

PERSONALITY AND SOCIOCOGNITIVE EXPLANATORY MODELS OF VARIOUS FORMS OF AGGRESSION OF BULGARIAN LAW ENFORCEMENT OFFICERS

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Abstract: *This study has been aimed at developing psychological explanatory models of various forms of aggression of law enforcement officers, which encompass both personality and sociocognitive factors. The study was conceptually based both on the sociocognitive approach of Anderson and Bushman, and on the personological approach of Caprara, Zimbardo and Bandura. A structured questionnaire, incl. world-known, original and culture-specific measures and scales, was developed and employed by the authors. The study was carried out in October 2017- April 2018 among 736 law enforcement officers from 5 departments of the Ministry of Interior of the Republic of Bulgaria in 26 Bulgarian towns. A wide range of personality and sociocognitive characteristics was encompassed and processed by means of a stepwise modelling procedure.*

The findings suggested different personality and sociocognitive explanatory models for all studied forms of aggression - physical, verbal, indirect, instrumental and displaced aggression. Personality traits such as revengefulness, anger and hostility were found to be among the most powerful predictors of most-studied forms of aggression. The models can be particularly useful to predict the likeliness of any form of aggression, and also to duly handle various acts of aggression among law enforcement officers in Bulgaria.

Keywords: aggression; law enforcement; police officers; personality traits; sociocognitive processes; moral disengagement.

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Contribution:

Diana Bakalova – Abstract, Method, Results, Conclusion

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INTRODUCTION

Aggressive behaviour is among the most problematic behaviours observable in different social, age and occupational groups in society. A common mechanism that operates on different levels of individual aggressiveness is the violation of social norms (Zografova, 2005). As far as the occupation of law enforcement is concerned, it is regarded as one where ascertain forms and degrees of aggression and violence are legitimized and used to ensure respect and obedience of social norms, order and the Law among citizens. Although law enforcement officers around the world are authorized to use certain violent methods and aggressive tactics in response to certain manifestations of aggression and violence among citizens and in order to handle these aggressive manifestations, they themselves have been often found to disrespect the Law, to abuse their authority towards citizens and immigrants. Numerous examples of law enforcement officers, who abuse their authority, are reflected in the media news and releases on the Internet.

This study is a part of a larger research project¹ and it has been aimed at developing psychological explanatory models of various forms of aggression (i.e. physical, verbal, indirect, instrumental and displaced) aggression in law enforcement officers, which encompass both personality and sociocognitive factors. These explanatory models can be used to successfully predict and hence, duly handle the various trans-situational acts of aggression among law enforcement officers in Bulgaria.

THEORETICAL BACKGROUND

Theoretical and empirical research on aggression, aggressiveness and aggressive behaviour and its various forms has been intensely developing through different methodological

perspectives and approaches for more than five decades now.

Amongst the most widely used research approaches to aggression is Bandura's Social Learning Theory (Bandura, 1973). Behavioural in nature, this theory has been developing over the latest decades and gradually getting closer to the sociocognitive perspectives on aggression and other types of (anti) social behavior. Considering the biological determinants of aggressiveness, Bandura focused his research efforts on individual motivational preconditions and factors for manifestations of aggression. Still, his attention was mostly turned to the impact of the simple imitation and learning of reactive (hostile) and proactive (instrumental) forms of aggression. Learning is predominantly based on observation of models of aggressive behavior and their sanctioning. According to Bandura's Social Learning Theory, observed aggression can be easily learnt and manifested if it is positively sanctioned, i.e. rewarded in some way (e.g. by gaining popularity, prestige, money, property, etc.) (ibid, 1973). A number of experiments, whose subjects first were mostly children, ascertained that individuals memorized the positively sanctioned aggressive responses and reproduced them in their behavior months later. Impressive amount of experimental and field research data come to support the strong bond between learning through observation of aggression, and violent scenes reflected on the media, e.g. on the news and movies on TV, Internet, etc. It is important to emphasize the finding that learning of observed aggression produce similar results to children and to adults, i.e. regardless of age, upon equal other conditions. Consequently, given the strong power and legitimized violent nature of the law enforcement occupation, that is normatively adopted, often inherited, socially admired and rewarded, sometimes even leaving the abuse of power unsanctioned, e.g. the "bad cop" role often positively sanctioned on

¹ A study of aggression, stress and coping strategies among officers at the Ministry of Interior, Republic of Bulgaria, Contract № BG05SFOP001-2.004-0003-C01/27.12.2016, Project: „Strengthening the capacity of law enforcement officers for prevention of acts of aggression, corruption and radicalization in society”, Operational Programme “Good government”, co-funded by the EU through ESF.

the media news and movies, law enforcement officers, similarly to some other groups in society, are more prone to learning various forms of (non-) legitimized aggression by observing positively sanctioned aggressive behavior of their parents, peers, bosses and colleagues at work and on the media.

The personological perspective is also one of the most steadily developing research approaches. It has introduced key personality categories and methodological solutions to research on aggression. Caprara and colleagues have carried out systematic research on those personality traits that had most immediate effects on aggressiveness, such as irritability, rancor, emotional instability/sensitivity, and also factors of different order, such as individual attitudes and dispositions towards the level and the areas in which one allows aggression and violence, or the so-called “tolerance toward violence” that gained particular attention in their studies and findings.

Within the framework of the personological approach one more complex factor was found – moral disengagement (Caprara, et al., 1996). Although moral disengagement is a personality characteristic as well, it reflects influences of the social environment and also the normative expectations of the individual’s reference group and close social surrounding. The contemporary personological approach considers various social context and cultural influences on the macrolevel. The latest models combine situational influences and individual differences in aggression. The stronger the power of contextual/situational pressure, the weaker effects of personality differences in aggression were found. When the demands of the situation and the social environment are unfamiliar or unclear, the personality characteristics become less important for the individual’s response.

