

The impact of floods on mental health

Troubled Water



Professor Bogdan Zawadzki (left) studies psychological individual differences

Professor Jan Strelau (right) has been studying temperament and its role in human behavior under stress for many years

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People who experienced a flow not only have to cope with material losses but also can suffer from lasting psychological disorders

Since the dawn of time, mankind has had to cope with various natural disasters, such as floods, hurricanes, volcanic eruptions, and earthquakes. In addition, humans have themselves been responsible for causing certain

traumatic occurrences, such as wars and kinds of particularly “technical” catastrophes that have been made possible by the advance of civilization, such as transportation accidents and nuclear power plant failures. What all such events have in common is their social scope: they affect entire communities. On the other hand, individual persons have also, from time immemorial, had to cope with incidents of personal tragedy – such as assaults, kidnappings, or rapes. All such occurrences are collectively described as traumatic events because they directly involve life-threatening situations, the risk of sustaining physical injuries, as well as sensations of intense fear, helplessness or horror. Disasters, moreover, are distinctive in that they can cause severe property losses. All traumatic events, however, give rise to a sometimes less obvious consequence: psychological disorders that occur immediately after the trauma, but may often last a number of years.



Mieczysław Michałek/Agencja Gazeta

Different forms of social support and assistance can reduce the stress that results from a disaster

Flood is a catastrophic event which affects the entire community



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What is PTSD?

There are two aspects of every disaster: people are forced not only to cope with losses and to live in a drastically changed environment, but also to struggle with their own emotions. Psychiatrists have long argued that traumatic events lead to psychological disorders. Yet it was not until the experiences of the World Wars and the Vietnam War had been studied that the nature of such posttraumatic psychological disturbances was identified and the notion of Posttraumatic Stress Disorder (PTSD) was first recognized as a new category of disease and described in 1980.

The consequences of traumatic events have been studied in Poland for several years. The pioneering research on Holocaust victims carried out by Maria Lis-Turlejska was followed by research projects on the victims of Poland's great flood in 1997, and other natural disasters in the years since (Strelau, 2004).

From the psychological standpoint, traumatic events, including natural disasters, result directly in acute stress syndrome, a set of symptoms that manifest themselves within a month after the trauma, and which usually subsequently develop into PTSD. The symptoms characteristic of this type of disorder include: the continuous reexperiencing and recollecting of the traumatic event, the avoidance of stimuli associated with the trauma, an overall numbing and a persistent state of increased arousal, which in turn lead to an impairment of a person's ability to function in different areas of life, including social and professional life. Trauma that results in PTSD therefore entails great suffering on the part of traumatic event victims.

PTSD is estimated to develop in a few percent to over 50% (20-30% on average) of those who experience a traumatic event, with the rate mainly influenced by the type of event itself. The figures are usually lower (below 20%) for natural disasters, e. g. floods, but exceed 50% in the case of rapes. Polish re-

search on the victims of the 1997 flood suggests that this frequency stood at 40% one year after the flood, and at 20% two and a half years afterwards. These data indicate that most traumatic event victims return to their normal functioning within a period of several months to one year. It is estimated that almost half of those who do not receive professional psychological and medical assistance plus adequate social support will develop serious disorders in different areas of their functioning within several years after experiencing trauma.

Environment vs. genetics

Research projects on disaster victims carried out in the world (Norris et al., 2002) and our own research on flood victims in Poland all point to a series of regularities concerning the factors that cause PTSD symptoms to first develop and to persist in time. These factors are believed to be both individual and social in character, as they stem from the disruption of both family relations and, more comprehensively, the entire community affected by a disaster.

The main factor conducive to PTSD symptoms is the traumatic event itself, namely the tragic circumstances a disaster entails. PTSD symptoms are more intensive in the case of people who were exposed to a catastrophic event that involved threatened or actual death or harm to themselves or other people, especially their loved ones. Negative emotions associated with a disaster are another factor behind PTSD, as those who report they experienced intense fear or horror also show more severe posttraumatic stress symptoms.

Apart from these factors, which are characteristic of natural disasters, the extent of property losses also acts as a trigger for PTSD development, while so-called "secondary stressors" (i.e. housing and financial problems, which involve the necessity of working to recover material losses) are responsible for making its symptoms persist in time. One such factor is

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the very fact of living in a community that has sustained losses or is manifesting symptoms of disorders, the main reasons being that this makes it necessary to face the physical and psychological aftermath of a disaster, and reduces the availability of social support.

Such were the findings of all the research projects we conducted among different groups of flood victims in the years 1999-2003. The behavioral genetic analyses carried out by our research team are of great value as evidence here: they indicate that the intensification of symptoms is chiefly dependent on environmental, not genetic, factors. While genetic factors are not as important, their influence does increase over time after a disaster. Therefore, the development of PTSD symptoms seems to be chiefly dependent on the traumatic event alone, whereas how people subsequently cope with them depends on factors specific to the individual. Let us now describe these variables.

Who is at greatest risk?

