

CHILD SAFETY IN SCHOOL EMERGENCIES

Vera V. Abramenkova

*Institute of Psycho-Pedagogical Problems of Childhood
of the Russian Academy of Education
Moscow, Russia*

Alexey S. Minyaev

*Moscow State University of Psychology and Education
Moscow, Russia*

The main research objective was to study characteristics of children community's mutual activities that influence the effectiveness of implementing security in the children's community. In the process of training course taught using different programs followed by comparison of the resulted actions in an emergency situation of three school classes (N=527) the following conclusion was made: the class that had an integrated basic safety course and at the same time attended practical classes and psychological trainings, coped with an emergency situation more effectively, quicker and with fewer personal injuries.

Keywords: school community, emergency situation, interactive activity, simulated emergency situation, coping with the simulated situation by the school community.

Safety is a challenging and very important problem in modern psychology. The threat to people's safety has increased noticeably in the modern world for both objective (natural and industrial disasters, global terrorism) and subjective (social neuroticism, increased incidence of psychosomatic disorders and fears) reasons (Pilipenko, 2005).

This situation is especially acute for children. Terrorist acts (Beslan 2004, Moscow 2004, 2006, 2010), school fires (Kursk Region 2003; Moscow 2003/campus at People's Friendship University of Russia), roof collapse at a water park (Moscow, 2004), terrorist attacks in the subway and Domodedovo Airport (2004; 2010; Moscow, 2011, etc.) have proven the high probability of the occurrence and repetition of such threatening events to the lives and health of children.

There is a threat to schoolchildren's safety in schools that demands action of not only the school administration and teachers, but of children themselves through their appropriate behavior.

As a survey in Moscow schools after the terrorist act in Beslan showed, many schoolchildren started to feel more vulnerable in school. So how should we create safety in today's school system?

The measures of the Ministry of Education's School Safety Program in most cases concern merely the technical equipment of the school facilities (safety buttons, video surveillance system, etc.), while the psychological aspects of the issue (i.e., mobilizing a child in an emergency and the problem of handling an emergency in the school by the whole community) don't receive proper attention. Meanwhile, the "human factor", especially concerning children and schoolchildren, may be crucial for saving them in an emergency.

What are the most effective means of ensuring the safety of schoolchildren in schools? Can we train children to manage emergencies? Why, as is often the case, members of one group deal with an emergency faster and more efficiently, while the others just give up? Despite many studies of schoolchildren's general and personal safety in the psychological-pedagogical literature, only a few of them address matters of mutual cooperation among children of various ages in a threatening situation.

This gap in the study of the mechanisms of psychological safety of children and adolescents in schools must be filled – we need to pay attention not only to dissemination of knowledge about measures of individual safety, but also to creation of cooperation among schoolchildren in order to ensure their appropriate response to various threats in a possible future emergency and effectively cope with them.

We conducted this research for reasons of keeping schoolchildren safe in various threatening situations, for example, natural and man-made disasters, terrorist acts, and others.

Such essential protective measure as evacuation of people from school, is in itself an emergency situation that puts children at risk of injury and even death as a result of wrong actions by adults and children themselves. The psychological aspect of organizing school evacuation makes it possible to address safety threats. However, when the entire school is being evacuated, the response of children of different age varies. This is due to children's individual (gender, age) and personal (type of response, anxiety level, etc.) characteristics, their psychological features,

the level of development of interpersonal relations and cooperation in each group (Petrovsky, 2007).

As a result, the primary objective of our research is to determine the role of cooperation and its psychological characteristics in keeping schoolchildren safe in emergencies.

Our research tasks were as follows:

1. To provide a psychological classification of school emergencies.
2. To single out the psychological characteristics of cooperation which promote effective actions among children in emergencies.
3. To study the behavioral aspect and activities of children of various ages (small children – adolescents – young men) in emergencies.
4. To empirically study the effectiveness of cooperation in an emergency for various forms of safety training.
5. To develop and evaluate the optimal instructional program for schoolchildren in order to increase the effectiveness of cooperation in emergencies.

Actions of every child community in an emergency have both individual psychological (anxiety, type of response, gender and age characteristics) and sociopsychological (form of organization, focus, group cohesion) characteristics.

