To see whether the caregiver's age, marital status, and educational level predict stress.

3. METHOD

The study's methodology is described in full in this section. It covers the following: area, target population, sample and sampling strategy, instrument selection and use, study design, data collection process, and data analysis plan:

3.1 Target Population

The target population for this study comprised caregivers of children with special needs in Bangladesh.

3.2 Sample and Sampling Technique

A sample of 564 participants from the Dhaka Division was selected using a purposive sampling method. The study included caregivers who were willing to participate and whose children were medically diagnosed with neurodevelopmental disorders.

3.3 Research Design

A cross-sectional survey design was employed for this study. Data were collected at a single point in time, allowing for a snapshot of the mental health condition of caregivers.

3.4 Measuring Instruments

A personal information form (PIF) was used to collect personal and demographic information about participants' age, gender, socio-economic status, etc. The "Stress subpart of DASS 21 Scale" was used to measure participants' stress levels.

3.5 DASS 21 Scale (Stress Subpart)

The DASS-21 was created by Lovibond and Lovibond in 1995. This iteration of the DASS comprises a legitimate set of three self-report scales of 21 items, specifically formulated to assess the adverse emotional states of depression, anxiety, and stress. Each item utilizes a 4-point Likert scale to assess the frequency

or severity of the participant's experiences during the past week, focusing on states rather than attributes. The scores range from 0, indicating that the client perceived the item as entirely inapplicable, to 3, signifying that the customer regarded the item as very applicable or relevant most of the time, with scores of 1 and 2 representing intermediate levels of applicability. The guidelines emphasize that there are no correct or incorrect answers. Each subscale comprises 7 questions. The aggregate scores for each of the 7 items answered by each participant across the 4 sub-scales are assessed according to the severity rating index.

The scale has been revalidated within Bangladeshi culture. The modified scale has strong face and content validity. Cronbach's alpha for the total score (α = 0.989) and for the subscales of depression (α = 0.987), anxiety (α = 0.957), and stress (α = 0.964) demonstrate the scale's strong reliability within Bangladesh (Alim et al., 2014).

This study concentrates on assessing the stress levels of caregivers of children, utilizing items 1, 6, 8, 11, 12, 14, and 18 from the Bangla DASS-21, which showed satisfactory reliability with a Cronbach's alpha of 0.833 (Morshed, Mirdha, Hossain, & Naz, 2024).

3.6 Analysis Plan

The collected data were analyzed using SPSS (V.26). Descriptive statistics, correlation, One-way ANOVA and regression were employed to explore the relationships between demographic variables and caregiver stress level.

3.7 Procedure

First, consent was obtained to gather data and build relationships with participants to collect precise data from them. Once they had established a rapport, the researcher went over the investigation's objectives while assuring them that their responses would remain confidential. Subsequently, the participants were directed to carefully read the components and provide prompt answers on the Personal Information Form(PIF).At the beginning of the data collection, permission was taken, and a rapport was built with The caregivers of the children. Then the participants were informed about the study's purpose and the risks, benefits, and privacy issues. Next, participants were to complete a questionnaire containing a personal information form and a Bengla version of the Stress scale (from DASS-21scale) after reading the questionnaire instructions. They were asked to complete it as soon as possible without wasting time. Afterward, upon completion of the questionnaire, participants were thanked for their cooperation in the research.

4. RESULTS

Table 1. *Summary of One-Way ANOVA of Stress of Caregiver with NDD Child according to Different Age*

		SS	Df	MS	F	P
Stress	Between groups	6933.86	56	123.82	1.21	.147
	Within groups	51809.26	508	101.99		
	Total	58743.12	564			

Table 1 reveals that there are no significant differences in stress among the caregivers with NDD children of different ages ($F_{56, 564} = 1.21$; $p > .05$) which indicates that caregivers' stress levels do not vary according to different ages.

Table 2. *Summary of One-Way ANOVA of Stress of Caregiver with NDD Child according to Gender*

		SS	df	MS	F	P
Stress Score	Between groups	10.25	1	10.25	.098	.75
	Within groups	58732.87	563	104.32		
	Total	58743.12	564			

Table 2 reveals that there are no significant differences in stress among the caregivers with NDD children of different genders (male or female) ($F_{1, 564} = .098$; $p > .05$) which indicates that caregivers' stress levels do not vary according to gender.

Table 3. *Summary of One-Way ANOVA of Stress of Caregiver with NDD Child according to educational qualification*

		SS	Df	MS	F	P
Stress score	Between groups	2928.801	6	488.133	4.880	.001
	Within groups	55814.321	558	100.026		
	Total	58743.122	564			

Table 3 reveals that there are significant differences in stress scores among the caregivers with NDD children according to their educational background ($F_{6, 564} = 4.880$; $p = .001$) which indicates that caregivers' stress level varies according to their educational background.

Table 4. *Summary of One-Way ANOVA of Stress Score of Caregiver with NDD Child According to Marital Status*

		SS	df	MS	F	P
Stress score	Between groups	1189.05	3	396.35	3.86	.01
	Within groups	57554.08	561	102.59		
	Total	58743.12	564			

Table 4 reveals that there are significant differences in stress among the caregivers with NDD children according to their marital status (married or unmarried) ($F_{3, 564} = 3.86$; $p < .05$) which indicates that caregivers' depression level varies according to their marital status.

Table 5. *Summary of One-Way ANOVA of Stress of Caregiver with NDD Child According to Religion*

		SS	df	MS	F	P
Stress score	Between groups	2180.55	2	1090.28	10.83	.000
	Within groups	56562.568	562	100.65		
	Total	58743.12	564			

Table 5 reveals that there are highly significant differences in stress among the caregivers with NDD children according to their religion ($F_{3, 564} = 10.83$; $p < .01$) which indicates that caregivers' stress level significantly varies according to their religion.

Table 6. *Pearson Product Moment Correlation among Caregiver's Age, Gender, Marital Status, Religion, Educational level and Total Stress*

	1	2	3	4	5	6
1. Caregiver Age	1					
2. Caregiver Gender	.065	1				
3. Marital Status	.408**	-.175**	1			
4. Religion	-.007	-.040	-.063	1		
5. Education	-.365**	.190**	-.325**	.077	1	
6. Stress	.135**	-.013	.102*	.009	-.128**	1

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

To assess the size and direction of the linear relationships among caregiver age, gender, marital status, religion, educational level, and stress level, a bivariate Pearson's product-moment correlation coefficient (r) was calculated. The correlations among these variables revealed several significant associations. To

assess the size and direction of the linear relationships among caregiver age, gender, marital status, religion, educational level, and stress level, a bivariate Pearson's product-moment correlation coefficient (r) was calculated. The correlations among these variables revealed several significant associations.Caregiver age was positively correlated with total stress score, *r* (564) =.135, $p < .01$, indicating that older caregivers reported higher stress levels. A significant positive correlation was also observed between marital status and total stress score, *r* (564) = .102, $p < .05$, suggesting that marital status may be associated with increased stress among caregivers. In contrast, caregiver education level was negatively correlated with stress, *r* (564) = -.128, $p < .01$, showing that caregivers with higher education levels tended to report lower stress. Additional correlations showed a positive association between caregiver age and marital status, *r* (564) = .408, $p < .01$, and a negative correlation between marital status and gender, *r* (564) = -.175, $p < .01$. Education level was also negatively correlated with age, *r* (564) = -.365, $p < .01$, and marital status, *r* (564) = -.325, $p < .01$. There was no significant correlation between religion and other variables, suggesting that caregiver stress and demographic factors were independent of religious background.

