






Change of the actions declared in simulated situations involving interpersonal aggression

Authors' Contribution:

-  **A** Study Design
-  **B** Data Collection
-  **C** Statistical Analysis
-  **D** Manuscript Preparation
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Abstract

Background & Study Aim:

One of the research tasks most difficult in methodological sense is to anticipate human actions and behaviours in the potential situations involving physical aggression. The goal of the study is to answer the question whether regardless of the aggressor's aim people are willing to take countermeasures in a comparable manner or even to refrain from an active defence.

Material & Methods:

Ten years after socio-political transformation in Poland (1999) we studied 1,472 persons (1,123 males and 349 females), including: graduates of various types of secondary schools directly after their graduation and working in various professions (n = 454); 1st to 3rd year students (n = 435); university graduates working as a teacher, physician, official, military-, police- and prison officer, etc. (n = 583). The average age of respondents amounted to 27.3 years (19 to 58 years). Studies involved verbal simulation and KK'98 questionnaire with verified accuracy and reliability.

Results:

During a hypothetical assault on bystanders, with no attack's goal revealed, most respondents (68.41%) declared that they would respond to aggression with more aggression, whereas 29.08% of them assumed that they would take up action in line with the criteria related to the right of self-defence and 2.51% would not react. When the goal of a hypothetical aggressor was to kill the respondents, a radical change in answers could have been observed: 29.49%; 60.12%; 10.39%, respectively.

Conclusion:

It seems that the awareness of aggressor's goal and a target of physical assault are the factors which highly influence the behaviour of people who are in the social environment and in certain relationship with the aggressor. There is a clear tendency for respecting the criteria related to the right of self-defence when aggression is channelled directly towards the respondent which speaks in favour of the Old Testament principle "an eye for an eye".

Key words:

aggressiveness • bravery • right of self-defence • security science • verbal simulation

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Aggression (in psychology)

– is deliberate behaviour by the perpetrator intended to either hurt the opponent, harm or distress him/her in any other way, cause pain (regardless of whether this aim is achieved), or destroy things [10, 31].

Aggression (in praxeology)

– is to initiate destructive fight or move in a verbal dispute from material arguments to those causing distress to the opponent [35].

Aggressiveness – a human characteristic manifesting itself in inclinations to hurt others, to destructive behaviour. *Aggressive* = virulent, truculent, attacking [35].

Bravery – means efficiency in good deeds, efficiency combined with estimable aspirations [35, 36].

INTRODUCTION

There are many sources of aggressive interpersonal behaviour. Human behaviour (unconscious and conscious) is the domain of psychology. In contrast, praxeology (science about good work [1]) is devoted to action, i.e. a deliberate behaviour. When a person intentionally seeks to destroy, mutilate or subordinate another human being, a victim of such violence or aggression finds itself in a very difficult situation. If an aggressor has the experience (often supported by many years of practice), then the probability of achieving the goal is high. Sometimes, one person attacks another one because of the subjective sense of threat. It may be sometimes exacerbated i.a. by difficulties in adapting to dynamically changing social and economic conditions, in which a person functions. The following issues go into the foreground: crisis of the contemporary family, decrease in the educational functions of the school, continuing high unemployment rate, expanding areas of poverty [2-5].

Apart from obvious benefits, socioeconomic changes however result in many negative phenomena: unstable pace of life, the pursuit of success, brutalization of interpersonal relations, intensification of aggressive behaviour, other social pathologies involving in particular the adolescents [6-9]. In fact, as far as all civilizational threats are concerned, everyone regardless of age, sex, education or profession may be subjected to interpersonal aggression [10, 11].

Aggressive behaviour is enhanced in various ways. In many areas of social life (sport, political and commercial competition, message of the media, etc.), a positive sense is attributed to terms such as “aggression” or “aggressiveness” [12-14]. Often, aggression is associated with effectiveness and shrewdness in action. First of all, visual commercial media are the ones who uncritically present aggression. And the availability of such message and causative power of influence, in particular on a young recipient, result in increasing crisis of elementary values, pathological forms of violence at school, at home or on the street [15-21].