The following hypotheses were made:

1. Mostly interactive cooperation mediates the effectiveness of children's safety.
2. Each age group of schoolchildren has its own behavioral pattern in an emergency:
 - a phased transition from adaptation to individualism to integration;
 - a transition from high-energy activities in young children, to increased activity in young adolescents, and to a certain decrease of it in senior adolescents.
3. Individual features of schoolchildren (gender, age, disabilities) and their personality characteristics (anxiety, type of response) affect the success of cooperation in an emergency.

The theoretical importance and scientific originality of the research consist in a new approach to the actions of children of various ages in a school emergency. The work combines a general activity approach with sociopsychological and psychological-pedagogical concepts of coopera-

tion, which makes possible an interdisciplinary synthesis of the ontogeny of a child's behavior in a school setting during a simulated emergency.

This work for the first time justifies the necessity and possibility of ensuring children's safety at a school by implementation of an educational strategy targeted at an interactive style of teaching basic life safety (BLS) that implies a prosocial orientation and development of humanist interactions in children.

A theoretical analysis of the literature showed that there is not enough emphasis on the psychological side of schoolchildren safety in an emergency in psychological and pedagogical theory and practice. In our research, we proposed a training program for constructive interaction during a possible threat, which will allow children to effectively cope with it.

Children of three age groups participated in the research: 74 young children (7–10 years-old); 35 young adolescent children (11–13 years-old); 71 senior adolescent children (15–16 years-old). A total of 527 children took part in the study, including 265 girls and 262 boys.

The research results have a practical value in that they add to the means of creation of feelings of protection and safety among schoolchildren. The work also provides a basis for initiating cooperation among schoolchildren.

The empirical study consisted of the preparatory and the experimental parts. The study ran from September 2004 to September 2008.

The participants varied greatly in their age – from young children to adolescents and young men, which enabled us to see the psychological features of cooperation among virtually all schoolchildren in an emergency.

We should note the importance of issues relating to adults' ensuring children's safety. The results of a survey among schoolchildren revealed their attitude to a possible threat. Overall, there was a slight drop in the perception of a terrorist act as a possibility in the future.

Analysis of the data on changes in attitudes towards possible emergency reveals some interesting trends. Overall, there was a slight drop in the perception of a terrorist act as a possible future threat.

This drop appeared among elementary and junior high school children. Elementary school children were able to "forget" about feeling threatened by the terrorist act in Beslan in 2004. However, this "forgetfulness" may be a subject of psychological defense mechanisms.

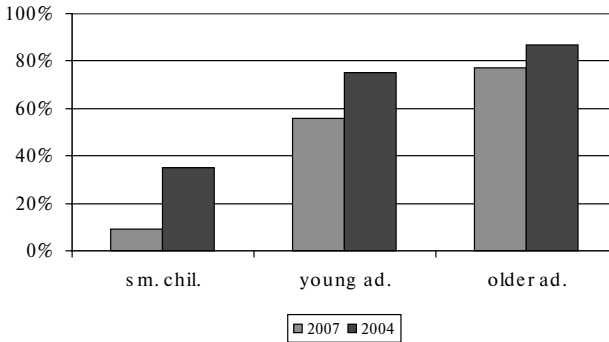


Diagram 1. Age-related dynamics of childrens attitude to a possible safety threat in a school*

There was no significant reduction in the indicators in junior and senior high school schoolchildren – the sense of a threat remained high. This may be related both to age-specific features of memory development and a higher level of awareness among adolescents. However, it should be noted that the feeling of helplessness might be attributed to the schoolchildren’s remembrance of a situation that happened very close to their school – an explosion in Avtozavodskaya subway station in 2003. Many senior schoolchildren who were in junior high in 2003 learned the details of these tragic events from acquaintances and their classmates’ parents.

In addition, the increased number of adolescents affirming that there was a continuing threat to safety may be related to heightened attention to safety issues in the media on each anniversary of the Beslan tragedy.

