Tibor Kiss

AGGRESSION IN CYBERSPACE

Theses in doctoral dissertation (PhD)

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1. The background of the research, challenges

One central logic of my research into uncovering the reasons of aggressive behaviour in cyberspace was that what prompts a user able to resist violations in cyberspace to act destructively can be conceived as a risk factor in the life of every individual and community, and that it can also be highlighted as valid reason in general in the casual mechanism of cyberspace. Therefore, I have selected aggression to be the major focus of my research, which is present in every individual’s personality, thinking and actions, and which is also capable of transforming into the most severe form of behaviour. I have confirmed aggression as a risk factor by the reactions of compliant users, dissimilarly to traditional criminological research. In my work, I could not have undertaken a comprehensive inspection resulting in the explanation of all forms of cyber-deviances. However, I have formulated the verification as a first concern that delinquencies may emerge from violent tensions typical of most users. Another aim of mine was to uncover the close link between both the opportunity to commit crime in cyberspace and the extent of deviant actions deriving from aggression, and the inverse relationship between the strength of offensiveness and the rational decision about the violation of norm. The former points out the justification of the known theory of routine actions in new environment, the latter signifies the adverse effect on the rational decision-making about non-violent actions of the individual. Also, a part of the present research was to emphasize the catalytic power of cyberspace, which refers to the negative behaviour-
change of the user with empathy and a knowledge of law the influence of anonymity brings on.

In accordance with my research aims, I have set up the four hypotheses below:

1. If the potential to violently breach norms presents itself with the alternative between traditional and cyber space, users show more inclination to perform their actions in the latter one.

2. The higher the user’s aggression level is, the more severe norm violation he or she is urged to commit, and the higher the chances are that the divergent behaviour started online will continue at offline scenes as well.

3. Those who spend more time online and are active part of it are more inclined to commit aggressive norm violations given more opportunity.

4. The catalytic function and the potential of anonymous operation in cyberspace increases the tendency to offensive tension-relief and aggressive breach of norms in the case of every user.

2 The methodology of research

2.1 The sample, field and period of research

I have contacted the leaders of 18 faculties of 9 Hungarian universities which offer bachelor and master programs for law and social worker students in the form of regular and correspondence training, targeting students of the legal and social field aged between 18 and 25 (Figure
1). Finally, 10 faculties, 7 universities accepted and forwarded the online questionnaire designed to collect data (Figure 2).

Figure 1: The planned field and sample of research

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<td>2.</td>
<td>University of Debrecen, Faculty of Health</td>
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<td>3.</td>
<td>Eötvös Lóránd University, Faculty of Law</td>
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<td>5.</td>
<td>Károli Gáspár University of the Reformed Church in Hungary, Faculty of Law</td>
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<td>13.</td>
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<td>15.</td>
<td>University of Szeged, Faculty of Humanities and Social Sciences</td>
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<td>16.</td>
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<td>17.</td>
<td>University of Szeged, Faculty of Health Studies and Social Studies</td>
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<tr>
<td>18.</td>
<td>Szent István University, Faculty of Economics, Agricultural and Health Studies</td>
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The total number of institutions in tertiary education targeted with data collection: 18

Figure 2: The realized research field and sample

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<th>Institutions participating in the survey</th>
<th>number of students</th>
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<td>1. Eötvös Lóránd University, Faculty of Law</td>
<td>6364</td>
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When selecting the sample, *the first aspect* was that the age group interviewed must fall within the interval of age group of offenders in cyberspace. After forwarding the questionnaire, each student studying the particular major filled it in, expanding the upper age limit to 55 years, modifying the real age group sample of respondents to 18-55 years. This, in fact, correlates with the actual age group sample of offenders in cyberspace. The majority of the respondents (65.7%) is still a member of the targeted young adult generation.

*Another aspect* of selection was that the participants of the sample must presumably be followers of the norm, in other words,
conforming users. Conformity means the adjustment of the individual’s behaviour to that of the majority. A community – including social communities – becomes able to harmonize the actions, way of thinking of its individuals through conformity, becoming predictable this way. The respect of values created in societies and the extent of following the norms defines the extent of conformity. In order to maintain its integrity, the society establishes institutions that regulate the individual in the spirit of conformity, that is, they make them conform through socialization and keep them conform by legislation. According to Robert K. Merton, conformity is a method of adjustment that signifies the acceptance of means institutions apply to achieve cultural aims, without which the stability and continuity of the society would not be sustainable\(^1\).

