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SELECTED PERSONAL AND ENVIRONMENTAL ASPECTS IMPORTANT IN DEALING WITH A CATASTROPHE: FLOOD VICTIM RESEARCH REPORT

The article discusses longitudinal psychological examinations of victims of the flood that struck the County of Wilków in the Lubelskie Province, Poland, in 2010. Due to the multifaceted character of the research project, only a part of it is presented here, concerning the psychological and environmental variables significant in coping with the effects of the flood. The obtained results, illustrating the subjective importance of the domains described as well as the changes that occurred between 6 and 18 months after the flood, were interpreted in the context of coping with the effects of an ecological disaster. The paper describes the main theoretical conclusions emerging from the research and practical implications for activities connected with broadly understood crisis intervention.

Keywords: ecological disaster, flood, coping, stress.

INTRODUCTION

The present paper describes a significant part of longitudinal research conducted after the flood of 2010 in Poland, concerning the areas of its greatest impact. The idea of this research was suggested by the observation of important life domains, psychological problems, or other problems of everyday life. All of them were present during psychological intervention among the flood's victims. Above all, there was a great diversity of problems and areas of psychological work, which required a great deal of flexibility, intuition, and interdisciplinary knowledge from a psychologist working with the victims of the catastrophe.

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Crisis intervention is a very special interdisciplinary area of activity, since each of its domains involves the work of various kinds of specialists, such as: physicians, lawyers, psychologists, economists, social workers, or even sociologists. There are also other services involved, whose main aim is to help in rebuilding what has been destroyed as well as in other essential works in a particular area. It is worth noting that the main kind of knowledge and intervention in situations of stress caused by critical life events, traumatic stress, and psychological crisis in general is the knowledge and intervention of psychologists (Sęk, 2001).

Although stress and all kinds of psychological crisis occur on many occasions, their nature in a situation of a catastrophe is special because it depends on objective environmental factors. What is more, stress and coping with the results of a catastrophe are almost always spread in time. Although all kinds of difficult situations and stress are possible to overcome, a situation of crisis requires changes in the individual–surrounding and group–environment functional set-up (Sęk, 2001). The part of the research that is described in this paper concerns the subjective and retrospective perception of the situation of certain people, from their individual perspective as well as from the perspective of being part of the catastrophe victims group. The paper also constitutes an attempt to identify as well as interpret significant variables that promote positive coping with the effects of long-term stress.

The main aim of this research was to identify the interpersonal psychological factors that favor constructive coping which are characteristic for dealing with a psychological crisis. This is particularly important because apart from investigating the risk factors for disorders, longitudinal research on the coping process is a method that can enable its more integral and holistic description (Strelau & Zawadzki, 2005). There are many questions that can be asked in achieving this goal. The one that was the main inspiration for this research is: What are the most important dimensions in the environment and human personality that can help achieve a better understanding of the accumulated (traumatic) experience and adapt to it better in the future?

In assessing the state and efficiency of coping with the effects and experience of flood, an important matter was to capture the difference in the examined variables, depending on the time that has elapsed from the catastrophe. Longitudinal research was chosen as more suitable and as providing more significant information on how people who have experienced an ecological disaster cope with stress (Zawadzki, 2006; Lis-Turlejska, 2005).

THE STUDY GROUP

The study group consisted of people who suffered from the flood and related events in 2010 in Poland. They were aged between 15 and 82 years and represented all age groups proportionately. All of them were inhabitants of the County of Wilków in the Lubelskie Province and all of them suffered directly from the flood. For the purposes of the research, only people who suffered significantly (based on the local interview) were qualified to take part in it.

The events described took place in late May and early June, when (as *Opolska Gazeta Powiatowa* reports) as a result of intensive rain on May 18, a state of emergency was announced. Despite intensive repairs, the levee was broken on May 21, around 15:20, in the village of Zastów Polanowski, with the Vistula reaching the water level of 722 cm (284.25 in) in the nearby town of Annopol. From May 29, the situation progressively stabilized; however, on June 2 a state of emergency was announced again. On June 7, another levee break occurred. Eventually, the flood alert was canceled on June 14. As a result of the flood, 1,200 estates were damaged, 438 people were evacuated, and over 90% of the county was under water (Nowaczek, Młyniec, & Piłat, 2010).