Therefore, the importance of skills to cope with the threat of aggression has been crucial for every human being since centuries, as it falls within satisfaction of elementary needs. This is directly related to personal safety. This element (the need to prepare for life in contemporary aggressive world) is one of the most distinctive directions of modifications necessary at educational institutions of all levels [22-24].

Unfortunately, there are no patterns (apart from a few experiments) that would be visible at least in one large country. Political class, inefficient state and international institutions (also global ones), media selling the aggression and the teachers themselves are to blame [25-27].

Shifting even a part of this responsibility to science would be illegitimate. Scientific knowledge about aggression and phenomena related to it is broad and still supplemented within many sciences (psychology, praxeology, pedagogy, aetiology, security science, agonology, etc.) and at the interdisciplinary level [7, 14, 21, 23, 24]. This knowledge is constantly delivered to society mainly by means of specialist scientific journals, monographs, academic lectures, etc.

Scientists still consider the following issues as open problems: methods for diagnosing and treating aggression; methods for forecasting the behaviour and actions in the view of threat of interpersonal aggression; effectiveness of methods to counter all forms of aggression and violence; effectiveness of educational systems aimed at countering aggression and violence.

As far as diagnostics is concerned, direct (participating) observation is still the most reliable. Its main disadvantage involves limited possibility of observing simultaneously many persons by one qualified expert while documenting observational data. There are also reduced possibilities of applying direct repeated observation through modern means of logging (DVD, etc.). However, repeated playback of registered events (physical actions of certain people and their verbal utterances) gives the chance to lay out details which may determine the accuracy of diagnosis. Leaving aside laboratory conditions, secretive event recording (criterion of reliability) provided during participating observation may be not be possible in many circumstances. Furthermore, a person who is aware that the actions are registered (e.g. monitoring of school buildings) may in fact modify them and thus manipulate the observer.

The criteria of scientific determination of aggressiveness are met by studies providing anonymity of the respondents as well as their safety and in which reliable tools are used. Provided that aggressiveness is a human trait, its intensity may be determined based on actions (i.e. deliberate behaviour) and behaviour which are not always conscious in various circumstances, in particular in face of external threat. The phenomena of

aggression and aggressiveness (closely related to each other) are so complex and delicate in methodological sense due to the ethical criteria applicable in studies involving human subjects. Therefore, their optimal measurement should involve certain situations.

Furthermore, aggression has always been associated with the right of self-defence of a person attacked and other persons attacked by the aggressor. Thus, this factor should be taken into consideration in relevant studies which trigger human actions during situations involving the threat of physical aggression. Such studies are within a broad class of human action in such situations.

In this paper, the “situations involving a certain threat” should be understood according to *Encyclopaedic dictionary of psychiatry* [28] as: a difficult situation which takes place when there is a concern about loss of value prized by the entity (life, career, income, the object of love, etc.). This definition emphasises the threats of which a certain entity is aware.

The goal of the study is to answer the question whether regardless of the aggressor’s aim people are willing to take countermeasures in a comparable manner or even to refrain from an active defence.

MATERIAL AND METHODS

Participants

Ten years after socio-political transformation in Poland (1998-1999) we studied 1,472 persons

(1,123 males and 349 females), including: graduates of various types of secondary schools directly after their graduation and working in various professions (n = 454: males 396; females 58); 1st to 3rd year students (n = 435: males 276; females 159); university graduates working as a teacher, physician, official, military-, police- and prison officer, etc. (n = 583: males 451; females 132).

The average age of respondents amounted to 27.3 years (19 to 58 years): graduates of secondary schools (28.78 ±8.84 years); students (21.16 ±0.71 years); university graduates (31.81 ±8.28 years).

The study was conducted within the research project URWWF/S/01: “The Methods of Diagnosing and Preparing a Human Being for Acting in Difficult and Extreme Situations” (Resolution No. 05/12/2010 Bioethics Committee at the University of Rzeszow, Poland).

Protocol and questionnaire

Presented research results have been achieved in the secondary analysis of empirical data obtained during implementation of the grant for supervised project 4 PO5D 060 19 financed by the Committee for Scientific Research (2000-2001), Poland.