In the viewpoint of György Csepeli, conformity can be understood through the social reality produced by the community, which states that correctness of an individual’s opinion is defined by other opinions by the members of the community. The forces influencing the operation and cohesion of the group suggest the accuracy of the commonly formed opinions, theories and judgements\(^2\). Elliot Aronson defines the manifestation of conformity through the presence of multiple factors. Of these, he enhanced consensus within a community, the dedication and accountability of an individual by the


group. Also, highlighted functions are group security, the self-esteem of an individual and group pressure. In the present study, conformity means a behaviour which refers to the awareness of and adhering to norms. It also denotes the respect towards the physical and spiritual inviolability and integrity of the individual and the law. I have found this respect in the selected sample of law students with a higher legal awareness than the average, and social worker students with higher empathy than the average. Legal awareness also presumes the understanding of the consequences of norm violations, while the presence of sociability assumes high levels of empathy, tolerance and low inclination and ability for aggressive behaviour.

In my viewpoint, the two sample kinds function as control groups to each other, they show compliance with both inner and outer controlling factors.

The basic demand for the third aspect of sample selection was that participants of the samples must possess digital competence and the ability to function in cyberspace, which may be presumed as a fundamental skill present in the given age group.

Data collection for the quantitative research was made by EvaSys, a software fit for survey-making, questionnaire – compiling and evaluation, available online at the National University of Public Service, from April to October 2017, in a half-year period, including

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two major highlighted periods. The first highlighted period for data collection was in April and May, the second happened in September and October. While the link of the survey was available for all students ready to be completed through any information communication device (smartphones, etc.), the system provided a unique code for each user, ensuring it this way that one student may only fill it in once. In most cases, respondents were allowed to answer the questions in university environment within the frames of a lecture or seminar. This was carried out voluntarily and anonymously, and it did not involve any kind of reimbursement or incentive. After data collection closure, the raw database registered by the system was further analysed by the application of SPSS system.

2.2 The measurement instruments of the research

The questionnaire to collect data consists of three substantial parts (Appendix 1). In the first part, the following details are mapped: demographic patterns (questions 1-6), the time and place dedicated to Internet use (questions 7-8), the type of online communication channels and the number of contacts or acquaintances (questions 9-11), activities on the Internet (questions 12-17) the frequency of anonymous Internet use (questions 18-20) and finally e-mailing habits and contacts (questions 21-22). These all indicated the presence of occasions and ability defined in routine activities theory.

Although technically speaking the following section is numbered as part of the first group of questions, based on the content, it actually belongs to the second part of the questionnaire. These items
were composed according to an aggression-measuring series of questions that was elaborated by Buss-Perry in 1992, translated into Hungarian in 2007 by Gerevich and his colleagues, and shortened by Fred B. Bryant – Bruce D. Smith (questions 23-34) (Gerevich – Bácskai 2012, 121-135), extracting 12 items while keeping the original format (Bryant – Smith 2001, 167). The questions measure four aspects of aggression, namely physical aggression, verbal aggression, the level of anger and hostility. By adding the points marked on a five-grade scale next to the questions (1 – not typical at all, 5 – very typical), we receive a global aggression indicator, but certain types of aggression can also be examined through the scores gained. The role of the string of questions is to identify the type and level of aggression of a conforming user and together with the results of the other questions, they provide the foundation for comparison.

The third part is composed of eight stories per question groups numbered through 2-9, most of which occurred in reality and made it into the questionnaire as extracts of aggressive or violent criminal offenses. The alternatives listed under the stories exemplify potential behavioural and reaction forms. Respondents were able to mark their answers on a five-grade scale (1 – I would never do such a thing at all, 5 – I would definitely do it) based on their decisions as to how much the particular behaviour would be typical of him or her, had

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4 The majority of the stories are based on criminal acts that occurred in Győr-Moson-Sopron County in Hungary between 2014 and 2017, after having modified the real details of participants of the acts, without the disclosure of the legal qualification of those criminal offenses and the results of criminal justice procedures.
the described event happened to him or her. Among the alternatives provided there was also an option to skip a particular story and not give an answer.