Surprisingly, despite the traumatic experience, only two of all the victims changed their place of residence. Although the character of the experienced loss, the size of the crisis, and coping strategies were different, all the people suffered severe (related to the flood) and sustained (related to coping) stress as well as huge material loss (in some cases, this meant irretrievable loss of all savings, the house, and physical property). The specificity of this particular natural disaster was the fact that the second flood, even greater than the first one, occurred at the time when people had started to repair damages, clean their surrounding, and remove all the losses, which could evoke even stronger feelings of hopelessness and helplessness. It is worth noting that all of the examined people attempted to repair damages. In most cases, this ended in total or partial success.

METHOD

The method used in the research had the form of a questionnaire with a set of items whose significance was assessed in the presence of the researcher or a psychologist specially trained for this purpose. The questionnaire was a tool for the subjective assessment of selected personal and environmental aspects of coping with a crisis (in this case, with a flood). The research project also consisted of

several other elements, but for the purposes of this paper only one of them will be discussed. It concerns the psychological and environmental dimensions of human activity, important in dealing with a crisis and chronic stress. The idea of their conceptualization was derived from pieces of narration, which systematically referred to specific problems and dilemmas of the examined group. During the construction of the method, we gathered information concerning the subjects most often spoken about. These subjects were identified based on an analysis of the literature (Zawadzki & Strelau, 2009; Kaniasty & Norris, 2004; Greenstone & Leviton, 2002; Sęk, 2001) and based on discussions among psychologists working in this particular area at that time. The final shape and form of the questionnaire was decided in the course of several discussions during the personality psychology seminar held at the John Paul II Catholic University of Lublin.

The method had the form of a two-page list of assertions concerning health problems and age of some of the participants. Calibri font – size 13 – was used, which provided proper comfort. In cases of people who had problems with reading or writing, the statements were read out by the researchers but the participants had to fill in the sheet on their own.

The main part of the research procedure was the presentation of the instruction:

Instruction 1

Please read all the statements below carefully and indicate on the scale (by putting an "x") to what degree each of them describes you at the moment of the flood. Please pay attention to the values at the opposite ends of the scale.

Instruction 2

Please read all the statements below carefully and indicate on the scale (by putting an "x") to what degree each of them describes you in the present moment. Please pay attention to the values at the opposite ends of the scale.

After both instructions, all the internal and external dimensions which could be important were presented. They were:

amount of loss, helplessness, efficacy of coping, help of others, chance for rebuilding (life), control over the situation, possibility of controlling one's life, motivation to recover in the same habitat, optimism, sense of security, blaming others, fear of the future, hope, sense of strength

The participants' main task was to subjectively assess each of the presented items. This was done on a continuous scale stretching from 0, described as the minimum, to 100, described as the maximum. The participants were supposed to indicate their subjective assessment by putting an "x" in the proper place. In case of any doubts or questions, the researcher who was present provided help.

RESEARCH

The first part of the research was conducted 6 months after the catastrophe and the second part was held 12 months after the first. The main reason for choosing such time interval was the participants' high orientation towards external actions and low need for analyzing and balancing pieces of experience in the first moments after the flood. These first moments were strongly marked by the need for repairing damages and attending to other important matters. In the face of a natural disaster there seems to be no room for passive observers; from the very first moments, the victims are beginning to be participants in all actions. Ignoring this patternmight limit research results, deform them, or even expose the researcher to aggressive behavior, for which there is a great tendency especially in the first moments after a catastrophe (Kaniasty, 2003). What is more, the greatest need for help as well as the greatest opportunity and possibility to act are present mostly in the final stages of the coping process, where disappointment and a sense of abandonment accompany slow recovery (Cohen & Ahearn, 1980, as cited in Zimbardo, 2012).

The 14 dimensions listed above were presented to the participants twice. At the first time their aim was to measure the intensity of each dimension at the moment of the flood (Instruction 1), whereas at the second time, the corresponding intensities at the moment of coping with the flood were measured (Instruction 2). Thus, the research was conducted twice. The part that took place 6 months after the flood involved 91 people. The second part, one year later, involved the same group of participants. Eventually, 75 people took part in the second part of the research (25 men and 50 women) and four sets of results were collected for each person: two concerned the participants' situation at the moment of the flood (the first set of results was collected 6 months after the flood and the second one 18 months after the flood) and two concerned the moment of coping with the effects of the catastrophe (6 and 18 months after the flood). The age of the participants was between 15 and 82 years (M = 46.35, SD = 15.61).