According to Caprara, Barbanelli and Zimbardo, tolerance towards violence and moral disengagement are among the most powerful predictors of aggressiveness (ibid., 1996). Tolerance towards violence was found to operate as a universal mechanism of justification and manifestation of individual’s own aggressiveness. As far as moral disengage-

ment is concerned, it has been found to operate through different mechanisms and to have a strong mediating effect on aggressiveness through a number of cognitive processes on individual level, such as moral justification, euphemistic language, i.e. cognitive restructuring of behaviour as useful good, advantageous comparison, diffusion of responsibility and displacement of responsibility onto other subjects, distorting consequences, attribution of blame, and dehumanization, i.e. perceiving others as not human beings. All mechanisms of moral disengagement are interrelated and regulate socially harmful and antisocial behaviour. Moral disengagement is related to weakening of prosocial orientations and guilty feelings, which, in turn, incites aggressive responses.

The sociocognitive approaches and information models have come to expand and deepen the classical and behavioural research perspectives and modelling of aggressiveness in latest decades. The cognitive processes and mechanisms that underlie human attention, perception, memory, basic beliefs and cognitive biases are considered amongst the most important predictors of aggressiveness. The research interest in cognitive factors influenced not only the definitions but also the scope of the research methods for measurement of aggression. The followers both of the social learning theory and of the frustration-aggression hypothesis accepted and included the cognitive dimension as a main component in their research design and analyses of aggressiveness (Berkowitz, 1993). However, it is important to clarify, that the cognitive factors have been involved in a variety of models, long before the wide spread of the information models.

According to the sociocognitive approach, human aggression is defined as any act that is aimed at harming another human being, who is motivated to avoid it (Baron, 1977; Baron & Richardson, 2004, Anderson & Bushman, 2002, p. 28).

Representatives of the sociocognitive approach argue that some cognitive determinants become part of personality structure at the very beginning of individual development

through learning a number of scripts that are activated later on under the influence of a similar stimulus or a situation (Huesman & Eron, 1989). These scripts are kept in memory and they are triggered when a similar context or a relevant social situation occurs. In such situations they are used as a cognitive pattern that provides the steps needed for solutions of certain issues. The process of decision-making relating to manifestation of aggressive behaviour is based on memorized scripts. When facing a problem, one makes assessment of the environmental factors and recalls a response to similar situations that occurred in the past, and hence, they are likely to respond in a similar way as in the past by reproducing scripts and patterns of behaviour (ibid., 1989).

Most cognitive scripts and patterns of behaviour are memorized early in life from different sources - individual's parental family, friends and immediate social surrounding, the media, cultural norms and values, etc. Still, they navigate and regulate social behaviour throughout life. The processes of memorization, recalling and reproduction of aggressive responses depend on the perceived social desirability of these responses, incl. by the reference groups, and also on the individual's personality characteristics, social experience, emotions, goals and ambitions.

Information processing models of aggression have undergone serious progress over the latest decades due to the increasing worldwide influence of information technologies onto individual development since early age. The schemas, which represents those models, include cognitive evaluation and affective processes that influence aggressive responses along with the memorized scripts, normative beliefs and situational influences (Huesmann, 1998; Anderson & Bushman, 2002; Dodge, 1993; Dodge & Coie, 1987). The social response to individual's behaviour is considered an important factor for shaping the individual's schemas (Dodge, 1993). Despite the differences, all information processing models consider the importance of development of information processing skills to enhance social competence and improve the schemas.

An integrated information processing model of factors that influence aggressive behaviour, including both individual differences and social influences, was suggested. The influence was described and studied according to four main points: 1. Attention and evaluation of a stimulus, influenced by the individual's mood, learning experience, scripts, incl. normative beliefs; 2. Activation and recall of the scripts relating to aggressive decision-making; 3. Assessment of the scripts, based on internalized schemas and normative beliefs in order to decide what behaviours are appropriate and/or socially acceptable; 4. Interpretation of responses from the social environment (Huesmann, 1998). The affective component has a key role at every stage of the information process. Emotions, especially anger, are important determinants of both hostile and instrumental aggression (Anderson & Bushman, 2002).

This study is conceptually based both on the sociocognitive approach of Anderson and Bushman (2002) and on the personological approach of Caprara, Zimbardo and Bandura (1996).

The relation between the sociocognitive approach, the social learning theory and the personological perspective is realized through cognitive processes, emotional experiences, and behavioural phenomenology on a daily basis. The systematic acts based on the emotional and cognitive regulation relating to specific situations provide the opportunity to express certain personality characteristics (See Zografova, 2005).

If we unite the ideas of sociocognitive and personological approaches to aggression, we will obtain the following model (See Fig. 1).