Table 7. *Selected Statistics from Regression of Stress on Caregiver's Age*

Variables	R	R^2	change	P
Age	.135	.018	.018	.001

Dependent variable: Stress

The results of Table 7 indicate that caregiver age was a modest but significant predictor of stress, explaining 1.8% of the variance in stress levels, $R^2 = .018$, $p = .001$. This suggests that caregiver age has a small yet statistically significant impact on stress, with older caregivers reporting slightly higher stress.

Table 8. *Simple Regression of Stress on Caregiver's Age*

Model	Unstandardized Coefficients		Standardized Coefficients	t	P
	B	Std. Error	Beta		
(Constant)	9.729	1.476		6.590	.000
Age	.119	.037	.135	3.224	.001

Dependent variable: Stress

Stress The Table 8 show that the unstandardized coefficient (B) for caregiver age is .119, indicating that as caregiver age increases by one unit, stress score increases by .119 units. This interpretation holds if the effects of other variables are held constant. The standardized beta ($\beta = .135$) reveals that as caregiver age increases by one standard deviation, stress score increases by .135 standard

deviations, underscoring a small but positive relationship between age and stress levels.

Table 9. *The Overall F-test for Regression of Stress on Caregiver's Age*

Sum of variations	SS	df	MS	F	P
Regression	1064.605	1	1064.605	10.392	.001
Residual	57678.517	563	102.449		
Total	58743.122	564			

The results presented in Table 9 indicate that caregiver age is a significant predictor in the regression model for stress, with the overall model fit showing $F_{(1, 564)} = 10.392$, $p = .001$. This result confirms that caregiver age significantly contributes to explaining variations in stress levels, indicating a meaningful, though modest, impact on stress.

Table 10. *Selected Statistics from Regression of Stress on Caregiver's Educational Level*

Variables	R	R²	R² change	P
Educational level	.128	.016	.015	.002

Dependent variable: Stress

Table 10 shows that the caregiver's educational level was a statistically significant predictor of stress, accounting for 1.6% of the variance, $R^2 = .016$, $p = .002$. This result suggests that caregivers with lower educational levels experience higher levels of stress, highlighting education as a meaningful but modest factor in predicting stress among caregivers.

Table 11. Simple Regression of Stress on Caregiver's Educational Level

Model	Unstandardized Coefficients		Standardized Coefficients	t	P
	B	Std. Error	Beta		
(Constant)	16.796	.924		18.175	.000
Educational level	-.872	.285	-.128	-3.062	.002

Dependent variable: Stress

Table 11 reveals that the unstandardized coefficient (B) for caregiver educational level is -.872. This value suggests that as educational level increases by one unit, stress score decreases by .872 units, assuming other variables remain constant. The standardized beta ($\beta = -.128$) indicates that as educational level increases by one standard deviation, stress score decreases by .128 standard deviations, suggesting a modest negative relationship between educational level and stress.

Table 12. *The Overall F-test for Regression of Stress on Educational Level*

Sum of variations	SS	Df	MS	F	P
Regression	962.212	1	962.212	9.376	.002
Residual	57780.910	563	102.630		
Total	58743.122	564			

Table 12 demonstrates that caregiver's educational level is a significant predictor in the regression model for stress, as indicated by the overall F-test, $F_{(1, 564)} = 9.376$, $p = .002$. This result suggests that educational level plays a statistically significant role in predicting caregiver stress, with higher educational levels associated with lower stress scores, thus providing a good model fit.

Table 13. *Selected Statistics from Regression of Stress on Caregiver's Marital Status*

Variables	R	R²	R² change	P
Marital status	.102	.010	.010	.016

Dependent variable: Stress

As shown in Table 13, marital status emerged as a significant predictor of stress, explaining 1.0% of the variance, $R^2 = .010$, $p = .016$. This finding indicates that caregivers' marital status has a slight but statistically significant association with their reported stress levels, suggesting that relationship status may play a role in caregiver stress.

Table 14. *Simple Regression of Stress on Caregiver's Marital Status*

Model	Unstandardized Coefficients		Standardized Coefficients	t	P
	B	Std. Error	Beta		
(Constant)	10.514	1.614		6.514	.000
Marital Status	1.817	.750	.102	2.423	.016

Dependent variable: Stress

The results in Table 14 show that the unstandardized coefficient (B) for marital status is 1.817, implying that a change in marital status by one unit leads to an increase of 1.817 units in stress, assuming the effects of other variables are constant. The standardized beta ($\beta = .102$) indicates that a one standard deviation increase in marital status corresponds to a .102 standard deviation increase in stress, suggesting a slight positive association between marital status and stress.

Table 15. *The Overall F-test for Regression of Stress on Caregiver's Marital Status*

Sum of variations	SS	Df	MS	F	P
Regression	606.262	1	606.262	5.871	.016
Residual	58136.860	563	103.263		
Total	58743.122	564			

The findings in Table 15 show that marital status significantly predicts stress in the regression model, with the overall F-test yielding $F_{(1, 564)} = 5.871$, $p = .016$. This ANOVA result underscores that marital status has a significant effect on stress levels among caregivers, making it a noteworthy predictor in the model.

5. DISCUSSION

The first objective was to determine stress levels among caregivers of children with special needs across age, gender, educational level, marital status, and religion. ANOVA results indicated no significant differences in stress levels by age or gender, suggesting consistently high stress across these groups. This finding contrasts with prior studies, such as Jeevannavar et al. (2024), which reported increased stress as caregiving demands grow with a child's age. Our results may reflect the consistently high stress caused by limited awareness, social support, and financial constraints. Similarly, although prior studies (Shin & McDonaugh, 2008) found higher stress among mothers due to their children's impairments, shared support systems and economic challenges in Bangladesh may result in similar stress levels among male and female caregivers.