Studies involved two (among 12) verbal simulation and KK’98 questionnaire with verified accuracy and reliability [23]. Six randomly distributed questions (statements) referred to the description of the situation in which every person has been or may be.

Table 1. The statements of the KK’98 questionnaire used to diagnose a person in two potential situations of physical aggression threat [23]

Potential situation of physical aggression threat	Description of situation in questionnaire	Extreme answers (without of 2 and 3 score points) in three categories of assessment		
		passive behaviour		active behaviour
		unworthy of man <i>cowardice</i> (0 score point)	reprehensible <i>aggressiveness</i> (1 score point)	desirable <i>bravery</i> (4 score point)
A physical aggression on the respondent with intent to take his/her life.	If you were firmly convinced that the aim of someone else’s physical aggression is to take your life:	“I would ask him/her to abandon this act not taking other action”	“I would try to kill an attacker first”	“I am totally convinced that I am capable of defending myself, first of all by restricting movement of the assailant, and if it turns out to be ineffective, first by destroying his/her tools of combat, next mutilating him/her, and as a last resort by taking his/her life, yet without any anger”
A physical assault on a person whose relations with the respondent and the fierceness of the assault have not been determined.	If in your presence another person were physically assaulted:	“I would not defend him/her”	“I would call for help and strike back at the same time”	“I would always try to vigorously defend him/her, observing the rules of noble Fight”

Another six statements depicted situations concerning different vital issues. Each situation had five alternative answers attributed, from which respondents could choose only one. The basis for the choices made was the assumption that a respondent was driven by the following: former experience, knowledge and skills, responsibility for the fate of others, courage or no courage, a sense of confidence, awareness of risk and consequences faced, etc. Four out of twelve questions (statements) served to determine the respondent's potential behaviour in various situations in which there was a threat of physical aggression (we chose two – simulation of aggression against respondent, Table 1).

The declared behaviour of the person under research are subject to a general assessment in two categories: *passive – active*. In the category of the *active* conduct there are two ways of acting which are jointly attributed efficiency and ethical assessments: reprehensible behaviour (not very efficient and more or less disgraceful); desirable behaviour (efficient and more or less commendable). The arrangement of alternative answers is then built upon the following principle: only one of the answers informs about passivity that is, keeping in emergencies in a manner unworthy of man (0 score points – *cowardice*); the other four answers inform about active counteraction, which, in

addition, are subject to grading as regards the quality of efficiency and ethical assessments (from 1 to 4 score points). Two of the answers reveal reprehensible behaviour (1 and 2 points – *aggressiveness*), whereas two indicate desirable behaviour (3 and 4 score points – *bravery*). “Bravery” means – abbreviated – that respondent threatened physical aggression consistently respect the criteria of right of self-defence.

The research results do not involve point scale of KK'98 questionnaire. The proportions of the three categories of declared activities have been assumed as the assessment criterion. They indicate the following: *cowardice* (declarations measured by 0 score point), *aggressiveness* (declarations measured by 1 or 2 score points), *bravery* (declarations measured by 3 or 4 score points).

Complete information about KK'98 questionnaire and the key is the intellectual property of the first author (and co-founder of the questionnaire) of this publication [23].

Statistical analysis

The statistical analysis was based on: coefficient of proportion (%); significance test of independent proportions.