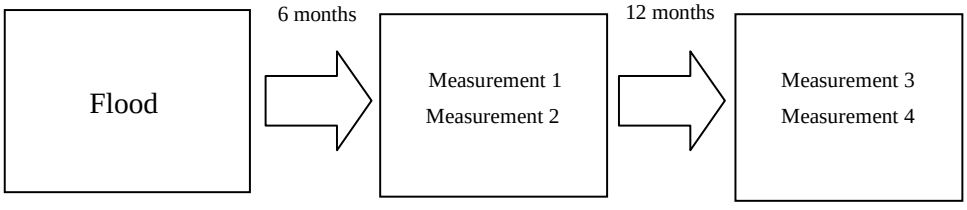

Figure 1. A scheme of the research.

RESULTS

For each of the dimensions in Measurements 1, 2, and 4, arithmetic means and standard deviations were calculated. Of the measurements describing the situation of people at the moment of the flood (1 and 3), the first one was chosen as being closer in time to the events described. Measurements 1 and 3 were also compared using repeated ANOVA, but no significant results were obtained.

The results in Table 1 show that the subjective intensity of the variables measured at the moment of the catastrophe (Measurement 1) as well as 6 months (Measurement 2) and 18 months (Measurement 4) after the flood. What is more, they are an indicator of the significance (intensity) of each dimension in the situation of coping with crisis. The presented values concern a narrow perspective, involving the distinction between instructions about the flood and coping. They are also distinguished according to the time of measurement.

Table 1
Means, Standard Deviations, and ANOVA Results in the Dimensions Described

Variable	Measurement 1		Measurement 2		Measurement 4		ANOVA	
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Amount of loss	84.87	22.63	68.12	31.74	46.87	31.15	63.79	< .001
Helplessness	77.64	27.29	50.53	29.95	41.81	24.63	43.88	< .000
Efficacy of coping	52.60	28.13	58.36	21.72	67.85	19.42	8.64	< .001
Help of others	63.51	26.35	48.73	29.65	26.47	34.23	26.47	< .001
Chance for rebuilding (life)	47.59	25.53	62.11	20.06	65.45	19.36	11.69	< .001
Control over the situation	36.80	25.59	59.53	21.59	66.83	16.19	40.89	< .001
Possibility of controlling one's life	47.08	26.25	62.67	18.84	68.69	18.33	23.65	< .001
Motivation to recover in the same habitat	58.16	29.20	64.33	25.27	70.56	24.00	6.23	< .01
Optimism	40.93	26.92	62.23	21.67	67.88	16.62	29.46	< .001
Sense of security	31.01	24.38	52.37	23.51	52.08	25.40	21.88	< .001
Blaming others	41.88	33.12	36.54	28.30	35.76	32.41	1.34	.266
Fear of the future	68.43	29.03	59.95	27.63	66.88	25.82	4.36	< .05
Hope	52.59	22.94	61.92	21.77	68.07	18.47	16.17	< .001
Sense of strength	47.12	23.80	58.36	20.60	64.63	18.21	18.4	< .001

In Table 1, ANOVA results are also presented. No risk existed that any of the means would equal 0. Chi-square was used to determine the proper *F* test. Wilks's λ was used for significant results and the Greenhouse-Geisser effect was used for those non-significant. The analysis showed significant differences in 13 of 14 presented dimensions. An increase in the results concerned eight of them, namely: efficacy of coping, control over the situation, possibility of controlling one's life, motivation to recover in the same habitat, optimism, sense of security, hope, and sense of strength.

A significant decrease was found in four of the variables: amount of loss, sense of helplessness, help of others, and chance for rebuilding (life).

Moreover, the fear of the future variable showed a nonlinear effect: its degree decreased between the flood and 6 months after it, but only to increase later. The only variable that stayed at the same level was blaming others.