However, significant differences in stress scores were found based on educational level, marital status, and religion. Caregivers with lower educational levels, those who were unmarried, and those participating in religious activities reported higher stress. These findings align with prior research (Almogbel et al., 2017; Perzow et al., 2018), which links higher education to better coping strategies and a stronger understanding of children's conditions, reducing stress. Similarly, Gray (2006) highlighted the greater challenges single parents face in managing caregiving. Research by McWhirter et al. (2021) suggests that participation in religious activities may provide social support that buffers stress and improves caregiver satisfaction, which may vary across religious beliefs and values.

The second objective was to explore relationships among caregiver age, gender, marital status, religion, educational level, and stress. Findings indicated that older caregivers experienced higher stress, potentially due to the demands of prolonged caregiving. Married caregivers also tended to report higher stress, likely due to additional family responsibilities. Higher education, however, was associated with lower stress, suggesting that education improves access to resources and coping mechanisms. Demographic variables were interrelated, with

older caregivers more likely to be married and having higher education levels compared to younger, single caregivers. A slight negative relationship between gender and marital status warrants further investigation, although the lack of substantial correlation between religion and other demographics suggests that caregiving stress is influenced more by caregiving demands than religious background.

The third objective was to determine if caregiver age, marital status, and educational level predict stress levels. Findings indicated that each factor plays a distinct role in predicting stress. Higher education was a significant predictor, with more education associated with lower stress, suggesting that education equips caregivers with essential coping skills and resources. Marital status also predicted stress, highlighting that marital responsibilities may contribute to stress, although support from a partner could alleviate some of this. Age was positively linked to stress, indicating that older caregivers might experience slightly higher stress, likely due to long-term caregiving demands.

Overall, these findings suggest that caregiver support strategies should consider demographic factors, particularly age, marital status, and education, to provide targeted resources that address specific caregiving stress factors. Tailoring interventions to demographic needs may help mitigate stress and support caregivers more effectively.

Limitations and Challenges

The study has several limitations that should be acknowledged. The study faced constraints due to limited funding, which restricted the scope of data collection and analysis. Future studies would benefit from additional resources to support a more extensive data collection process and a thorough analysis, allowing for richer insights and broader generalizability.

Recommendation and Future Implications

The study's goal is to examine the stress levels of caregivers for children with special needs. Based on the findings, future studies should investigate the effects of various factors on caregiver stress and create appropriate therapeutic measures. Such research could provide useful insights into caregivers' mental health and inform focused stress reduction strategies. These recommendations are intended to enhance the overall quality of support provided to caregivers managing the problems associated with special needs children.

Conclusion

The mental health of caregivers is an essential concern, particularly for those supporting children with special needs. This study highlights the significance of age, educational level, and marital status as indicators of stress in caregivers. The results imply that stress levels could be successfully decreased by treatments targeted at improving caregivers' coping skills and support systems, particularly for

those with lower educational attainment and single parents. Furthermore, caregivers may benefit from the resources offered by religious and social support systems, which can lessen the psychological effects of providing care. Stakeholders can improve the mental health and general well-being of caregivers of children with NDD by addressing these concerns.

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ANALYZING THE CAUSES BEHIND THE JULY MOVEMENT IN BANGLADESH 2024

SADIA SHARMIN[a], & MAHADI-UL-MORSHED[b]

[a] Sadia Sharmin, Clinical Psychologist, Centre for Psychological Health, UK & BD, [b] Mahadi-Ul-Morshed, Head, Research Division, Centre For Research In Multidiscipline - CRM, & BONDHU.

Abstract

The July Movement was happened in Bangladesh due to protest against autocratic government who ruled very rudely, tortured the people, killed about 1500 and injured more than 20,000 people in July, 2024 .he present research was conducted to see the causes of the July Movement in Bangladesh according to the perspective of the students. To fulfil the purpose of the research 375 under –graduate and post –graduate students who were directly participated in the July Movement were taken as participants .Participants were taken from four division of Bangladesh by purposive sampling technique.To find out the causes of this Personal Information Form was used to collect data from the participants .The data were analyzed by SPSS(version no.26). The findings of the present study revealed that-social class ,family income level, lack of freedom of speech , political pressure, political violence, lack of social support , facing injustice and lack of social protection were the significant causes of the July Movement from the perspective of the students. The conclusion was taken into account that facing discrimination, facing injustice & political violence, the students were directly involved in the July Movement and that might be the causes of the July Movement of Bangladesh.

Keywords: *Causes, July Movement, & Bangladesh*

1. INTRODUCTION

Bangladesh has a glorious history of mass movement. After a nine-month battle against Pakistani forces in 1971, it gained its independence, and its citizens have remained steadfast in their defense of their democratic rights. However, the way the populace accepted the previous Prime Minister's overly authoritarian rule

Corresponding author: Mahadi-Ul-Morshed
E-mail address: mahadi.psy2006@gmail.com

over the course of the last fifteen years (2009–2024) led many to believe that, even with more powerful forces on the ground, it is now impossible to carry out similar movements or that some of the earlier triumphs would not have materialized if they had taken place in the modern era.

Disaster, war & political violence are major traumatic events that share the important quality of being outside of people's control, occurring to large groups of people that share a social space (e.g-city, nation) and have the potential to cause great harm psychologically or physically (Hobfoll,1989, & 1998). The young people in July and August of 2024 took it upon themselves to demonstrate that the ancient spirit of battling injustice is still alive and much stronger in the modern day. And the world watched in wonder as the student-led mass movement brought down the autocratic system, which was long believed to be unbeatable.

The movement continued 36 days at stretch .At least 1200 died and thousands suffered injuries, mostly in police shootings, throughout the protests. It is found from research that political violence caused physical damage and psychological distress, anxiety & depression (Galea, et al 2002). Political violence is a complex phenomenon influenced by various factors. These include socio-economic grievances, political exclusion, ideological radicalization, ethnic or religious tensions, territorial disputes & power struggles. In contexts of inequality, poverty & marginalization individuals/ groups may resort to violence as a means to enforce their beliefs, challenge existing power. Deprivation, or the willful denial of fundamental needs and human rights, is another aspect of political violence as defined by the World Health Organization (WHO, 2002). Examples include restrictions on the right to free speech, such as depriving people or activists who criticize a regime of access to food, education, healthcare, and sanitation (Robben, 2005).

De Jong et al. (2008) conducted a study in the Indian Kashmir Valley and discovered that the most frequently reported coping mechanisms for political violence were isolation, aggressive behavior, and stopping communication with others (64.1%, 46.1%, and 36.9%, respectively). These strategies were far more common than talking to others (22.9%) or asking family for support (12.4%). The intentional use of force and authority to further political objectives is known as political violence (WHO, 2002). Political violence, according to the WHO (2002), is defined as physical and psychological acts that are intended to harm or intimidate populations. Examples include home demolitions, detentions, arrests, torture, and shootings or aerial bombardments (Basoglu, Livanou & Crnobaric, 2005; Jong et al, 2002; Hobfol et al, 2007).