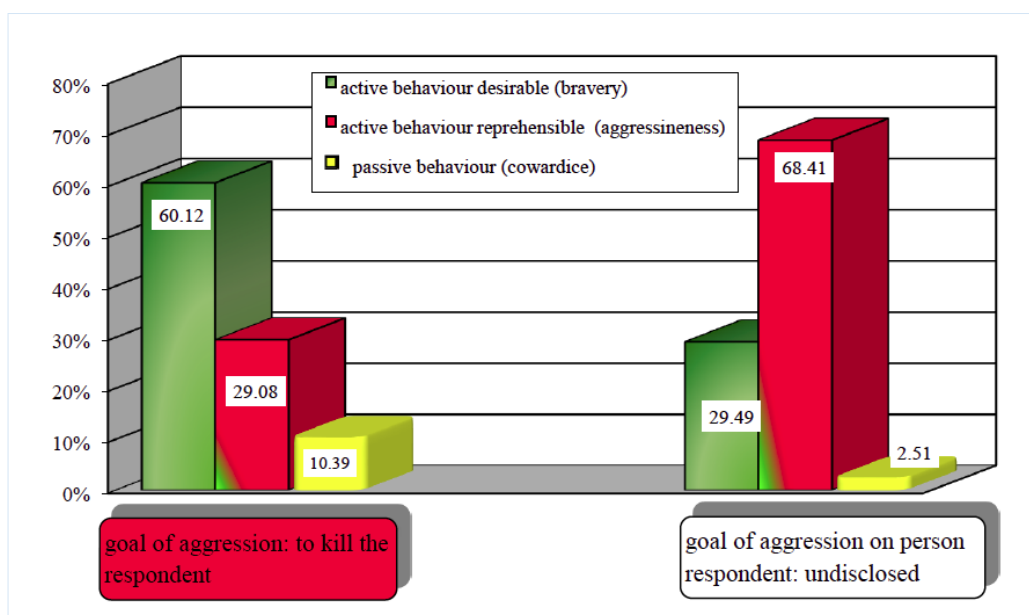


Figure 1. The relationship between the course of action declared by a respondent (n=1,472) and degree of awareness of the physical aggression's goal in two independent situations: when a respondent knows that an aggressor's aim is to kill him/her; when an outsider, with whom a respondent has no relationship, is attacked.

Table 2. Proportion (%) of declared actions of adults (n=1,472), who differed in their educational background, in verbally stimulated situation when a respondent is aware that an aggressor aims to kill him/her (most favourable results with regard to the respondents are provided in bold).

Group	Extreme answers (without of 2 and 3 score points) in three categories of assessment		
	passive behaviour	active behaviour	
	unworthy of man <i>cowardice</i> (0 score point)	reprehensible <i>aggressiveness</i> (1 score point)	desirable <i>bravery</i> (4 score point)
Graduates of secondary schools (n = 454)	8.81	30.18	61.01
Students (n = 435)	10.34	26.90	62.70
University graduates (n = 583)	11.67	30.87	57.46

Table 3. Proportion (%) of declared actions of adults (n=1,472), who differed in their educational background, in verbally stimulated situation when an outsider with whom a respondent has no relationship is attacked and the aggression's goal is not determined (most favourable results with regard to the respondents are provided in bold).

Code	Group	Extreme answers (without of 2 and 3 score points) in three categories of assessment		
		passive behaviour	active behaviour	
		unworthy of man <i>cowardice</i> (0 score point)	reprehensible <i>aggressiveness</i> (1 score point)	desirable <i>bravery</i> (4 score point)
1	Graduates of secondary schools (n = 454)	1.54	63.88	34.58
2	Students (n = 435)	2.99	71.26	25.75
3	University graduates (n = 583)	2.92	69.81	27.27
Significance test of independent proportions			1-2 p<0.02	1-2 p<0.01
			1-3 p<0.01	1-3 p<0.02

RESULTS

During a hypothetical assault on bystanders, with no attack's goal revealed, most respondents (68.41%) declared that they would respond to aggression with more aggression, whereas 29.08% of them assumed that they would take up action in line with the criteria related to the right of self-defence and 2.51% would not react (Figure 1). When the goal of a hypothetical aggressor was to kill the respondents, a radical change in answers could have been observed: 29.49%; 60.12%; 10.39%, respectively.

As far as verbally stimulated aggression towards the respondent with intent to kill is concerned, there were no statistically significant differences between the proportion of the declarations about actions provided by persons with various educational background

(Table 2). However, answers about active behaviour are the most favourable in the case of students, whereas the least amount of behaviour indicating *cowardice* were observed among graduates of secondary schools.

In the event of aggression against an outsider, the proportion of all declared categories of actions are the most favourable in the case of graduates of secondary schools and they are statistically significant in relation to students and university graduates (Table 3).