At the start of the experiment, all classes involved in the study had approximately equal composition, equal conditions and equal experience and behaved alike in a simulated evacuation. Co-active conduct predominated in three senior high school classes. Qualitative differences in initiating cooperation are associated with the presence of teachers supervising the children, the way duties were assigned, whether the children received help in an emergency, and the extent of the children’s involvement in a discussion of how to manage an emergency. The qualitative and quantitative differences in the characteristics of cooperation

in 2007 are associated with the implementation of various educational programs, including traditional BLS training, mixed training and practical training in team building. The various forms of training differed by the type of cooperation and extent of collaboration: co-active (“side by side but not together”) and interactive (“one for all and all for one”) (Abramenkova, 2008).

Interactive cooperation provides greater scope for effective safety for children. Educational actions where only traditional frontal methods have been used cannot achieve the interactive form of cooperation. Creating interactive cooperation during exercises based on the team building principle may be an alternative.

The focus of children’s activities is also important for its effectiveness: children who are focused on action perform better in various activities, including coping with an emergency. Unlike children who are focused on themselves or action, most of their energy is directed towards maintaining relations with other people, on establishing trust-based contacts with them and initiating cooperation to find ways of coping with an emergency. In doing so, they get more positive responses from their classmates, their behavior is more balanced and appropriate to the situation, and they often have a relationship strategy. On the other hand, children who are focused on themselves or action tend to have inappropriate communication strategies and methods that lead to their alienation.

A comparison of the signs of co-active and interactive actions of elementary and junior high schoolchildren showed the following. The preliminary experiment showed that with age occurs an increase in interactivity – small children in a situation of emergency are capable of cooperating only to a limited extent (11%), this indicator for adolescents is 46%, and is 71% for older schoolchildren (mainly young men).

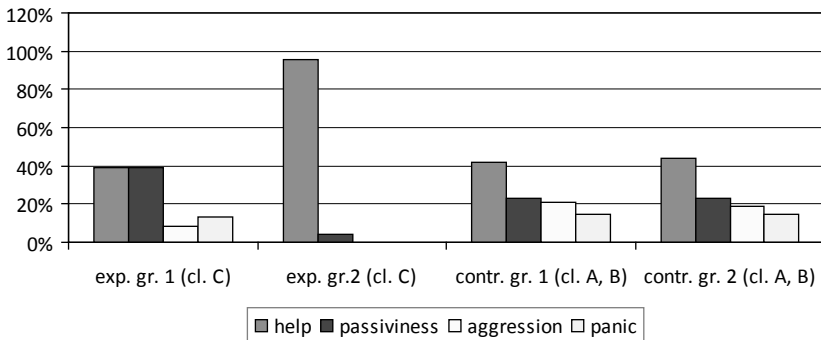
The analysis showed that in both elementary and senior high school classes, signs of co-active conduct predominate those of interactive conduct. Moreover, a comparison of the elementary school results with the results of senior schoolchildren shows that in junior and senior high school classes to a greater extent interactive cooperation prevails, given that the influence of a teacher during the evacuation is minimal. In elementary school cooperation was entirely organized by a teacher. A comparison of the trends in the ratio of signs of co-active and interactive cooperation leads us to conclude that:

– the number of signs of interactive cooperation show an upward trend and is associated with both age-related changes in the schoolchildren and changes in the educational process in junior high school. However, this natural increase by the end of the early school years is insufficient for senior high school schoolchildren to effectively cope with an emergency, and only a formative experiment with an emphasis on interactivity and its value characteristics make it possible to achieve the desired effect.

When there was an opportunity for schoolchildren to attend a supplementary education system, children in the fourth class interacted more intensively with one another. The availability of a large number of subjects in junior high school (fifth grade) and the use of various educational programs taught by different teachers are more conducive to increasing the frequency of schoolchildren's interactions with one another.