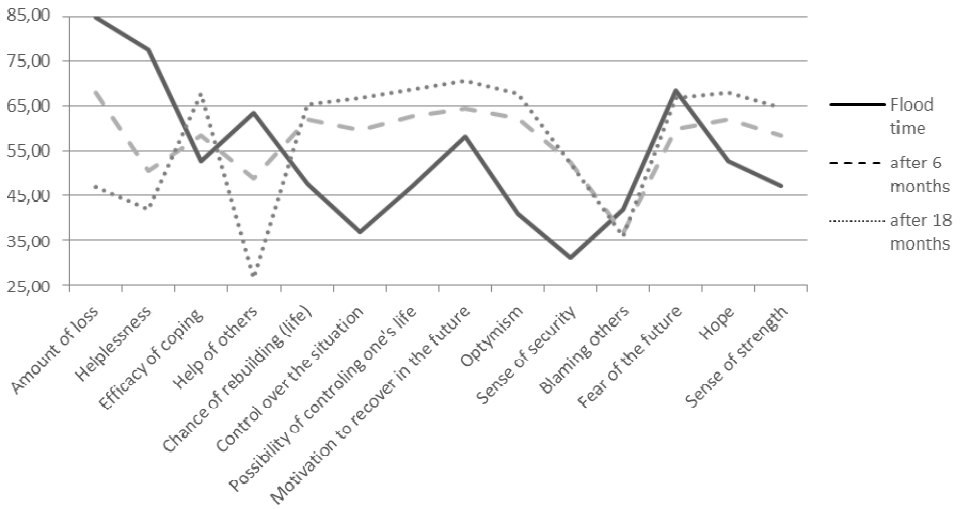

Figure 2. Mean results for the tested variables depending on the time of measurement.

DISCUSSION

In the reflection on the above results and their psychological meaning, an attempt was made to conceptualize them using publications and theories beyond the field of crisis psychology and crisis intervention. The analysis of the 14 va-

riables and their similar directions of change was an attempt to find their common elements and refer to general psychological theories.

From the mean results for the research group it is possible to conclude that almost all of the variables turned out to have significant meaning to the participants. This is important information because it implies that 13 out of 14 dimensions can be useful in providing psychological help as well as other non-psychological forms of assistance during crisis intervention. The "blaming others" dimension did not show any significant changes during the coping process. Despite the fact that social support is the most important form of action, all forms of intervention require taking into account the type of crisis, the person's level of competence and his or her actual psychological condition (Sęk, 2001; Terelak, 2007). Therefore it is crucial to know the meaning and significance of different dimensions and their change in time.

Based on the analysis of the presented dimensions, the conclusion can be drawn about positive and gradual coping with the consequences of the catastrophe experienced. It is also worth noting that an increase was mostly found in psychological dimensions and decrease in environmental ones. This distinction seems to indicate a growth of intrapersonal coping competencies or even in a deep belief in the possibility of overcoming the difficulties that have appeared. A decrease in the dimensions concerning the external world may indicate that most of the people recovered (mental stability and their closest environment) and no longer needed to rely on additional forms of help. The variables described may involve aspects of self-sufficiency, internal locus of control, and motivation to act. They may be connected with an increase in internal motivation and proactivity (Heider, 1958), self-efficacy, or positive expectations about the future (Zimbardo et al., 2009).

The variables whose values have dropped are more focused on the external aspects, even those that can be used for helping in the process of coping. With high probability, there may have been some changes of beliefs and transmission of more negative meaning to the environmental factors and more positive to the person's own resources. The lesser significance of the loss as well as helplessness can be caused by factors such as a decrease in positive orientation (Caprara, 2009), disappearance of depressive symptoms (Sęk, 2001), posttraumatic growth (Zimbardo, 2012), overcoming grief, or the recession of PTSD (Kubacka-Jasiecka, 2010). Their cause may as well be environmental factors such as, for example, the support of more or less important people (also those conducting interventions), success in rebuilding the destroyed environment (which can reinforce self-efficacy), or other observed effects of one's own actions which can

decrease the relevancy of the losses. The comparison of the group of decreasing variables with the group of increasing ones may indicate that, after a catastrophe, it is more adaptive during coping to concentrate on one's own efficacy rather than on external (even positive) factors. It is, however, worth noting that neither temperament nor personality can completely protect a person against the effects of traumatic, chronic stress, although both can decrease them (Maslach, 2003). It seems that with time the role of personality factors may increase and be greater in the later stages of coping than at the very beginning.