The ways that social structures (such as the legal, cultural, educational, and healthcare systems) subtly function as the "Social machinery of oppression" (Farmer, 2006:307) to routinely, methodically, and purposefully prevent the realization of full human potential through unequal arrangements of social,

economic, and political power are closely linked to political violence (Farmer et al., 2004, 2006). Political upheavals and rebellions, followed by the violent repressions that define political violence, are sometimes caused by structural inequalities based on factors such as socioeconomic class, nationalities, or ethnic groupings (Cairns et al, 1998; de Jong, 2010).

The presence of political coercion and violence significantly compromises individuals' ability to engage with and trust in social and civic life. This deterioration fosters a sense of isolation and encourages people to retreat from societal involvement. Consequently, individuals begin to lose faith in others, as well as in the justice system, government institutions, and the principles of democracy. This decline in trust ultimately leads to a reduced willingness or capacity to participate in various activities within society, further deepening their sense of alienation. When individuals are subjected to political coercion and violence, their ability to engage in and trust social and civic life is severely compromised. This situation often results in increased isolation and a withdrawal from active participation in society. Such a decline not only affects their faith in fellow citizens but also undermines their trust in justice, governmental institutions, and the democratic process itself. Ultimately, this erosion of trust can lead to a diminished willingness or capacity to engage in a variety of societal activities, perpetuating their disconnection from the community.

Political violence, which takes the form of repression, torture, and forced exile, is often aimed at those perceived as the most significant threat to the prevailing oppressive social structure (Blum, 2000; Esparza, 2005; Robben, 2005). This kind of political coercion and violence undermines individuals' ability to engage in and trust social and civic life, resulting in greater isolation and withdrawal from society. Such decline impacts individuals' faith in others, as well as in justice, governmental institutions, and democracy itself, ultimately reducing their willingness or capacity to participate in various societal activities. According to reports by Esparza (2005) and Lykes et al. (2007), withdrawal, suspicion, mistrust, and experiences of injustice lead to individuals becoming isolated from the wider community and social life as a result of political pressure and violence. Studies show that injustice prevails and truth is frequently overlooked through systems of oppression, political authority, coercion, and violence (Rotberg, 2000).

A community is typically characterized as a network of social connections, frequently based in a specific physical location, which includes shared beliefs and circumstances. This connectedness is vital for the health and well-being of individuals, especially when they face significant human tragedies. According to

Johnston (2005), their research indicated that social communication, social networks, and social support were hindered by political pressure and violence. Individuals may limit their social actions in an effort to safeguard themselves from political violence, as noted by Skidmore in Burma (2003) and Esparza in Guatemala (2005).

People lived in terror and were unable to effectively assert their rights because of the autocratic government's use of violence and political pressure (Hayner, 2001). The previous administration in Bangladesh was led by an authoritarian who gave the police and members of his own political party orders to commit acts of violence all around the nation. In addition, the previous administration destroyed the nation's educational system and economic growth and development while weakening social norms, morals, social networks, and social support systems through the use of violence, political pressure, and political power. According to several studies, political pressure and violence impede economic progress and the infrastructure of society (Skidmore, 2003; Lykes et al, 2007; Esparza, 2005; Ugalde et al, 2000).

Research Question

What are the causes of the July Movement who directly took part to this movement from the perspective of the students (among under graduate and post graduate students)?

Rationale of the study

In our country there was no movement like July Movement before. In this July Movement more than 20,000 persons were injured and 1500 people were killed., so it is necessary to know the causes of this movement why people were directly involve the movement. If we find out the causes of movement, then the government and politician would be taken proper preventive measures in future as previously no one did this type of this research.

2. OBJECTIVE

2.1. OBJECTIVE

To find out the causes of July Movement in Bangladesh who directly took part to this movement (among under graduate & post graduate students).

Specific objectives

i) To find out the social condition/social class of under graduate & post graduate students which influenced to attend directly to this July Movement.

ii) To explore out the economic condition /family income of under graduate & post graduate students which leaded to attend in the July Movement directly.

iii) To search the condition of freedom of speech among under graduate & post graduate students which leaded to directly attend in the July Movement.

iv) To find out the condition of facing injustice among under graduate & post graduate students which leaded to actively participate in the July Movement.

v) To find out the political pressure which was faced by the under graduate & post graduate students and this leaded to actively participate in the July Movement.

vi) To find out the condition of political violence which faced by the under graduate & post graduate students which leaded them to directly involve in this July Movement.

vii) To find out the condition/position of lack of social support among under graduate & post graduate students which leaded to directly involve in the July Movement.

viii) To find out the real condition /position of lack of social protection among under graduate & post graduate students which leaded to actively participate in the July Movement.

3. METHOD

Target population were under graduate and post graduate students who took part directly in the July Movement in Bangladesh 2024. The inclusion criteria of the samples (under graduate & post graduate students) were who took part directly at least 5 days in the movement. The exclusion criteria of the sample as under graduate and post graduate who directly involved & injured in the July Movement.

3.1 Sample and Sampling Technique

The sample for the present study comprised of 375 undergraduate & post graduate students from Dhaka, Chittagong, Sylhet & Rajshahi city. The samples were between 20 years to 25 years of age. Purposive sampling technique was applied for collecting data.

3.2 The instruments

“The demographic data” of the respondents were recorded in PIF.

The researchers developed the Personal Information Form (PIF) by reviewing literature review of movements. The PIF was a structured form .This form was designed to collect personal information of the sample like-age, sex ,education level, family members, social class, economic level, parental educational background, parental occupation, lack of social support, lack of social protection,

lack of freedom of speech , facing injustice, political pressure's level and political violence's level.

3.3. Procedure

First, consent was obtained to gather data and build relationships with participants to collect precise data from them. Once they had established a rapport, the researcher went over the investigation's objectives while assuring them that their responses would remain confidential. Subsequently, the participants were directed to carefully read the components and provide prompt answers on the Personal Information Form (PIF). The respondents were instructed to quickly answer the statements and carefully read the items/statements. They were also asked not to leave any item / statement on the PIF. They were instructed to select the corresponding box and to be informed that there was no right or wrong response. They were ensured that the information would be kept private and used exclusively for research. When they completed the work, they received a lot of praise. On average an estimated 8 to 10 minutes were needed for each respondent to complete the PIF. The collection of all data took one month.

3.4. The design

A cross-sectional survey design was used for the present study. All data were collected at a single point in time.

4. RESULTS

In the present study the collected data of each participant's responses were scored according to the scoring principle of Personal Information Form (PIF) Then the obtained data were fed into computer for analyzing of SPSS. The obtained results are presented in the table.

Table 1 Economic Condition of participants in July movement in Bangladesh

	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	5	1.3	1.3	1.3
Lower Class	58	15.5	15.5	16.8
Middle Class	301	80.3	80.3	97.1
Upper Class	11	2.9	2.9	100.0
Total	375	100.0	100.0	

Table 1 showed that the Economic condition as Social class of participants according to their responses and percent. It is shown that 301 belongs to Middle class & 80.3%; 58 belongs to Lower Class & 15.5%; 11 belongs to Upper Class with 2.9%.