However, differences among senior high schoolchildren were noted as they left the school building and were organized on the school's playground. Schoolchildren of class 10A were dispersed over the area designated for evacuation; interaction between the schoolchildren was sporadic, and some schoolchildren showed certain detachment from what was going on. Class 10B was arranged in several micro-groups where discussions and also conversations on topics unrelated to the evacuation were going on. The heightened emotional background should be noted. Moreover, the majority of the 10B class schoolchildren treated the event like a game or a joke, and there was no sense of responsibility towards themselves or those around them. Schoolchildren of class 10C were arranged in a large group: they were cheerfully discussing certain aspects of the evacuation, effectively providing support for the schoolchildren experiencing difficulties; at the same time the class leaders initiated a lively discussion of the key points of the class's actions in coping with the emergency (Burmistrova, Baeva, Laktionova, & Rassokha, 2006).

A focus on communication is not the only indicator that an adolescent is oriented towards interaction and shares group values; a focus on action may also be such an indicator. An adolescent who is focused on action is interested in successful cooperation. In a simulated emergency this action involves precise organization of children if negative factors are threatening the group's integrity. A.V. Petrovsky wrote about the importance of the role of cooperation among groups and uniting them with shared objectives (value-oriented unity) in confronting negative factors (Petrovsky,



Legend: exp. gr. 1 (Cl. C) – experimental group (first survey); exp. gr. 2 (Cl. C) – experimental group (repeat survey); contr. gr. 1 (Cl. A, B) – control group (first survey); contr. gr. 2 (Cl. A, B) – control group (repeat survey)

Diagram 1. Group index of cooperation in experimental and control groups

2007). A comparison of the results using the Bass method with the results of the observed children's actions in a simulated emergency shows that schoolchildren in the third group (Class C) were all evacuated from the presumably dangerous area with the fewest injuries. In addition, we noted the following facts from observing the children's actions. Most of the Class C schoolchildren actively assisted their classmates. According to the evidence of another expert, contacts between schoolchildren in this class did not have a clearly expressed "frenzied" emotional background. The schoolchildren explicitly talked with each other only if absolutely necessary, and all discussions had a constructive nature.

It should be emphasized that the maximum number of people in the class – twenty-three – was included in the discussion of escape routes from the emergency situation. The emotional background of the group may be described as stable and calm in general, while at the same time there were schoolchildren openly expressing their emotions. However, even these schoolchildren tried to control them by looking to the calmer members of the group and acting as a team. Class A and Class B also showed examples of constructive interaction, but the number of schoolchildren included in the discussion of escape routes from the emergency was insignificant. Differences in the features of initiating cooperation between schoolchildren in Classes A and B (in school year of 2007-2008) compared with Class C

were also apparent in the features of organizing and guiding the children. In class C, the duty of guiding the class's action was distributed among the class activists. However, each student could take part in the discussion. There were no signs of a "power struggle" in Class C.

We also obtained additional results for age-related dynamics of the form of cooperation in an emergency:

- young children (8–10 years): predominance of co-active forms of cooperation; significant predominance of the co-active form of cooperation among boys/young men;
- young adolescents (12–14): an overall increase in activity in a situation of emergency; co-active and interactive forms of cooperation appeared in essentially equal ratios; no gender differences in the predominance of either co-active or interactions forms of cooperation were found;
- senior adolescents (15–17): some decrease in the children's overall outward activity, along with a decrease in both interactive and co-active forms of cooperation which are probably are getting internalized. Young men show more signs of interactive activity than young women.

After summarizing the results using methods employed at the study of the focus of action, anxiety and the level of group cohesion, conclusions were made about the influence of these parameters on the effectiveness of children's actions in an emergency. To prove the hypothesis of the influence of organizing cooperation on the effectiveness of children's actions, we used both a qualitative analysis of cooperation and its quantitative parameters. We also discovered certain patterns in the supplementary data obtained during the research that better showed the individual characteristics influencing the specific response in an emergency. Organizing safety lessons as interactive cooperation mediates and determines the effectiveness of children's safety more than co-active cooperation: evacuation time is reduced, the full strength of the class is preserved, the number of injuries is drastically reduced, and the children's behavior in an emergency becomes more sensible and responsible.

Experience in interactive cooperation acquired through a team building course contributed to the improvement in the sociopsychological parameters of the group itself. Interactivity in the child community mediates the indicators of the group's sociopsychological dynamics,

strengthening of its prosocial focus and group cohesion, and the appearance of humane interpersonal relations.