DISCUSSION

The main finding of our study is primarily to provide empirical arguments which would broaden the interpretation of two biological laws and "spiritual sphere" of these rights analysed by Antoni Kępiński in his

theory of fear [29]. One of the elementary principles of this theory is that the living universe consists of two layers: internal – the nucleus of life, i.e. the energy metabolism and satisfaction of the two biological laws; external – metabolism of information, creating the sphere of symbols around the nucleus of life, thus a spiritual sphere. It is interesting that – as emphasised by Keipiński – evolution of life and effort associated with it focus not only on satisfying two biological laws but also on the development of symbolic sphere [29, p. 53].

The first biological law is expressed in the formula „destroy or be destroyed»” [29, p. 54]. According to Keipiński, fear is a signal of impending danger, a signal that “I may be destroyed”. The second biological law refers to the biological behaviour of living species.

In our experiment, the purpose of verbally stimulated physical aggression directed towards a respondent is to kill him/her by a representative of their own species. In the second situation, an unfamiliar person attacks another one person which is also unknown to the respondent. Both situations relate to interspecies aggression. Thus, pursuant to the first biological law it does not matter who is the aggressor – “if I do not destroy him/her, I will be destroyed” (!). However, empirical data from the large sample of adult population (n = 1,472) indicate that this law works in the limited way. The number of persons (10.39%) who despite being aware of a threat to lose life posed by an aggressor would not self-defence was four times higher than in a situation when some unknown person is attacked in their surroundings. In the second situation, only 2.51% of respondents declare that they would not take any countermeasures. Both stimulated dangerous situations apply to a micro scale, thus they do not pose threat to life of multibillion representatives of *homo sapiens* species.

An elementary question arises: what is the factor or what are the factors classified to the “spiritual sphere” of two biological laws which modifies/modify human behaviour so strongly and which may potentially have impact on situations when a person or an unknown may become an object of physical aggression?

Above, we have only referred to the concept of passive behaviour (which is legitimately associated with the manifestation of *cowardice*). Modification of actions refers to the sphere of active behaviour in greater extent. When a respondent is aware that the

aggressor’s aim is to kill him/her, 60% of adult population is willing to defend consistently respecting the criteria of right of self-defence (whereas 29% is ready to kill an aggressor before they will be killed). In the second situation, when a respondent is not attacked, this proportion is reversed – over 68% persons are willing to counterstrike.

The explanation is these phenomena will be easier if we refer to two significant arguments related to symbolic sphere. In the eighties of the last century, Tadeusz Żychiewicz relying on contemporary researchers of morality claimed “(...) that the Old Testament principle «an eye for an eye»” is practically (and rigorously) applied until today by some Bedouin tribes» [30, p. 252]. His conclusion is still valid. This law is so effective that as a result of its application a desert is a place significantly safer than streets of our civilised cities. Everyone knows that no strike will be left without a strike and a wound – without a wound. Żychiewicz states that Bedouin substantially better understands and lives according to the evangelical principle of “do unto others as you would have done unto you”. It seems that there is plenty of calculation. While declaring willingness to respect the criteria of right to self-defence, many respondents probably expects the same from the aggressor (perhaps mainly on a subconscious level).

The analysis of the second situation (aggression towards a person unknown to the recipient) seems to confirm the synergy of two mechanisms. One of them involves internal drive to aggression, whereas the second one – a factor (or factors) conducive to the realization of this aggression (satisfying the needs of aggression). The willingness to defend a person attacked by an aggressor declared by nearly 98% sheds them in a favourable light from the perspective of fulfilling a moral order to help others. However, 68% of those who declare that they will violently strike back (multiplied aggression) without knowing the actual intentions of the aggressor, cannot be justified.

This is an important empirical proof that moral imperative of solidarity with a victim makes a person treat these moral standards in an instrumental way. The ease with which a person manipulates ethical standards is reflected in a dehumanisation strategy described i.a. by Zimbardo in the context of social sanctioning of an evil [31]. This rather unoptimistic conclusion may be supplemented by providing two facts. Firstly, along with providing better education,

the proportion of persons susceptible to this manifestation of dehumanization – justifying own *aggressiveness* by depriving a pro-social mission involving the provision of active assistance to people who experience aggression from other people. Secondly, negative patterns of interpersonal aggression popularised in a symbolic sphere (with media message with violent scenes and aggression in the news and entertaining programmes) are accumulated in the personality of the people, who are not offer a sensible educational alternative by a democratic country.