Table: 2 Family Income level of the participants

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	0.8	.8	.8
Lower than 30,000	143	38.1	38.1	38.9
31,000-50,000	160	42.7	42.7	81.6
51,000-1,00000	53	14.1	14.1	95.7
Above 1,00000	16	4.3	4.3	100.0
Total	375	100.0	100.0	

The table - 2 showed that the Family Income of the participants according to their response & percentage. It is shown that 160 belongs to 31,000 to 50,000 thousand income category & 42.7% ;143 belongs to Lower than 30,000 thousand income &38.1%; 53 belongs to 51,000 –1,00000 income & 14.1% and 16 belongs to Above 1,00000 income &4.3%.

Table: 3 Lack of Freedom of Speech of the participant

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	.8	.8	.8
Mid Level	168	44.8	44.8	45.6
Moderate level	138	36.8	36.8	82.4
Severe level	66	17.6	17.6	100.0
Total	375	100.0	100.0	

The table - 3 showed that the Freedom of Speech of the participants according to their response & percentage. It is shown that 168 belongs to Mild level & 44.8% ;138 belongs to Moderate level & 36.8% and 66 belongs to Severe level & 17.6%.

Table: 4 Facing Injustice of the participants

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	1.6	1.6	1.6
Mild level	101	26.9	26.9	28.5
Moderate level	170	45.3	45.3	73.9
Severe level	98	26.1	26.1	100.0
Total	375	100.0	100.0	

The table - 4 showed that the Facing Injustice of the participants according to their response & percentage. It is shown that 101 belongs to Mild level & 26.9% ;170 belongs to Moderate level & 45.3% and 98 belongs to Severe level &26.1%.

Table: 5 Facing Political Pressure of the participants

	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	8	2.1	2.1	2.1
Mild level	161	42.9	42.9	45.1
Moderate level	122	32.5	32.5	77.6
Severe level	84	22.4	22.4	100.0
Total	375	100.0	100.0	

The table -5 showed that the Facing Political Pressure of the participants according to their response & percentage. It is shown that 161 belongs to Mild level & 42.9%; 122 belongs to Moderate level & 32.5% and 84 belongs to Severe level &22.4%.

Table: 6 Facing Political Violence of the participants

	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	8	2.1	2.1	2.1
Mild level	171	45.6	45.6	47.7
Moderate level	135	36.0	36.0	83.7
Severe level	61	16.3	16.3	100.0
Total	375	100.0	100.0	

The table - 6 showed that, the Facing Political Violence of the participants according to their response & percentage. It is shown that 171 belongs to Mild level & 45.6% ;135 belongs to Moderate level & 36.0% and 61 belongs to Severe level & 16.3%.

Table:7 Lack of Social Support of the participants

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	1.6	1.6	1.6
Mild level	168	44.8	44.8	46.4
Moderate level	141	37.6	37.6	84.0

Severe level	60	16.0	16.0	100.0
Total	375	100.0	100.0	

The table -7 showed that the Facing of Lack of Social Support of the participants according to their response & percentage. It is shown that 168 belongs to Mild level & 44.8%; 141 belongs to Moderate level & 37.6% and 60 belongs to Severe level &16.0%.

Table:8 Lack of Social Protection of the participants

	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	4	1.1	1.1	1.1
Mild level	129	34.4	34.4	35.5
Moderate level	168	44.8	44.8	80.3
Severe level	74	19.7	19.7	100.0
Total	375	100.0	100.0	

From the table - 8, the Lack of Social Protection of the Participants according to their response and percentage. It is shown that 129 belongs to the Mild level & 43.4%; 168 belongs to the Moderate level & 44.8% and 74 belongs to the Severe level &19.7%.

5. DISCUSSION
6.

Violence, conflict, political pressure and military occupation may have a significant impact on public health influencing both mental and physical well-being Political violence can also lead to a serious decline in economic conditions, social and educational services, the availability of food , goods & health facilities and the availability of jobs and income in low - income areas of the world.

Study showed that political violence as torture and witness of killing has been related with elevated symptoms of health (Basu,2004) and this current research also support the research . Generally disrupted emotional control such as extremely high or low anxiety level, is likely the cause of experiencing or facing excessive aggression and violence. Political violence was found to be related with people's health (Basoglu, et al 2005;Steel et al 2009) and this study is similar to the present study.

Due to political pressure and political violence, the participants' family income and economic condition of the current research were affected and these were similar to the research findings of de Jong (2010), Cairns et al (1998), Farmer (2004). Another specific objective of this present research was freedom of speech

was suppressed by political pressure and political violence and this was similar to the study of Rotberg (2000).

Faced injustice by the participants' was another indicator of this research and this was assemble to the research of Johnston (2005). In this study other two important points were facing political pressure and political violence and these were also same as found to the research finding of Hayner (2001). Withdrawal ,distrust ,isolation ,mistrust from larger social community's support and from social protection due to political pressure & political violence reported by Flores, et al (2009) and these are similar to this research's other two objectives.

However, as governments are undermined by foreign targeting or turn against their own populace, political violence and coercion erode participation. According to reports from Guatemala, Argentina, and Myanmar (formerly Burma) (Skidmore, 2003; Robben, 2005), the goal of political violence committed by the people's own government is frequently to erode political opposition. The current study's conclusions were consistent with these findings. The high frequency and consequences of governments' denial of atrocities and lack of accountability for wrongdoings during political violence in Peru, the former Yugoslavia, El Salvador, and Guatemala are documented in literature from these countries (Lykes et al., 2007; Preti, 2002; Basoglu et al., 2005a).

7. LIMITATION AND SUGGESTION

Although this study focused on higher educational institutions., the respondents were only from university level (e.g 5 public university) and limited sample. In addition, the study focused on a narrow geographical area like Dhaka, Chittagong, Rajshahi and Sylhet City, hence the findings might not be sufficiently indicative nor conclusive to generalize to all students in Bangladesh those who joined directly the July Movement. Immediate after the July Movement researchers decided to do a research on this movement and at that time physically injured students were not fit for asking about these questions as they were in very much physical trauma and pain. And for this reason researchers thought that this time was not appropriate to involve them in this study. As researcher made a structured information form-PIF and there was limited points were listed and that was why many other causes could not found.

8. RECOMENDATION

Future research should broaden the scope of sample size to also include all types of educational institutions, universities, madrasa, schools, colleges, vocational colleges, private offices, businessmen, labors, garments workers,

workers, rickshaw pullers, street food sellers, street hawkers and from their perspectives will get more causes for the July Movement in Bangladesh.