In this case, community members cope successfully with the stress factor of an extreme danger, which lowers the level of individual anxiety and changes the type of response to a predominantly optimal one.

Each age-specific stage of the school community has its corresponding group development level and emergency behavior.

Co-active forms of behavior, dependency in decision-making, internal disorganization, and total orientation towards an adult (teacher) typically predominate in young schoolchildren, which corresponds to the adaptation phase and diffuse level of group development.

Adolescents typically have approximately equal indicators of interactive/co-active forms of behavior, search for independent solutions, show ambivalence in choosing orientations and random organization, and fight for leadership, which corresponds to the individualization phase and development of group as an association.

Senior high school schoolchildren show a predominance of interactive/cooperative forms of behavior, independence and initiative, orderly intra-group structure, and resistance to subordination. However, there are differences in the value characteristics of the actions of these groups: in Classes A and B there is emotional identification and a humane attitude to helping "ours" in emergencies, while in Class C humane attitudes extend to everyone who needs help. This indicates that the first two groups, which are at the integration stage, are close to characteristics of a corporation, while the last one (C) is closer to a team type of group.

After comparing the theories we examined and the results of empirical research, we made the following conclusions.

The conclusions apply to both proof of the three empirical hypotheses and the examination of age-specific aspects influencing the effectiveness of children's safety in an emergency, and also the following theories:

1. A simulated emergency is a specifically defined model of events represented by natural and industrial disasters, and by other situations in which negative factors are overcome most effectively not only as a result of the action of school administration and teachers, but also as a result of cooperation among the children themselves.

2. The ambivalent attitude of schoolchildren of various ages to school safety and safety measures continuing for a prolonged period is

the evidence of children's feelings of vulnerability in a possible emergency.

3. Interactive cooperation among schoolchildren in a simulated emergency mediates the effectiveness of children's safety more than co-active cooperation, which is manifested in decreased evacuation time, preservation of group strength and fewer injuries.

4. The age-related ratio of forms of cooperation in an emergency is as follows:

- in young children, co-active forms predominate over interactive forms, which corresponds to the phase of personal adaptation in a group;
- in adolescents, the observance of co-active/interactive forms of cooperation is equally probable, which is typical of the individualization phase;
- in senior adolescents, there is a slight predominance of interactive forms over co-active, internalization of activity, the appearance of humane attitudes in the group, and a higher level of group development (increased cohesion, etc.), which indicates that the schoolchildren have entered the integration phase. These processes are typical of the integration phase. At the same time, there is a possibility of establishing a higher level of group development with a prosocial focus.

5. Schoolchildren' personality characteristics (anxiety, type of response, social status, focus) in a simulated emergency had a mixed effect on their behavior. With interactive cooperation:

- the indicators of aggressive, apathetic and panicky responses decreased and indicators of optimum responses increased to a greater extent;
- the social status of classmates did not have a significant effect on the group's humane attitudes: schoolchildren both helped and accepted help regardless of their place in the social structure;
- focus on the self decreased, while focus on communication and action increased. However, anxiety was mainly an invariable characteristic of individuals in all groups for the duration of the experiment.

6. Schoolchildren' individual characteristics (gender, age) have a specific effect on their behavior in a simulated emergency. Girls/young

women in all age groups generally show interactive forms of behavior and compete for leadership in a simulated emergency to a lesser extent than boys/young men. Boys/young men are generally more active in coping with a simulated emergency; and young men are more inclined to help classmates than young women.

7. Initiating interactive cooperation in a training program based on the team building principle not only promotes more effective action, but also a higher level of cohesion among the children themselves. In addition, the children's negative personality characteristics in a simulated emergency are corrected during this training.

Thus, an important result of the research for the domains of personality and social psychology is that the development of interactive cooperation is accompanied by a change in schoolchildren's personality characteristics – the response of the experimental group to a simulated emergency was optimized, and the personal focus changed. For example, the indicators of aggressive, apathetic and panicky responses decreased during interactive cooperation.

Child safety is the basic need determined by a set of both internal and external factors. Safety as an individual characteristic is achieved in the result of group activity. The absence of specifically initiated cooperation may make it difficult to meet the safety needs of each child in the community.