Grounding on both sociocognitive and personological approaches to aggression we hypothesized that the trans-situational manifestations of various forms of aggression (i.e. verbal, physical, indirect, instrumental and displaced aggression) of law enforcement officers could be best explained and predicted by a number of personality characteristics such as anger, hostility, revengefulness, rancour, still combined with complex cognitive

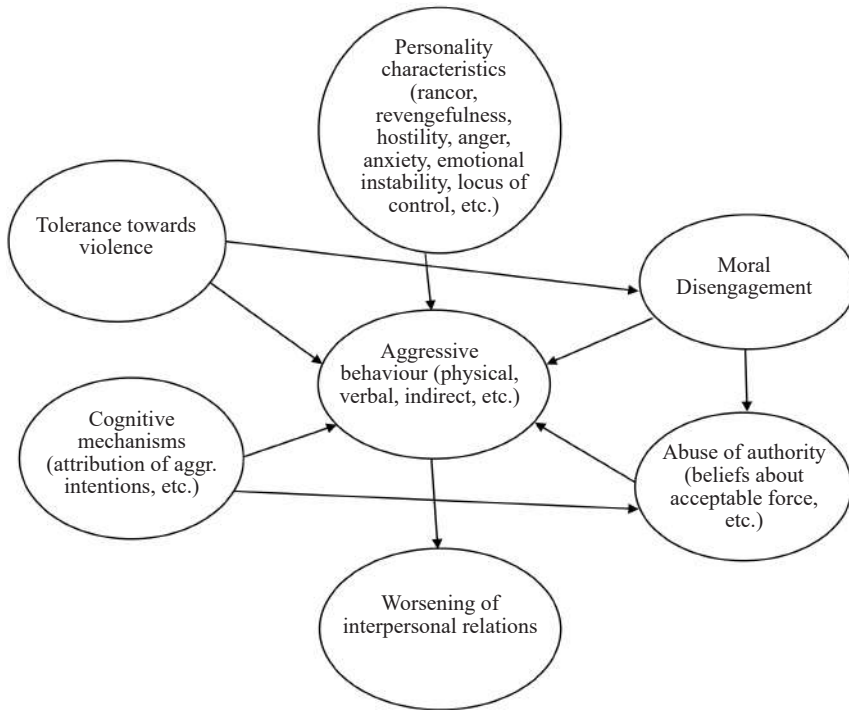


FIGURE 1. PERSONOLOGICAL AND SOCIOCOGNITIVE APPROACHES TO AGGRESSION - UNITED

and normative regulatory mechanisms and biases such as moral disengagement and justification of aggression, incl. its various dimensions (dehumanization, attribution of blame, diffusion of responsibility, etc.). We also assumed that the most powerful explanatory models of different forms of aggression in law enforcement officers would largely differ from each other in their configuration and proportion of personality and sociocognitive factors.

METHOD AND PROCEDURE

Although physical and direct aggression are obviously the most harmful forms of aggression, they prove to be among the most difficult to study out of laboratory settings. Consequently, often used in social-psychological research on aggression are questionnaires, tests and interviews, which, on the negative side, presume high social desirability of responses. Still, on the positive side, the anonymity of

responses guaranteed when using questionnaires ensures confidentiality, identity data protection and hence, it enhances the respondents' sense of privacy and safety. When the abovementioned pros are combined with well-designed and well-structured research tools, it is likely to obtain high reliability and validity of psychological research measures.

For the purposes of the larger project we initially designed a piloting multi-factor semi-structured psychological questionnaire that comprised a total of 325 items – mostly close-ended Likert scale questions/statements and also some open-ended questions/statements, specifically designed to extract categories of the law enforcement-specific conflict situations at the work place. The questionnaire piloting was carried out among 150 law enforcement officers from 5 departments of the Ministry of Interior of the Republic of Bulgaria (Security Police, Criminal Police, Gendarmery, Border Police and Migration) in 9 Bulgarian towns (incl. large, middle and

small towns) in October-November 2017. Preliminary both reliability and factor analyses of the included scales/subscales were performed. Some items and scales were modified and others removed from the questionnaire due to their low reliability and unclear factor belonging/structure. Content data analysis of responses to the open-ended questions was performed by 3 independent experts. Certain occupation-specific conflict situations were extracted and also included in the questionnaires Likert scale close-ended questions. Therefore, the number of items in the final version of the questionnaire was reduced to 254 and the questionnaire was modified into a fully structured one.

Most of the items included in the final version of the questionnaire and referred in this particular study were indicators borrowed from widely used (sub) scales for measurement of aggression, incl. its forms, its personality and sociocognitive predispositions and antecedents, which were translated, modified and/or adapted by the authors with regard to the culture-specific context of the law enforcement occupation in Bulgaria, as follows (See Table 1):

- *Cognitive processes and biases* resulting in aggression were measured using six of the eight subscales from the Moral Disengagement Scale (Bandura, et al., 1996) adapted to the Bulgarian cultural context by P. Kalchev (Kalchev, 2010), incl. 3 items from each of the following subscales: displacement of responsibility, dehumanization, attribution of blame, moral justification, advantageous comparison, diffusion of responsibility; 4 adapted items from the Tolerance Toward Violence Scale developed by Caprara, Cinanni and Mazzotti (Caprara et al., 1989); 4 adapted items from the Abuse of Authority Scale (Cody Webb Telep, 2008) concerning beliefs about acceptable force or abuse of authority of law enforcement officers.

- *Personality characteristics and antecedents* of aggressiveness and aggressive behaviour were measured using two subscales – hostility (5 items) and anger (3 items) from the Buss-Perry Aggression Questionnaire (Buss & Perry, 1992); two subscales – angry

- rumination/rancour (4 items) and revenge planning/revengefulness (4 items) from the Displaced Aggression Questionnaire developed by Denson, Pedersen & Miller (Denson, et al., 2006); anxiety - 6 items from the T-anxiety scale of the State-Trait Anxiety Inventory (Spielberger, 1983); - external vs. internal locus of control – 6 items from the original Rotter's Internal-External Locus of Control Scale (Rotter, 1966) and Reid and Ware's (1987) Multidimensional Internal-External Locus of Control Scale (I-E scale), adapted to the Bulgarian sociocultural context by Velichkov and colleagues (Velichkov et al., 1987).