8.IMPLICATION FOR FURTHER RESEARCH

Therefore, further study should validate the findings of this research with a large sample size with a reasonable ratio. Findings of this research provide implications for research, specifically, there is a need to-

(a) Examine health effects of political violence across multiple, & inter dependent areas of influence.

(b) Collect and refine indicators of collective functioning ,especially those that may be effected by political violence, and

(c) Continue to develop and improve multilevel conceptual models that represent the diverse effects political violence on health, family, society across and within levels.

9. CONCLUSION

From this study belonging low-class, low-income level of family, facing injustice, lack of freedom of speech, lack of social support, lack of social protection, facing political pressure and facing political violence might be the causes of the July Movement in Bangladesh 2024 according to the students participants' perspective. Further research with a large scale study, inter dependent areas of influence , collect & refine indicators of collective functioning and continue to develop & improve multilevel conceptual models that represent the diverse effects of political violence on family, society & economic sectors are recommended to this 2024 Movement.

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STRATEGIES FOR REDUCING MATHEMATICS ANXIETY AS EXPRESSED BY SECONDARY SCHOOL STUDENTS IN ISEYIN LOCAL GOVERNMENT: IMPLICATIONS FOR COUNSELLING

BOLU-STEVE, FOLUKE NIKE[a] FADIPE, RASAQ ABIMBOLA[a]
[a]University of Ilorin, Faculty of Education
Department of Educational Guidance and Counselling

Abstract

This study aimed at exploring strategies to reduce mathematics anxiety among secondary school students in Iseyin Local Government. A descriptive survey research design was employed, with 400 students selected through simple random sampling technique. Data collection was carried out using an instrument titled "Strategies for Reducing Mathematics Anxiety Questionnaire (SRMAQ)." The instrument's reliability was ascertained through the test-retest method, resulting in a correlation coefficient of 0.81. The research question was analysed using mean and rank order, while the null hypotheses were tested using Independent t-test and One-Way ANOVA at a significance level of 0.05. The results indicated that secondary school students adopt a range of methods to manage their anxiety in mathematics, including regular practice, seeking assistance from tutors, breaking down problems, utilising online resources, participating in group study sessions, practicing relaxation techniques, and seeking support from peers and family. Furthermore, significant differences were observed in the strategies for reducing mathematics anxiety based on gender and school type, while no significant differences were found based on age and school location. Based on these findings, it was recommended that students should develop good coping strategies by practicing relaxation techniques, engaging in group study sessions to learn from others, seeking support from friends and family, and building self-confidence when facing mathematics anxiety.

Keywords: *Anxiety, Mathematics, Secondary schools, Students*

1. INTRODUCTION

Mathematics anxiety often arises from students' previous negative experiences when learning mathematics, whether in the classroom or at home. It is characterised by an abnormal and overwhelming sense of apprehension and fear, often accompanied by physiological symptoms such as sweating, tension, and increased heart rate, as well as self-doubt about one's ability to cope with

Fadipe Rasaq Abimbola
E-mail address:fadiperasaqabimbola@gmail.com

mathematical challenges. Mathematics anxiety is generally perceived as a negative emotion towards mathematics, there are also some positive effects associated with it. Students experiencing mathematics anxiety tend to avoid mathematics problems either by avoiding or neglecting them.

Mathematics holds a crucial place in school education and is highly valued in higher education as well as in everyday life due to its practical applications and significance. However, many students harbour a negative attitude towards mathematics, impacting their problem-solving approach and leading to anxiety, ultimately resulting in poor performance in the subject. Ihendinihu (2013) highlighted that exposure to stressful environments can trigger strong feelings of pressure in students, leading to underperformance and contributing to mathematics anxiety. Espino et al. (2017) further explained that both mathematics anxiety and stressful situations can impair one's mathematical working memory, which is essential for regulating and controlling relevant information during mathematical tasks.

Gbolagade, Wahead, and Sangoniyi (2013) outlined several steps as key strategies to address mathematics anxiety and foster a more positive perception of mathematics; reinforce the child's confidence in their intelligence and abilities in mathematics learning, create a supportive learning environment for mathematics, encourage the child to engage with mathematics challenges, motivate students to adopt a positive attitude towards mathematics, and integrate information and communication technology (ICT) into teaching and learning. Also, students should promptly seek help when they encounter difficulties in mathematics concepts. If additional assistance is needed, it may be beneficial to seek tutoring from an individual other than the regular mathematics teacher, since others may present explanations in ways that are more accessible or clearer for the student to comprehend. Students should familiarise themselves with effective study techniques. For instance, they should space out their study sessions to enhance retention, choose a study environment with minimal distractions, and avoid over-studying to prevent information overload (Espino et al., 2017). Furthermore, reducing mathematics anxiety involves students adopting study methods that align with their specific learning styles. For example, visual learners tend to understand better when using tools like diagrams, charts, and videos; auditory learners grasp information more effectively through spoken explanations and conversations; and tactile or kinesthetic learners benefit most from hands-on tasks and active participation in learning.

Essentially, a number of researches had been conducted on nature of mathematics anxiety in Nigeria. For instance, Elekwa (2010) investigated the influence of collaborative teaching and learning methods on the mathematics achievement of senior secondary school students in Abia State, Nigeria. Likewise, Ihendinihu (2013) examined the role of the mastery learning approach in enhancing mathematics performance among secondary school students. However, the present researchers identified a lack of research in Oyo State—particularly in Iseyin Local Government—regarding strategies used by secondary school students to reduce mathematics anxiety. This gap in the existing body of knowledge led to the present

study, which aimed to explore effective strategies for reducing mathematics anxiety among students in the specified area.

2. OBJECTIVE AND HYPOTHESES

The objective of the study was to examine strategies for reducing mathematics anxiety as expressed by secondary school students in Iseyin Local Government. The study considered the influence of moderating variable of age, gender, school type and school location on the strategies for reducing mathematics anxiety as expressed by secondary school students in Iseyin Local Government.

2.1. QUESTION

1. What are strategies for reducing mathematics anxiety as expressed by secondary school students in Iseyin Local Government?

2.2 HYPOTHESES

The following research hypotheses were formulated and tested in this study at 0.05 level of significance:

1. There is no significant difference in the strategies adopted for reducing mathematics anxiety among secondary school students in Iseyin Local Government based on gender.
2. There is no significant difference in the strategies adopted for reducing mathematics anxiety among secondary school students in Iseyin Local Government based on age
3. There is no significant difference in the strategies adopted for reducing mathematics anxiety among secondary school students in Iseyin Local Government based on school type.
4. There is no significant difference in the strategies adopted for reducing mathematics anxiety among secondary school students in Iseyin Local Government based on school location.