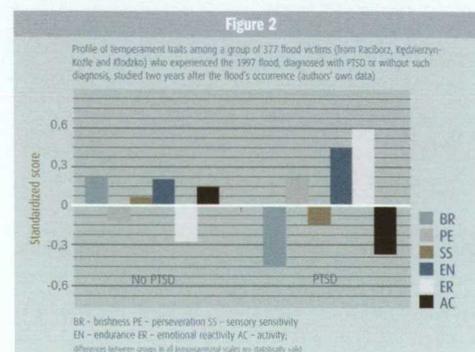
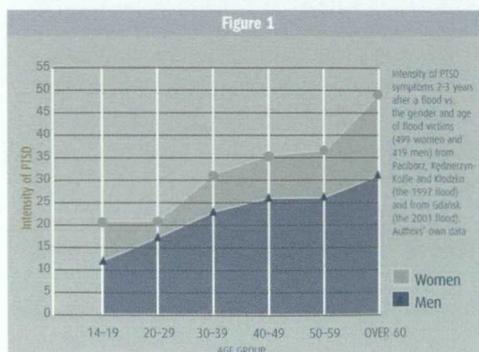
All the findings show that such groups as women, cultural minorities and people of low social-economical status, including low educational level, are at greater risk of contracting PTSD symptoms. Whereas gender-related factors seem to be associated with temperamental traits, namely higher emotional reactivity in women, the two other factors entail less access to financial resources that might offset the losses, due to such individuals' lower financial status and more limited ability to obtain social support.

Based on research results reported to date, it seems that these factors are culturally universal, whereas the relation between PTSD and age is indeed culturally dependent. American research has shown that people aged 40-60 are at greatest risk. In Mexico,

however, among of hurricane victims it was young adults that were exposed to the greatest risk, while in Poland the intensification of symptoms was linearly proportional to the age of flood victims (Figure 1). It is possible to attribute this, at least partially, to the fact that older people have lesser psychological and financial resources at their disposal, which conditions their ability to recover from property losses.

The above-mentioned demographic factors build a distinctive configuration that influences not just how PTSD symptoms intensify, but also the availability of social support, which directly eases posttraumatic stress symptoms. This configuration can be graphically described as a demographic "pattern of neglect" with regard to social support. This was also visible in our research on flood victims, which additionally included older people (Strelau, 2004). Most strikingly, however, this pattern was strongly related not only to a failure to receive adequate support, but to a failure to "ask for support" (Kaniasty, 2003). Here, the age-old remark "he/she who asks, shall receive" does seem to be fully substantiated.

Amongst the factors that determine PTSD risk, personality traits and pretraumatic mental disorders play a significant part. People who showed signs of some psychological disorders prior to the traumatic event also show a higher level of PTSD. This is more marked for so-called borderline personality type, or for those who have already contracted PTSD symptoms in the past, as a result of other traumas. In Polish research on flood victims, we proved that such risk factors can also include normative personality traits, such as temperament (see figure 2; compare Strelau 2004), styles of coping with stress, and the



To reduce an extent of damages caused by a flood army forces are used



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structure of personal values. Of particular importance are here emotional reactivity and a style of coping with stress that focuses on emotions.

Social factors

Besides such individual factors, there are also a series of social factors that can cause PTSD symptoms to persist or even intensify with time. Some of them result from the destruction of the local community due to a disaster, others again from the "pathology" or breakdown of the family. The most common examples of macrosocial factors are: a lower frequency and deterioration of social contacts, the continuing degeneration of social structures and ties, vanishing feelings of harmony and social affiliation, a lack of adequate social support and the deterioration of "perceived support." This results in a feeling of "secondary victimization," which causes the symptoms of posttraumatic dysfunction to take hold.

As far as microsocial or family-related factors are concerned, PTSD depends on the mental health of other family members. Here, symptoms of various psychological disorders and the overall nature of family ties (conflict-prone families, ones that provide poor emotional support, etc.) should be mentioned. Our research has shown that fathers play a crucial role in the inducement of PTSD symptoms in families that have experienced a natural disaster. This effect, which stands in contrast to the results of research carried out in English-speaking countries, is probably due to the burden of responsibility for the family. In Poland, it is mainly fathers who are responsible not only for saving the family and its property from the flood itself, but also for undoing the losses so incurred, i.e. obtaining financial resources and mending the damage done. A lack of psychological stability on their part has a negative impact on family ties,

and in turn encourages PTSD symptoms among their wives and children.

And so, while disasters frequently cause great immediate suffering, their consequences can in fact be much more persistent: lasting psychological dysfunction and continuous PTSD symptoms often lead to even more serious complications. These chiefly include serious social functioning disorders in the form of weaker social contacts and, consequently, an impaired network of social support, pathological family relations, or psychoactive substance abuse, especially alcoholism. The analyses conducted by our research team have demonstrated that chronic PTSD leads to changes in temperament in the form of increased sensitivity, giving rise to diminished stress resistance, thus in the long run making individuals less capable of adapting.

Fortunately, however, there are also certain mitigating factors. Chief among them is time, which helps erase dramatic events from memory and enables victims to return to a state of balance. Time alone, however, does not always suffice. Victims need to obtain social support, in the form of both material resources and professional psychological help. It is crucial that such support should be long-term, just as people's traumatic memories and suffering are long-term. Therefore, disasters or catastrophes pose a challenge not only to local communities or even countries, but to mankind as a whole. ■

Further reading:

- Kaniasty, K. (2003). *Natural Disaster or Social Catastrophe - The Psycho-Social Consequences of the Polish Flood of 1997*. [in Polish] Gdańsk: Gdańskie Wydawnictwo Psychologiczne.
- Norris, F. H., Friedman, M. J., Watson, P. (2002). 60,000 disaster victims speak: Part II. Summary and implications of the disaster mental health research. *Psychiatry*, 65, 240-260.
- Strelau, J. (2004) (eds.). *Personality and Extreme Stress*. [in Polish] Gdańsk: Gdańskie Wydawnictwo Psychologiczne.