- *Forms of aggressive behaviour* were measured using two subscales – verbal aggression (3 items) and physical aggression (3 items), from the Buss-Perry Aggression Questionnaire (Buss & Perry, 1992); indirect aggression - 4 modified items from the Overt-Covert Aggression Scale (Kaukiainen et al., 1997); one subscale - displaced behavioural aggression, from the Displaced Aggression Questionnaire developed by Denson, Pedersen & Miller (Denson, et al., 2006); instrumental aggression – 5 modified items, incl. items from the instrumental aggression scale of the Revised short 10-item EXPAGG and some items developed by Y. Zografova (Driscoll, et al., 2005; Zografova, 2001).

Experts from the Institute of Psychology to the Ministry of Interior were responsible for the sampling and collection of piloting and field data, and the authors were responsible for the data entry, analyses and reporting.

The field study was carried out among 736 law enforcement officers from the same 5 departments at the Ministry of Interior of the Republic of Bulgaria (Security Police, Criminal Police, Gendarmery, Border Police and Migration) in 26 Bulgarian towns, incl. large, middle and small ones. Data obtained from 731 respondents was analysed, as 5 of all respondents provided missing and invalid data. The data was analysed using the quantitative data analysis statistical application SPSS v19. For both the piloting and the field studies we employed the following statistical methods and procedures: descriptive statistics; reliability analysis (*Cronbach's α*) and

TABLE 1
MEAN VALUES, NUMBER OF ITEMS AND RELIABILITY OF THE (SUB) SCALES (CRONBACH'S α) INCLUDED IN THE QUESTIONNAIRE AND REFERRED IN THIS PARTICULAR STUDY (N = 731)

Scale/Subscale	No of items	Cronbach's α	Mean	SD
Anxiety	6	,83	1,40	,44
Locus of control	6	,75	2,26	,62
Displacement of responsibility	3	,53	1,70	,59
Dehumanization	3	,64	1,86	,65
Attribution of blame	3	,56	1,97	,67
Moral justification	3	,60	1,96	,63
Advantageous comparison	3	,55	1,71	,59
Diffusion of responsibility	3	,52	1,72	,61
Tolerance toward violence	4	,71	2,10	,70
Beliefs of acceptable force/abuse of authority	4	,78	2,68	,82
Indirect aggression (at work)	4	,84	2,12	,66
Anger	3	,66	1,68	,56
Verbal aggression	3	,72	1,80	,57
Physical aggression	3	,71	2,01	,65
Hostility	5	,73	1,81	,51
Angry rumination (rancour)	4	,81	1,75	,59
Revenge planning (revengefulness)	4	,86	1,46	,53
Displaced behavioural aggression	3	,79	1,45	,52
Instrumental aggression	5	,80	1,41	,49

factor analysis (*Principal components*) to examine reliability and construct validity of the (sub) scales for this particular sample; linear stepwise regression to develop personality and sociocognitive models of the studied forms of aggression.

Table 1 shows that most of the (sub) scales included in the questionnaire and referred in this study are characterized by moderate-to-high reliability ($\alpha \geq ,64$). Lower, still relatively acceptable reliability, was found for almost all subscales of the Moral Disengagement Scale ($,52 \leq \alpha \leq ,60$), but dehumanization. Therefore, we could completely trust the findings obtained by all (sub) scales used in this study, but those obtained by the moral disengagement subscales -moral justification, diffusion of responsibility, displacement of responsibility, attribution of blame, and advantageous comparison, that were treated with some reservations.

It is evident and important to note that the mean values obtained from this particular sample for most (sub) scales for measurement of aggression, incl. its forms, personality and sociocognitive factors, proved to be quite lower than the mid-point of the scales. Analysis of the distributions showed non-normal distribution for all (sub) scales. This might be a sign of high social desirability of responses due to the “code of silence” of the law enforcement occupation (See Cody Webb Telep, 2008).

RESULTS

To explore our hypotheses and to build personality & sociocognitive explanatory models of various forms of aggression (i.e. physical, verbal, indirect, instrumental, and displaced-aggression) among law enforcement officers, which best fit the data, we examined both main and multiple effects of a wide range of:

1. personality characteristics and predispositions - anger, hostility, revengefulness, rancour, anxiety, locus of control, and 2. complex sociocognitive processes and biases - tolerance toward violence, beliefs of acceptable force of law enforcement officers (or abuse of authority beliefs), and moral disengagement, incl. displacement of responsibility, dehumanization, attribution of blame, moral justification, advantageous comparison and diffusion of responsibility.

Furthermore, we employed the stepwise linear regression method, because it allowed automatic modelling through analysis of the goodness-of-fit of all possible configurations of entered independent variables for each

dependent variable by adding the factors one-by-one and also by removing all those factors that did not improve the goodness-of-fit, i.e. that did not increase the coefficient of determination.

The results obtained from the stepwise linear regression analysis for *indirect aggression* showed that the best explanatory model of this form of aggression among the law enforcement officers encompassed the following 4 personality and 1 sociocognitive characteristics, listed by proportion of the effects in descending order: (*external*)*locus of control*, *anxiety*, *beliefs of acceptable power of law enforcement officers*, *anger*, and *hostility* (See Table 2 and Fig. 2).