Only in the case of increasing fear symptoms and a decrease in the perceived help of others may negative effects of the events that happened occur. A lack of one very concrete cause of the catastrophe might have shaken the belief in one's own safety in the surrounding world. However, it is not exactly clear if in the case of experienced fear the observed growth has a permanent quality and what is the character of its changes (further explorations may be necessary). Based on the results, it is not possible to deduce, either, whether the analyzed fear is a state or a trait (Jaworowska, 2005). It can be treated as a more stable feature of the psyche or only as a remnant of PTSD or depression. It is also very likely that the lower level of fear 6 months after the catastrophe than 18 months after it stems from the fact that at the moment of the flood fear had its source in the events happening, whereas after 18 months it resulted from negative expectations about the future, such as a fear of recurrence (Zimabrdo et al., 2009). It is also possible that one year after the flood fear was lower because of the great commitment to all kind of actions aimed at making the situation better, which meant not devoting enough time to reflection on one's own situation, planning for the further future, or analyzing the experienced traumas.

As regards the decrease in the perceived help of others, a good explanation is the fact that all the resources people try to achieve in the process of coping are limited, and very often people have to contend for them. This very often takes place against the background of the collapse of social structure and hierarchy (Kaniasty, 2011) – probably because the people and institutions that were the main source of support stop providing it and, in many cases, they require support themselves. This phenomenon is well conceptualized by the postcrisis support deterioration theory (Kaniasty, 2003) and is the opposite of postcrisis mobilization, which takes place in the very first moments after a catastrophe. As the author suggests, it affects equally all the people living in a certain area, not necessarily only those who were victims directly. Small perceived support from others may even be present two years after the catastrophe. People's temporary emotional states are very important in it. The perceived amount of gained support is

very often limited by bad mood, symptoms of depression, or PTSD. Additionally in the case of a technological disaster the signals of deterioration of social support may be stronger than in the case of a natural disaster. It possibly happens because it provides room for creating alternative explanations of the reasons and causes of the events. Certain people or social groups may then be blamed. Paradoxically, however, it may be a cause of a greater unity of the local community when dealing with the consequences of flood. We may then say that, in the presented research, the cataclysm destroys the former social structure and hierarchy. All kinds of causes subjective for people or groups may then (at the very beginning) unite the local community for better and more efficient coping (but only in a short-term perspective).

PRACTICAL IMPLICATIONS

The description of the research problem provided in this report has a number of implications. The most important of them is the fact that different assistance actions are required at different stages of coping. It is also very important to end an intervention in the appropriate moment, as this may help prevent the victims' overdependency on the help provided. However, this moment seems to be very individual and the decision on when it should take place is at the discretion of the person that provides help.

The changes described in this paper concern selected personal and environmental aspects important in coping with the situation of flood. These aspects describe the desirable direction of changes, and in case of deviations they may indicate which psychological areas should be worked on. The level of a factor is as important as the direction of change and the different availability of personal and environmental variables at different stages of coping.

What is more important, there is also a great need for simple conversation, which was very often found during the intervention as well as the research and shows a great need for psychological assistance in the areas affected by any kind of disaster. This seems to happen because the victims' strong need for conversation about their experience very often meets with little willingness to listen about it among other victims. This has its sources in vicarious trauma (McCann & Pearlman 1990, as cited in Zimbardo, 2012), which consists in experiencing the trauma of others more strongly than one's own. The very difficult situation of flood victims requires a great deal of psychological support, which can help achieve a better understanding of what actually happened and give it a very personal, subjective meaning. Such assistance can be provided with the help of

a psychologist as a professional prepared to face many different kinds of human problems. It is worth noting than this kind of interactions should be sincere, transparent and truly assistance-oriented; what is the most important, they should only be initiated and conducted at the victim's request (Sęk, 2001).

CONCLUSIONS

It is worth noting that stress in a group is never the sum total of stress in individuals (Kaniasty, 2003). Moreover, with a limited sample of observation and very specific description of the situation, we should be very careful in generalizing observations to the rest of the population. Individual reactions, meanings, and strategies of coping may be completely different. People may give contradictory and very often irrational explanations for events and experiences. Searching for meaning is not completely rational but also composed of aims, beliefs, and feelings (Oleś, 2011). It takes place even though stress is strongly environment-dependent and it refers to the global social experience (Park, 2010).

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