The concept of child safety is viewed through the categories of “activity” and “cooperation” in the child community. Both activity and cooperation in the child community are structural units of analysis mediating both group and personality characteristics of children and the child community. The team building principle that forms the basis of the course creates special educational conditions for further work.

Children's attitude to the possibility of a threat to their safety (after Beslan) is a variable psychological unit. The fear of a possible threat decreased with time. This decrease appeared among elementary and junior high school schoolchildren in Moscow. The threat simply ceased to be. Elementary school children were able to forget the feeling of being threatened by the terrorist act in Beslan in 2004. These indicators least decreased among senior high school schoolchildren. The sense of a threat to safety remained at a high level. This may be related both to age-specific features and a higher level of awareness among schoolchildren

of the low capacity of government and society to prevent these situations in schools.

Co-active and interactive forms of cooperation had varying influence on the effectiveness of child safety. In groups (classes) where cooperation was interactive, adolescents helped and supported one another, and evacuation times were reduced.

Where schoolchildren had the opportunity to attend a supplementary education system, children in fourth class interacted more intensively with one another. The availability of a large number of subjects in junior high school (fifth grade) and the use of various educational programs taught by different teachers are more conducive to increasing the frequency of schoolchildren's interactions with one another.

A more appropriate response and active interaction among community members in a simulated emergency were observed in an adolescent group (class) with higher group cohesion and social focus on action. Interactive cooperation and a team orientation of cooperation (as the aggregate of individual displays of orientation) predominated in a class where lessons were based on the team building principle. In groups (classes) where cooperation was interactive, adolescents helped and supported one another, and evacuation time was reduced.

In groups where the survey results showed a large number of adolescents with a high anxiety level and panicky response, we found that the time spent on evacuation increased, and less than full escape from the danger zone with the occurrence of physical injuries.

The increasing number of emergencies in schools affects both the adults working in these institutions and the schoolchildren. A teacher cannot consider him/herself a professional without knowing basic life safety. Psychological-pedagogical training in threatening factors for school employees and the development of a culture of safety among them are decisive factors in preventing diseases, injury, crimes and other incidents in schools.

This is also relevant for children studying Basic Life Safety (BLS) in school. The tragic events in Beslan, New York, London and Madrid clearly showed the crucial role of knowledge of basic life safety. This applies to school employees, schoolchildren, and their parents. However, because nearly all of the above-listed categories study the procedure for coping with emergencies, very little attention is paid to the psychological side of mobilizing people in an emergency, or the issues of coping with

an emergency as part of a group or community. Thus, the main emphasis in our work was on studying the characteristics of cooperation in the child community that influence the effectiveness or ineffectiveness of a group of children in coping with an emergency.

A reconsideration of training and educational methods is needed in order to achieve the objective of saving a school community, especially children. Administration, teaching staff and school security not only need to upgrade their safety qualifications, they must place emphasis on the search for pedagogical methods that enable children to act as efficiently as possible even without a teacher, based on saving not only themselves, but also the entire group as a whole and each of its members separately.

Teachers must also emphasize building group cohesion among classmates. This is possible only through initiating interactive cooperation by group exercises similar to team building training courses and modeling a simulated emergency, during which interactive cooperation is created. Interactive cooperation is prerequisite for ensuring effective activity among children in an emergency. At the same time, the child community itself develops into a team, making it effectively organized.

References

- Abramenkova, V.V. (2008). *Social'naja psihologija detstva* [Child Social Psychology]. Moscow: Per Se.
- Burmistrova, E.V., Baeva, I.A., Laktionova, E.B., & Rassokha, N.G. (2006). *Obe-spechenie psihologicheskoj bezopasnosti v obrazovatel'nom uchrezhdenii* [Psychological School Safety]. St. Petersburg: Rech'.
- Pilipenko, V.F. (2005). *Bezopasnost': teorija, paradigma, koncepcija, kul'tura* [Safety: theory, paradigm, concept, culture] (2nd ed.). Moscow: Per Se.
- Petrovsky, A.V. (2007). *Psihologija i vremja* [Psychology and time]. St. Petersburg: Piter.