TABLE 2
GOODNESS-OF-FIT OF THE MODELS OF INDIRECT AGGRESSION IN BULGARIAN LAW ENFORCEMENT (STEPWISE LINEAR REGRESSION & ANOVA, N=731)

Models of Indirect Aggression	R	Adj.R ²	F	Sig.
1. Locus of control	,501	,250	244,219	,000
2. Locus of control, Anxiety	,545	,295	153,033	,000
3. Locus of control, Anxiety, Anger	,560	,311	110,342	,000
4. Locus of control, Anxiety, Anger, Beliefs of acceptable force	,571	,322	87,568	,000
5. Locus of control, Anxiety, Anger, Beliefs of acceptable force, Hostility	,575	,326	71,298	,000

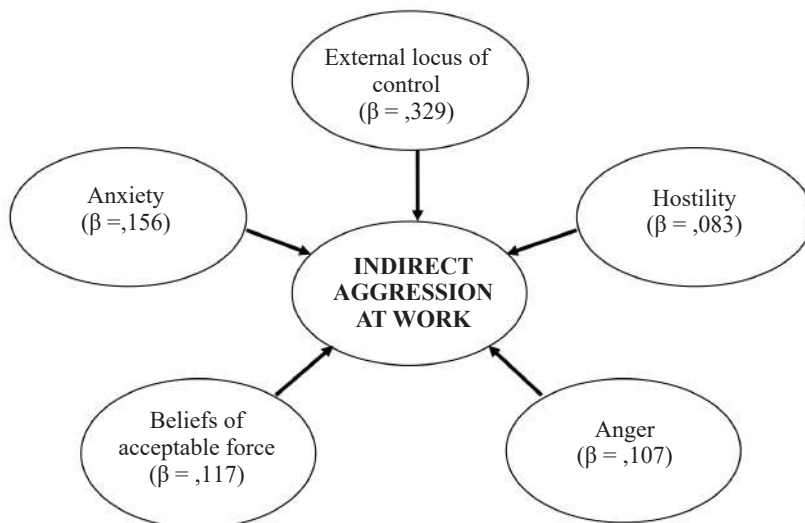


FIGURE 2. A PERSONALITY & SOCIOCOGNITIVE MODEL FOR EXPLANATION AND PREDICTION OF INDIRECT AGGRESSION IN BULGARIAN LAW ENFORCEMENT

Although, the external locus of control was found to have the strongest main effect on indirect aggression of the law enforcement respondents, the other three personality characteristics (especially anxiety) and the beliefs of acceptable force of law enforcement officers somehow added to the goodness-of-fit, as all of them together explained approximately 1/3 of the variance in indirect aggression of the respondents. Still, anger and hostility did not appear to improve the model considerably.

As long as *verbal aggression* is concerned, the model that fits best the data has been composed only of 4 personality traits, listed by proportion of the effects, as follows: *anger*, *revengefulness*, *hostility*, *rancour*. This model explained almost 53% of the variance in verbal aggression of the respondents and hence, it could serve to predict more than a half of phenomenology of verbal aggression among the officers at the Ministry of Interior (See Table 3 and Fig. 3).

TABLE 3
GOODNESS-OF-FIT OF THE MODELS OF VERBAL AGGRESSION IN BULGARIAN LAW ENFORCEMENT
(STEPWISE LINEAR REGRESSION & ANOVA, N=731)

Models of Verbal Aggression	R	Adj.R ²	F	Sig.
1. Anger	,633	,400	485,959	,000
2. Anger, Revengefulness	,701	,489	349,872	,000
3. Anger, Revengefulness, Hostility	,721	,518	261,750	,000
4. Anger, Revengefulness, Hostility, Rancour	,728	,527	203,666	,000

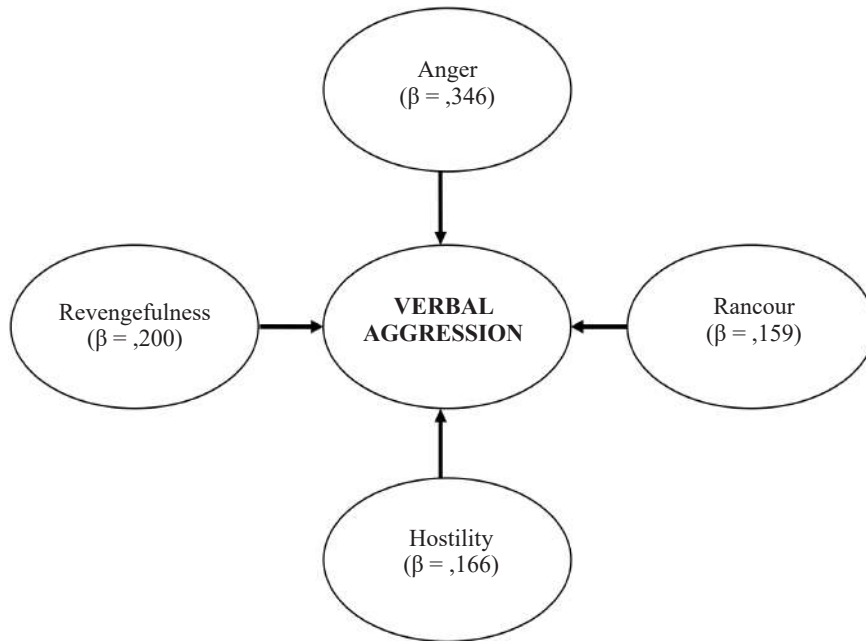


FIGURE 3. A PERSONALITY & SOCIOCOGNITIVE MODEL FOR EXPLANATION AND PREDICTION OF VERBAL AGGRESSION IN BULGARIAN LAW ENFORCEMENT

Still, the main effect of anger on verbal aggression was found to be strong enough to explain 40% of the acts of verbal aggression among police officers. In fact, its effect turned out much stronger than the effect of the other personality traits together.

Regarding the most powerful predictive model of *physical aggression* among the law enforcement respondents, it was found to comprise the following 4 personality characteristics and 3 sociocognitive factors, listed in descending order of effect: *revengefulness*, *tolerance toward violence*, *(low) anxiety*, *an-*

ger, *hostility*, *dehumanization*, and *beliefs of acceptable force of law enforcement* (See Table 4).

