EXTREME SITUATIONS: LIFE IN THE SHACKLES OF STRESS

Abstract. The article discusses the problem of school shootings and the consequences of the tragedies of massacres. The purpose of the study is to analyze the data on massacres and to identify the level of stress and stress resilience in students who survived a massacre at the educational institution. The paper outlines the definitions of the term "stress" as well as the materials and methods for assessing perceived stress. The study involved \( N = 32 \) student respondents aged from 18 to 20 years old.

Keywords: school shooting, mass kill, victims, stressor, stress, stress resilience.
1. Introduction

In recent decades, the tragedies associated with massacres in educational institutions, are becoming more frequent. Statistics on massacres and shootings in schools are not available, but research has shown that the level of homicides and suicides in the United States alone is several times higher than in any other industrialized country. In general, infant mortality rates in the United States are five times higher than in any other developed country, and 87% of all children aged 0-14 years killed by firearms worldwide are children living in The United States, despite the fact that less than 5% of the world's children live in the United States [1].

Marie Leiner, Izul De la Vega, and Bert Johansson conducted an analysis of 175 years of school shootings (1840–2015), including 304 events identified as the primary factor for most shootings (61.0 %) as “anger”, “fight” and "dispute" combined. Secondary factors include 14% related to discipline, 10% related to harassment, 10% to dismissal (or failure or a bad grade), 8% to revenge, 4% to romance and 2% to some domestic issue (i.e., domestic abuse or some other domestic problem). The same study includes 20 mass murder events (where at least 4 people died), where 6% of shooting cases account for 43% of the deaths and 37% of the injuries. From 1840 until 1966, only three massacres occurred at an educational institution (14 deaths and 4 injuries). After 1966, 17 events resulted in 166 deaths and 204 injuries, which accounted for 85% of mass shootings since 1966, 92% of the deaths and 98% of the injuries [2].

The most notorious massacre events worldwide include: the shootings at the Walisongo school (2000, Indonesia) with 191 deaths [3]; September 1, 2004, terrorist attack at school №1, Beslan North Ossetia with 335 deaths, 186 of which are children [4]; December 14, 2012, Sandy Hook Elementary School with 28 deaths [5]; January 15, 2018, School №127 Perm, Russia, with 12 victims [6]; Bath School disaster 1927, Michigan, USA, with 44 deaths [7]; Columbine High School, April 20, 1999, 36 victims [8]. The attack has been
covered by the media so intensively that most of the attackers called themselves Dylan Klebold and Eric Harris fans. Finally, the massacre at the Kerch Polytechnic College occurred on the afternoon of October 17, 2018. The explosion and shootings killed 21 people, 67 people were injured [9]. This is the largest massacre at the educational institution in the modern history of Europe in terms of the number of victims.

In Russia, 15 cases of shootings in educational institutions have been recorded since 2014. Every year the frequency of students’ attacks on teachers and their peers is increasing. The number of schoolchildren and students who survived a similar attack is directly proportional. The current research is aimed at identifying the level of stress received by students who have become victims or witnesses of a massacre.

*What is stress?*

The concept of "stress" was introduced by the Canadian physiologist Hans Selye in 1936. He defined stress as the nonspecific response of the organism to the demand presented to him. However, this concept has been used not only in the description of biological, but mental and physiological processes occurring in the body [10]. At present, stress is considered as a state of mental stress arising in a person in the process of activity in the most difficult and extreme conditions both in everyday life and under special circumstances. The most important aspect of stress can be considered a stressor, as it is an internal or external stimulus, the long-term effect of which can cause depression, post-traumatic stress disorder and anxiety disorders. Stressors have a great influence on mood, our sense of well-being, behavior and health. Stressors can be either physiological or psychological. Physiological stressors affect the body, e.g., physical pain, cold, high temperature, excessive physical exertion; sometimes even a common cold can be a stressor for a person. Psychological stressors are incentives that signal the biological or social significance of events [11]. These are signals of threat, danger, feelings, offenses, the need to solve a complex task.
However, if there are stressors, then there must be a mechanism that prevents the negative stress response to the body. Such a mechanism is called stress resilience. It is because of the high level of stress resilience that a person is able to survive stress without any consequences for the psyche. We assume that such stressful events as a massacre not only increase the stress level of the witnesses, but also lower their stress resilience.

**Research hypothesis**

The main hypothesis of the study is the assumption that the impact of a strong psychological stressor affects not only the level of stress in a person, but also the level of his stress resilience, associated with further difficulties in overcoming stress.

2. **Materials and methods**

This study was conducted on the basis of the Kerch Polytechnic College and Kuban State University. The study involved 32 full-time students: 16 respondents from Kuban State University (Group 1) and 16 respondents from the Kerch Polytechnic College (Group 2) aged from 18 to 20 years old. The study was conducted using the following questionnaires:

- Perceived stress scale (Cohen & Williamson, 1988) [12]. The original instrument is a 14-item scale (PSS-14) that was developed in English (Cohen et al., 1983), with 7 positive items and 7 negative items rated on a 5-point Likert scale. Five years after the introduction of the PSS-14, it was shortened to 10 items (PSS-10) using factor analysis based on data from 2,387 U.S. residents. A four-item PSS (PSS-4) was also introduced as a brief version for situations requiring a very short scale or telephone interviews (Cohen & Williamson, 1988). According to Cohen's Laboratory for the Study of Stress, Immunity, and Disease (2012), the PSS is currently translated into 25 languages other than English including Russian [13].

- Manifest Anxiety Scale, (MAS) – a personal questionnaire, designed to measure the manifestations of anxiety. Published by J. Taylor in
1953 the scale statements were selected from a set of items from the Minnesota Multidimensional Personality Questionnaire (MMPI). The selection of items for the "manifestation of anxiety" scale was made on the basis of an analysis of their ability to distinguish between individuals with "chronic anxiety reactions". In 1975, it was adapted by Nemchin and Norakidze, who supplemented the questionnaire with a scale of lies. We used Nemchinov’s adaptation, as it is closest to the original. The questionnaire consists of 50 closed-ended questions which can be answered by a simple "yes" or "no" [14].

3. Results

The analysis of the survey results showed that students of the Kerch Polytechnic College (Group 1) have anxiety levels 3.4 times higher than students of Kuban State University (Group 2) (85% vs. 25%). In the first group of the respondents, the Taylor questionnaire revealed frequent headaches, rapid heartbeat, unreasonable anxiety, fatigue, self-doubt, an increased level of nervousness, etc. These indicators not only point to a high level of anxiety, but can also be a cause for the development of post-traumatic stress disorder, which, in turn, can lead to the formation of other serious mental illnesses.

The results of the Perceived stress scale showed that the level of stress resilience of the surveyed Group 1 (60% “bad” stress resilience, 40% “satisfactory” stress resilience) is noticeably lower than that of the surveyed Group 2 (50% "good" stress resilience, 50% "satisfactory" stress resilience). The data obtained showed that the respondents of the first group proved to be unable to cope with the stress they experienced and, therefore, need psychological assistance.

4. Findings

Thus, based on the results of obtained, we can say that when a sufficiently strong stressor is applied to a person, there is an inverse proportional correlation between the level of anxiety and stress resilience.
References


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