The second conclusion is seemingly unjustified. The oldest participant of our study was 58 years old – he was born during the Second World War (in 1940). The youngest one was 19 years old – he was born in 1979, just before the imposition of martial law in Poland. Students' age ranged from 19 to 23 years (average age amounted to 21.16 ± 0.71 years). The study thus involved an adult population whose teachers functioned since the end of the Second World War to 1989 in the totalitarian system. However, for 10-11 years of education prior to the study students learned in a free country and despite this fact the results indicate the least favourable effects of adaptation – *aggressiveness* was revealed by over 71%, *bravery* by 26% and *cowardice* by 3% (Table 3).

The results of our study force to consider not only from methodological perspective the legitimacy of a statement made by Kitajew-Smyk [32, p. 93] that asking about proportion of people showing mostly active or passive pattern of reacting in stressful conditions makes no sense. On the contrary – there is sense if circumstances (a stressful situation) modify this reaction in such a strong manner. There is sense also due to educational perspective and practical application.

If over 10% of adults declare passiveness although they are aware that the aim of someone else's physical aggression is to take your life – this must indicate that in times of expansion of terrorism, social education is the weakest link. On one hand, this contributes to the expansion. On the other, it does not prepare individuals to cope with situations when they, their loved ones or anyone in their presence becomes subject to aggression expressed by another person or a group.

Apart from one monograph written in Polish [23], there are few publications available in the global scientific space which spread the results of these studies (conducted in the years 1989-1999 [12, 23] and in the similar period [33]). A more in-depth analysis

of simulations conducted reveals that if an aggressor aims to kill the respondent as much as 26.09% teachers in secondary schools declare no actions, so does 7.94% of police officers and furthermore 13.27% of persons who train combat sports and martial arts, 20.56% of people who declare that they have never participated in solving difficult situations, 27.38% of persons aged 46-58 [23].

The weakness of educational systems as well as a failure of monitoring systems of scientific knowledge and necessary implementations are indicated by comparative analysis of the phenomenon of “declared bravery” of Polish police officers (1998 and 2010). The results were then compared to the 126 police officers studied in 1998 and 124 ones in 2010 with the same tool (the KK'98 questionnaire). The study consisted in comparison of actions declared by police officers in four verbally stimulated situations of aggression [33]. During twelve years after the studies there has been no radical change in the system of recruiting candidates for the police or the methods and means used at all the stages of police training.

Contemporary scientific knowledge about educational values of martial arts and combat sports is so well justified that continuing to ignore possible implementations is a direct consent to further dehumanization. Media still play the leading role in this phenomenon, as they use ruthlessly attractiveness of martial arts in dehumanized forms for commercial purposes.

Previous stimulation studies on the phenomena of bravery and aggressiveness (involving not only the use of the KK'98 questionnaire) have two significant benefits. The first one is that they are a reliable frame of reference for research extended in the future by the population of students at lower levels (primary, middle and secondary schools) and for comparative studies of adults which have not lived in the totalitarian system. The second one is that they may be verified by the results of direct observations focused not only on persons practicing martial arts or combat sports. This possibility is opened by popularizing fun forms of martial arts [34] in practice of physical education, health-related training, sport for all, etc. Together fun forms of martial arts, martial arts of combat sports, selected extreme forms of physical activity must become the elements of broadly understood universal education about safety. Security science (which is interdisciplinary in its nature) cannot distance itself from the statements and empirical generalizations already recognized in the global space of the science of martial arts.

CONCLUSION

It seems that the awareness of aggressor's goal and a target of physical assault are the factors which highly influence the behaviour of people who are in the social environment and in certain relationship with the aggressor. There is a clear tendency for respecting the criteria related to the right of self-defence when aggression is channelled directly

towards the respondent which speaks in favour of the Old Testament principle "an eye for an eye".

COMPETING INTERESTS

Authors have declared that no competing interest exists.

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