It is important to note that all variables were found to be negatively associated with physical aggression, but anxiety (See Fig. 4). In other words, the higher anxiety is less likely to result in physical aggression and vice versa. This model explained approximately 44% of the variance in physical aggression, and hence, it could be used to predict almost a half of physical aggression acts of Bulgarian law enforcement officers.

TABLE 4
GOODNESS-OF-FIT OF THE MODELS OF PHYSICAL AGGRESSION IN BULGARIAN LAW ENFORCEMENT
(STEPWISE LINEAR REGRESSION & ANOVA, N = 731)

Models of Physical Aggression	R	Adj.R ²	F	Sig.
1. Revengefulness	,513	,262	259,572	,000
2. Revengefulness, Tolerance toward violence	,608	,368	213,212	,000
3. Revengefulness, Tolerance toward violence, Anger	,627	,390	156,366	,000
4. Revengefulness, Tolerance toward violence, Anger, Anxiety	,640	,407	125,804	,000
5. Revengefulness, Tolerance toward violence, Anger, Anxiety, Hostility	,651	,420	106,272	,000
6. Revengefulness, Tolerance toward violence, Anger, Anxiety, Hostility, Beliefs of acceptable force	,659	,430	92,416	,000
7. Revengefulness, Tolerance toward violence, Anger, Anxiety, Hostility, Beliefs of acceptable force, Dehumanization	,664	,435	81,039	,000

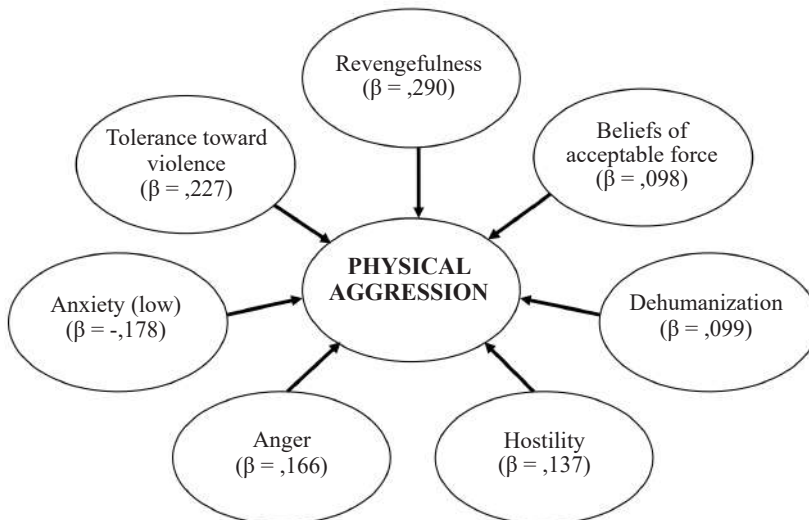


FIGURE 4. A PERSONALITY & SOCIOCOGNITIVE MODEL FOR EXPLANATION AND PREDICTION OF PHYSICAL AGGRESSION IN BULGARIAN LAW ENFORCEMENT

The personality & sociocognitive explanatory model, which was found to possess the strongest predictive power with regard to the law enforcement respondents (63%), extracted in this study, was the model of *displaced behavioural aggression*. This model

includes 5 personality factors (*revengefulness, anger, rancour, hostility, anxiety*) and 1 sociocognitive factor (*beliefs of acceptable force of law enforcement*), listed according to the effect size in descending order (See Table 5 and Fig. 5).

TABLE 5
GOODNESS-OF-FIT OF THE MODELS OF DISPLACED BEHAVIOURAL AGGRESSION IN BULGARIAN LAW ENFORCEMENT (STEPWISE LINEAR REGRESSION & ANOVA, N=731)

Models of Displaced Aggression	R	Adj.R ²	F	Sig.
1. Revengefulness	,723	,521	794,346	,000
2. Revengefulness, Anger	,765	,584	511,830	,000
3. Revengefulness, Anger, Rancour	,782	,610	381,104	,000
4. Revengefulness, Anger, Rancour, Hostility	,788	,619	296,563	,000
5. Revengefulness, Anger, Rancour, Hostility, Anxiety	,791	,623	242,017	,000
6. Revengefulness, Anger, Rancour, Hostility, Anxiety, Beliefs of acceptable force	,793	,625	203,520	,000