3. METHOD

A descriptive survey design was used in this study to examine strategies for reducing mathematics anxiety among secondary school students in Iseyin Local Government. The research focused on students in Senior Secondary School Two (SSS2) within the area. According to the 2024 data from the Oyo State Ministry of Education, the total population of SSS2 students in Iseyin Local Government was 24,429. Based on the Research Advisor's guidelines, a sample size of 381 was recommended for this population at a 95% confidence level and a 5% margin of error. To account for possible attrition, the researchers increased the sample size by 5% (an additional 19 students), resulting in a final sample size of 400.

A multistage sampling method was employed in Iseyin Local Government to select the study participants. In the first stage, four secondary schools were randomly selected using the dip-hat method. In the second stage, Senior Secondary

School II (SSS2) students who were gradually preparing for the West African Examinations Council (WAEC) were intentionally chosen through purposive sampling. In the final stage, 100 respondents were selected from each school through simple random sampling technique, making a total of 400.

The instrument used for data collection, titled "Strategies for Reducing Mathematics Anxiety Questionnaire (SRMAQ)," was developed by the researchers based on information obtained from the review of relevant literature. Content validity of the instrument was established by experts from the Department of Mathematics at the University of Ibadan, while reliability was assessed using the test-retest method. The questionnaire was administered twice to a group of students at Olivet Baptist High School, Oyo, with a two-week interval. The correlation of the two sets of scores was calculated using Pearson's Product Moment Correlation, resulting in a reliability coefficient of 0.81. The questionnaire comprised two parts: Section A, focused on demographic data of the respondents, and Section B, which focused on strategies for reducing mathematic anxiety, respectively. Section B used a four-point Likert scale format (Strongly Agree = 4points, Agree = 3points, Disagree = 2points, and Strongly Disagree = 1 point). The benchmark for the instrument was established by summing the response points and dividing by 4, resulting in a mean score of 2.5 (i.e., 4+3+2+1=10/4=2.5). Mean scores equal to or above 2.5 were considered as strategies for reducing mathematics anxiety, while mean scores below 2.5 were not. Independent t-test and One-Way ANOVA were used to analyse the null hypotheses at the 0.05 level of significance.

4. RESULTS

This section provides an interpretation of the collected data and presents a detailed analysis of the study's results. A sample of 400 respondents was randomly selected across the schools.

Research Question 1: What are strategies for reducing mathematics anxiety as expressed by secondary school students in Iseyin Local Government?

Table 1 presented the views of secondary school students in Iseyin Local Government on various strategies for reducing mathematics anxiety. All items received mean scores above the 2.50 threshold, indicating that the students agreed the listed strategies were effective in reducing mathematics anxiety in the area.

Table 1: Mean and Rank Order of Strategies for Reducing Mathematics Anxiety as Expressed by Secondary School Students

N	Anxiety for mathematics can be reduced by:	Mean	Rank
10	practicing mathematics regularly to build my confidence	3.89	1st
5	seeking help from a tutor or teacher when I struggle with mathematics	3.85	2nd
3	breaking mathematics problems into smaller, manageable steps	3.83	3rd
14	using online mathematics applications for extra practice	3.81	4th

9	believing in my ability to improve my mathematics skills	3.79	5th
6	staying organised with my mathematics assignments and study materials	3.77	6th
2	managing my time effectively when studying mathematics	3.73	7th
8	setting achievable mathematics goals for myself	3.69	8th
19	using positive self-talk to increase my mathematics confidence	3.65	9th
20	engaging in group study sessions to learn from others	3.63	10th
11	taking breaks during mathematics study sessions to avoid burnout	3.61	11th
12	using visualise techniques to understand mathematics concepts	3.59	12th
13	relating mathematics problems to real-life situations for better understanding	3.57	13th
16	embracing mistakes as opportunities for learning in mathematics	3.55	14th
15	challenging negative thoughts about my mathematics abilities	3.52	15th
1	practicing relaxation techniques to reduce mathematics anxiety	3.48	16th
17	rewarding myself for accomplishing mathematics goals	3.45	17th
18	participating actively in mathematics class discussions	3.33	18th
4	reviewing and revising my mathematics notes regularly	3.21	19th
7	seeking support from friends when facing mathematics challenges	3.16	20th

Researcher's Fieldwork, 2025

Hypothesis One: There is no significant difference in the strategies adopted for reducing mathematics anxiety as expressed by secondary school students in Iseyin Local Government based on gender

Table 2: Mean, Standard Deviation, and t-test of Strategies for Reducing Mathematics Anxiety by Gender in Iseyin Local Government

Gender	N	Mean	SD	df	Cal. t-value	Crit. t-value	p-value
Male	180	52.60	6.13				
				398	4.57*	1.96	0.002
Female	220	56.85	5.73				

* Significant at 0.05 alpha level

Table 2 indicated a calculated t-value of 4.57, which was greater than the critical t-value of 1.96. Hence, the null hypothesis was rejected. This implied that gender significantly influenced the strategies employed by secondary school students in Iseyin Local Government to reduce mathematics anxiety.

Hypothesis Two: There is no significant difference in the strategies adopted for reducing mathematics anxiety as expressed by secondary school students in Iseyin Local Government based on age.

Table 3: ANOVA of Strategies for Reducing Mathematics Anxiety by Age in Iseyin Local Government

Source	df	SS	Mean Squares	Cal. F-ratio	Crit. F-ratio	p-value
Between Group	2	16.821	8.411	0.81	3.00	0.209
Within Group	397	4137.007	10.421			
Total	399	4153.828				

*Not Significant at 0.05 alpha level

Table 3 showed a calculated t-value of 0.81 compared to a critical t-value of 3.00. As the calculated value was less than the critical value, the null hypothesis was retained. This implied that age had no significant influence on the strategies adopted by secondary school students in Iseyin Local Government to reduce mathematics anxiety.

Hypothesis Three: There is no significant difference in the strategies adopted for reducing mathematics anxiety as expressed by secondary school students in Iseyin Local Government based on school type.

Table 4: Mean, Standard Deviation, and t-test of Strategies for Reducing Mathematics Anxiety by School Type in Iseyin Local Government

School type	N	Mean	SD	df	Cal. t-value	Crit. t-value	p-value
Private	193	60.70	6.93	398	2.01*	1.96	0.022
Public	207	68.22	6.73				

* Significant at 0.05 alpha level

Table 4 showed a calculated t-value of 2.01, which was greater than the critical t-value of 1.96. Therefore, the null hypothesis was rejected. This implied that the type of school significantly influenced the strategies adopted by secondary school students in Iseyin Local Government to reduce mathematics anxiety.

Hypothesis Four: There is no significant difference in the strategies adopted for reducing mathematics anxiety as expressed by secondary school students in Iseyin Local Government based on school location.