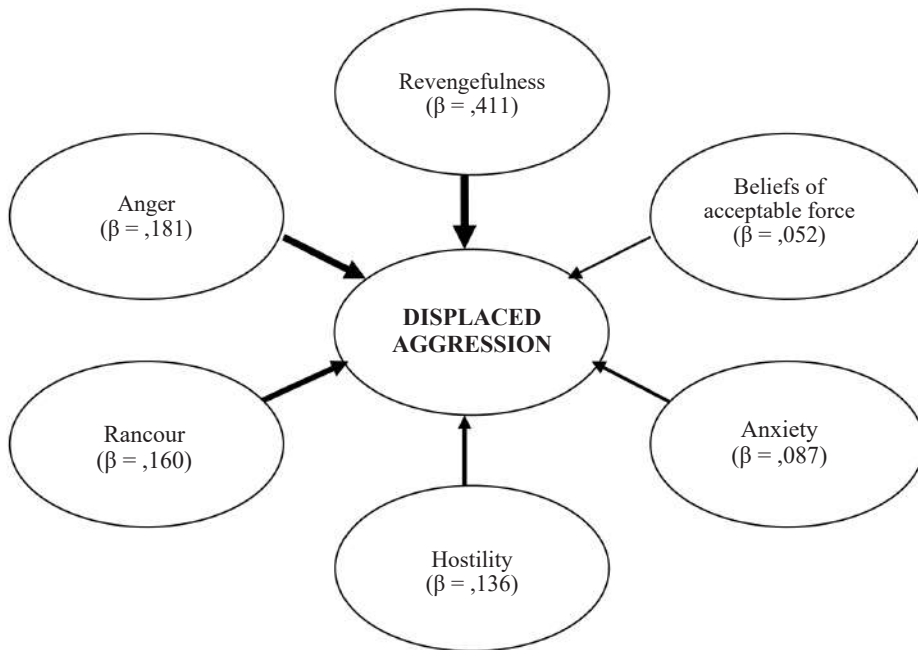


FIGURE 5. A PERSONALITY & SOCIOGNITIVE MODEL FOR EXPLANATION AND PREDICTION OF DISPLACED BEHAVIOURAL AGGRESSION IN BULGARIAN LAW ENFORCEMENT

This model might be used to explain and predict almost 2/3 of the displaced aggression acts. Obviously, the effect of personality factors, especially revengefulness, is crucial for this form of aggression, similarly to most forms of aggression modelled above, and even more.

And finally, the fittest personality-sociocognitive explanatory model of *instrumental aggression* in the studied law enforcement officers was found to comprise 2 personality

characteristics and 4 sociocognitive processes/biases, listed in descending order of the effects: *revengefulness, advantageous comparison, diffusion of responsibility, displacement of responsibility, hostility, and dehumanization*. This model was found to explain more than 42% of the variance in instrumental aggression of the respondents and hence, it can predict almost 1/2 of its manifestations (See Table 6 and Fig. 6).

TABLE 6
GOODNESS-OF-FIT OF THE MODELS OF INSTRUMENTAL AGGRESSION IN BULGARIAN LAW ENFORCEMENT (STEPWISE LINEAR REGRESSION & ANOVA, N=731)

Models of Instrumental Aggression	R	Adj.R ²	F	Sig.
1. Revengefulness	,520	,270	269,340	,000
2. Revengefulness, Advantageous comparison	,607	,367	211,798	,000
3. Revengefulness, Advantageous comparison, Displacement of responsibility	,630	,394	158,436	,000
4. Revengefulness, Advantageous comparison, Displacement of responsibility, Diffusion of responsibility	,643	,410	127,090	,000
5. Revengefulness, Advantageous comparison, Displacement of responsibility, Diffusion of responsibility, Hostility	,648	,416	104,578	,000
6. Revengefulness, Advantageous comparison, Displacement of responsibility, Diffusion of responsibility, Hostility, Dehumanization	,652	,421	88,984	,000

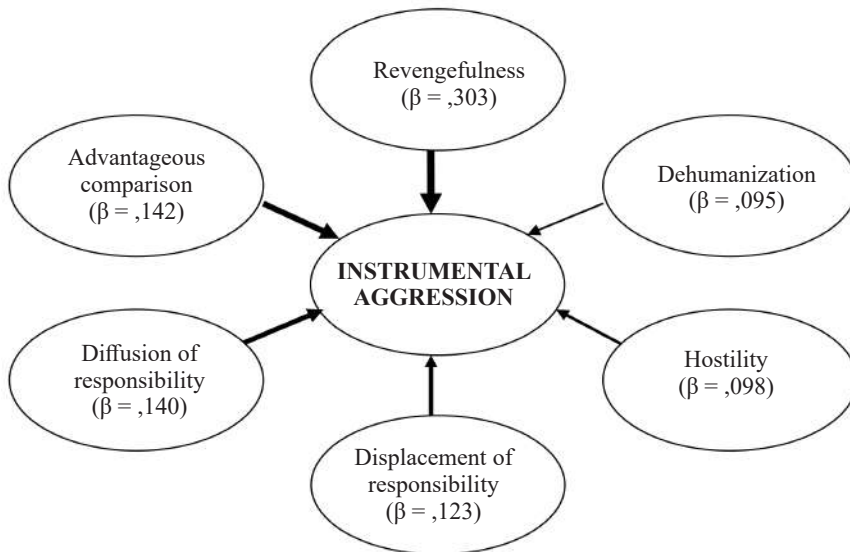


FIGURE 6. A PERSONALITY & SOCIOCOGNITIVE MODEL FOR EXPLANATION AND PREDICTION OF INSTRUMENTAL AGGRESSION IN BULGARIAN LAW ENFORCEMENT

Obviously, instrumental aggression is the only form of aggression that has more to do with normative beliefs and cognitive biases in the respondents than with personality traits and predispositions, except for revengefulness that was still found to hold the highest proportion of predictive force.

Again, the main effect of revengefulness appeared to be the strongest of all other multiple effects and it alone could be used to predict almost 1/3 of the phenomenology of instrumental aggression among the respondents from the Ministry of Interior.

DISCUSSION

In support to our research hypothesis based on both personological and sociocognitive approaches to aggression our findings suggested that the phenomenology of most studied forms of aggression among the law enforcement respondents could be best explained and predicted by a set of affective personality characteristics, combined with some more complex sociocognitive processes and biases. Our assumption, stating that the most comprehensive explanatory models of different forms of aggression in law enforcement officers would largely differ from each other in their configuration of personality and sociocognitive characteristics, was supported by the data as well.

Furthermore, the emphasized exploratory nature of our study suggested some other intriguing findings both about the configuration of factors and about the proportions in multiple effects on each studied form of aggression. These findings are discussed below.

As long as the role of personality characteristics in the explanatory models of aggressive forms are concerned, *revengefulness* was found to be the most powerful predictor of physical, displaced and instrumental aggression and the second most powerful predictor of verbal aggression. It was not included only in the explanatory model of indirect aggression. The only personality characteristic that was found in the explanatory models of all studied forms of aggression was *hostility*, even though its effect was relatively weaker

than that of revengefulness (except for the model of indirect aggression). *Anger* was also found to be an inseparable part of all explanatory models of aggression, but the model of instrumental aggression. Still, the effect of anger was relatively stronger than the effect of hostility and weaker than that of revengefulness. *Rancour* (angry rumination) turned out a relatively weaker predictor than both revengefulness and anger in the explanatory models of verbal and displaced aggression, and it was not found in the explanatory models of the other forms of aggression.

Interestingly, while *anxiety* was found to play quite a humble role for the explanation of displaced aggression, it was also proved to hold a relatively high proportion in the explanation of both indirect and physical aggression. High anxiety in law enforcement officers is less likely to result in physical aggression and more likely to result in indirect aggression or displaced aggression, and vice versa – low anxiety is more likely to result in physical aggression and less likely to result in indirect aggression and displaced aggression.

Regarding the sociocognitive factors, the *beliefs of acceptable force* of law enforcement officers, regarded also as abuse of power beliefs, were comprised by the explanatory models of indirect, physical and displaced aggression as a relatively weak predictor. *Dehumanization* was found to somehow contribute to the explanatory models of physical and instrumental aggression. While *advantageous comparison*, and *diffusion and displacement of responsibility* as dimensions of moral disengagement proved to serve as a relatively good explanation only for instrumental aggression, moral justification and attribution of blame were not found to be a part of any explanatory model. Therefore, the latter can hardly be used as predictors of aggression of police officers.

Unlike all other studied forms of aggression, *verbal aggression* of the law enforcement respondents appeared to be best explained only by personality characteristics. None of the studied sociocognitive factors was found to contribute to its explanation. Verbal aggression was also found to be the

only form of aggression that was explained mostly by anger as a personality characteristic. Therefore, verbal aggression may be regarded as an important outlet for some negative affective characteristics of law enforcement officers that may be otherwise difficult to handle.

Unlike verbal aggression and beside revengefulness and hostility, the explanatory model of *instrumental aggression* among police officers was found to involve mostly sociocognitive factors relating to the complex construct of moral disengagement, incl. advantageous comparison biases of purely selfish interest, unwillingness to take responsibility for one's own behaviour manifested through diffusion and displacement of responsibility, and dehumanization of the victim of aggression. Obviously, instrumental aggression is the only form of aggression that has more to do with normative beliefs and cognitive biases in the law enforcement respondents than with personality predispositions, except for hostility and revengefulness, as the latter was still found to hold the highest proportion of effect within the model. Yet, anger was not found to be a significant predictor of instrumental aggression, contrary to what was argued by Anderson and Bushman (Anderson & Bushman, 2002)

The explanatory models of both *indirect* and *displaced behavioural aggression* were similarly composed mostly of affective characteristics combined with beliefs of acceptable force of law enforcement officers. However, the explanatory model of displaced aggression was found to be the fittest one of all models and the explanatory model of indirect aggression - the least fitted one to the data obtained from the law enforcement respondents. Unlike the physical, displaced and instrumental forms of aggression, which were explained mostly by the predisposition to revengefulness, the indirect form of aggression was the only form explained mostly by the external locus of the respondents' control.

The explanatory model of *physical aggression* was found to be more complex than that of the other studied forms of aggression. It was also found to be the only model that

involved the complex sociocognitive factor of *tolerance toward violence*, together with revengefulness and a number of other personality and sociocognitive factors. In fact, this explanatory model of physical aggression supports and extends the research models known so far (Caprara et al., 1996; Bandura, et al., 1996, 2001). It is important to note that beside the emphasized affective dimensions of physical aggression (incl. revengefulness, anger and hostility), the other more complex sociocognitive factors, i.e. tolerance toward violence, beliefs of acceptable force of law enforcement and dehumanization, are all indicative of internalized attitudes that admit violation of social norms and treatment of others as objects, which can be damaged, rather than subjects, who should be tolerated. These sociocognitive complexes are usually relating to the process of socialization and encompass cognitive mechanisms and biases that admit violation of social conventions in human relations and enhance justification of various acts of aggression.

CONCLUSION

In conformity to extensive previous research, personality traits and predispositions, especially revengefulness, hostility and anger together, seems to play the most crucial role for explanation and prediction of most forms of aggression in law enforcement officers. This finding brings forward for discussion the issue of recruitment of law enforcement staff with precautions against negative affective personality characteristics. Still, these characteristics should not only be studied together, but also combined with some other personality factors (e.g. locus of control for indirect aggression), and some sociocognitive factors depending on the form of aggression of interest (e.g. tolerance toward violence and dehumanization for physical aggression and moral disengagement biases for instrumental aggression, etc.).

In spite of some limitations of this study relating mostly to high social desirability of responses due to the code of silence in law enforcement and also due to the use of a

questionnaire tool, the extracted personality and sociocognitive explanatory models suggest some important practical implications. They can serve as a good basis for profiling the likeliness of law enforcement officers to manifest some form of aggression. Moreover, these models can be very useful to guide any training, counselling and psychotherapeutic work with law enforcement officers on the characteristics outlined by the different models. It can help the explanation, prediction and management of various acts of aggression and aggressive behaviours. For the purposes of prevention of most phenomena of aggression, it is obviously of primary importance to handle revengefulness, anger and hostility and to restructure cognitive biases. Furthermore, the trainings of law enforcement officers should also be focused onto learning social norms, human and citizens' rights, interpersonal communication skills, antidiscrimination and zero tolerance to illegitimate aggression, violence and dehumanization of citizens and immigrants.

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