Table 5: Mean, Standard Deviation, and t-test of Strategies for Reducing Mathematics Anxiety by School Location in Iseyin Local Government

School location	N	Mean	SD	df	Cal. t-value	Crit. t-value	p-value
Rural	190	52.89	8.02	398	0.82	1.96	0.402
Urban	210	59.55	8.67				

* Not Significant at 0.05 alpha level

Table 5 showed a calculated t-value of 0.82, which was less than the critical t-value of 1.96. thus, the null hypothesis was accepted. This implied that school

location did not have a significant influence on the strategies adopted by secondary school students in Iseyin Local Government to reduce mathematics anxiety.

4.1 Discussion

The study indicated that secondary school students make use of various methods to handle and reduce mathematics anxiety. These include practicing mathematics regularly, seeking assistance from tutors, breaking down math problems into smaller, more manageable steps, utilising online resources and math applications for additional practice, participating in group study sessions to learn from peers, practicing relaxation techniques, and seeking support from friends and family when encountering math challenges. These findings aligned with those of Ihendinihu (2013) and Rajendra (2020), whose studies highlighted the importance of regular math practice, group study involvement, timely counselling, and active participation in class discussions as coping mechanisms for mathematics anxiety among students. Therefore, students agreed on strategies for reducing mathematics anxiety because these strategies are often practical, proven, and can significantly reduce the anxiety associated with mathematics. Some of these strategies include practice, breaking problems into smaller steps, seeking help when needed, positive self-talk, relaxation techniques, and changing perspectives about mathematics.

The findings indicated that gender significantly influenced the strategies adopted by secondary school students in Iseyin Local Government to reduce mathematics anxiety. This means that students' expressions on how to manage mathematics anxiety differed based on their gender. Male and female students might exhibit different strategies for reducing mathematics anxiety due to individual learning styles, societal expectations and previous experiences with mathematics. These differences could stem from psychological, social, or cultural aspects, leading to distinct approaches in managing anxiety related to mathematics. Differences in self-confidence, approach to problem-solving, and prior exposure to supportive environments could also contribute to varying expressions of effective strategies for reducing mathematics anxiety among male and female students.

Another finding indicated that there was no significant difference in the strategies used to reduce mathematics anxiety among secondary school students in Iseyin Local Government based on age. This implies that students' expressions concerning strategies for reducing mathematics anxiety were similar regardless of their age group. The similarity in strategies for reducing mathematics anxiety among students regardless of age differences could be due to the universality of certain coping strategies. Strategies like practice, seeking help from tutors or peers, adopting relaxation techniques, and building confidence through positive reinforcement tend to be effective across age groups. Also, shared educational experiences and common challenges in dealing with mathematics anxiety might contribute to this similarity among students.

The findings revealed that the strategies employed to reduce mathematics anxiety varied significantly among secondary school students in Iseyin Local Government based on school type. This implied that students' expressions concerning ways to address mathematics anxiety differed based on the type of

school they attended. The differences in the expression of strategies for reducing mathematics anxiety between students in private and public schools could be due to various factors such as teaching methods, resources available, class sizes, and economic backgrounds. Private schools might have different approaches to teaching mathematics or provide additional support systems that impact how students handle and cope with mathematics anxiety compared to students in public schools.

The findings further indicated that school location had no significant influence on the strategies adopted by secondary school students in Iseyin Local Government to reduce mathematics anxiety. This means that students' expressions regarding the strategies for addressing mathematics anxiety were similar, regardless of their school's location. This implied that the expression of secondary school students were not different on the strategies for reducing mathematics anxiety based on school location. Students in urban and rural schools might have similar expressions regarding strategies to reduce mathematics anxiety due to the universality of some effective approaches. These strategies might include supportive teaching methods, creating a positive learning environment, personalise assistance, and employing techniques to reduce stress or fear associated with mathematics. The commonality in experiences or educational practices could also contribute to this similarity despite the differences in school settings.

4.2 Implications of Findings for School Counselling

The major aim of counselling in school is to help students attain a balanced, well-adjusted, fulfilling, and contented life by fostering self-awareness. This study has identified various strategies for reducing mathematics anxiety among secondary school students in Iseyin Local Government. The reduction of mathematics anxiety through these strategies has significant counselling implications, including the promotion of positive coping mechanisms, enhancement of self-confidence, and addressing negative beliefs about one's mathematical abilities. Counsellors should intensity their effort in providing preventive measures by organising programmes that would assist students in reducing anxiety related to mathematics. Counsellors can employ cognitive-behavioral techniques, mindfulness practices, relaxation exercises, and the creation of supportive environments to assist students in managing and overcoming mathematics anxiety. Moreover, counsellors should collaborate with students to motivate them, set goals, develop plans, and monitor their progress. Encouraging students' intrinsic motivation to learn and fostering a commitment to their own success are also crucial aspects of counselling interventions aimed at addressing mathematics anxiety.

The findings suggest that counselling interventions to reduce mathematics anxiety in Iseyin Local Government secondary schools should consider gender and school type. For instance, counsellors might design gender-sensitive programmes that address unique anxieties boys and girls may experience, potentially due to societal expectations or self-efficacy differences. Since school type also plays a role, students in public schools might benefit from increased support in larger

classroom settings, possibly incorporating group counselling. In contrast, private school students might experience different pressures, such as high performance expectations, requiring targeted stress management strategies. Although no age-based differences were found, a uniform approach across age groups may still benefit students broadly. Similarly, the lack of significant differences based on school location means interventions could be standardised across urban and rural schools in the local government. Overall, a tailored approach based on gender and school type could foster a more supportive learning environment for all students.

5. CONCLUSIONS

The study concluded that many secondary school students employ various strategies to manage mathematics-related anxiety. These strategies include regular practice of mathematics, seeking assistance from tutors, breaking down mathematics problems into smaller, more manageable steps, utilising online resources and mathematics applications for additional practice, and participating in group study sessions to learn from peers. In addition, the findings showed that significant differences existed in the strategies adopted to reduce mathematics anxiety among secondary school students in Iseyin Local Government based on gender and school type. However, no notable differences were observed with respect to age and school location. Based on the findings of the study, it was recommended that:

1. Students should develop good coping strategies by practicing relaxation techniques, engaging in group study sessions to learn from others, seeking support from friends and family, and building self-confidence when facing mathematics anxiety.

2. Students, most especially females, should be assisted by their teachers in class and provided with guidance where needed to strengthened their interest and reduce anxiety in mathematics.

3. Students should seek early intervention strategies for reducing mathematics anxiety when needed from teachers or counsellors in school, irrespective of age.

4. Mathematics teachers in public secondary schools should be provided or equipped with textbooks and innovative teaching aids to reduce mathematics anxiety, increase student interest, and enhance students' understanding of the subject.

5. Students in rural areas should be helped by mathematics teachers or school counsellors to develop effective strategies to manage mathematics anxiety and foster a positive mindset towards mathematics, enabling them to overcome anxiety and boost their learning motivation.

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