Some of the alternatives mark the ability of violent unlawful behaviour, other alternatives set up anonymity as a condition, or are appropriately moderate compared to the effects of the story.

Among the questions cyberspace and conventional space are both featured separately and together as well as the scene of potential actions. The alternative answers included the application of legitimate aggression and the possibility of passive action too. Under each story the scene of the potential action and the alternative to choose a form of behaviour were equally provided, which created the chance of rational decision-making for respondents. The third part of the questionnaire is a unique measurement instrument, which included forms of aggressive behaviour, and it measured what type of behavioural pattern the respondents select in certain life situations. One objective of mine with the survey was to gain validity for the measurement instrument I formed by the results of Buss-Perry aggression test.

The questionnaire was completed by 558 respondents in total, the analysis of which I conducted with the statistical analysing program, SPSS. After filtering the deficiencies of the database (preparation of database) the answers provided by 446 persons qualified to be fit for evaluation. Of the 446 respondents only 15.1 % was represented by social worker students and 84.9% law students. For this reason, I weighted the sample I gained and assigned 1.049 weight to the results
of social worker students and 0.991 weight to law students. In the research, I strived to measure various aggression types according to the features of the stories, and assigned them to the alternatives to the particular stories. There was a case where the optional answers included a wide variety of aggressive of violent form of action, in other cases the expression less behavioural patterns was possible. In the analysis I formed a subscale, where berating, threatening, online gossiping and anonymous online gossiping referred to online aggression and violence, and physical violence marked physically manifested assault, when following the stimulus emerging in online space the action ends up materialized in real physical environment as violence. Legitimate aggression signifies a form of aggression approved by the society (in this case, the user can relieve violent tension emerged in online environment in both online and offline ways), while a complete indifference refers to the lack of action. I formed a separate online aggression group in order to make it possible to express the sum of forms of aggression (berating, online gossiping and anonymous online gossiping) effectuated in online space and violence (threatening). Online aggression group comprised berating, threat, online gossiping and anonymous online gossiping.

2.3 The aspects of analysis

The analysis went along by comparing the points scored on projective story alternatives, aggression-measuring series of questions and the demographic data align with the aspects below:

The first aspect of analysis targeted uncovering the results of the alternatives between online aggression and physical violence (offline
and online space), which verifies the presence of rational decision in the sample.

The second aspect of analysis focused on detecting correlations between both the quartiles made based on scores on items in Buss-Perry aggression test and the total marks, and the quantity and severity of online aggression and physical violence.

The third aspect of analysis concentrated on relationships between the habits of Internet use, the result of the items of Buss-Perry aggression test and the total score, and their correlation between the selected types of norm-violations. In other words, it examined the logical links among the occasion, capability and norm-violation based on the routine activities theory.

The fourth aspect of analysis was directed at either the justification or disproof of the effect of the catalytic power of cyberspace with regard to examination of the proportion and average of those who selected either the anonymous or team function.

3 The summary of fresh results

3.1 Theses and scientific results

1. If users are given the option to choose between conventional and cyberspace for committing a breach of norms, they are going to opt for cyberspace to carry out their actions. Thus, cyberspace is a potential scene or probable preparatory ground for aggressive and violent behaviour.

- The first research question sought an answer for the choice made between cyber and conventional space, as well as the
decision between behavioural patterns belonging to an online aggression scale and physical violence. During the analysis, I did not take into account the figures concerning legitimate aggression and indifference, because in order to verify or counter the hypothesis, only data and responses referring to aggressive or violent breach of norm were capable of. Of the participants, the majority of those who opted for the violation of norms also selected the online space. Even the ones who preferred physical violence would have done it coupled together with online breaches of norms, that is, the first hypothesis was verified.

2. Aggressive users act aggressively in cyberspace as well. The higher the level of violence of a user is, the more severe breach of norm he or she is urged to commit in cyberspace, and the greater the chance is to continue the behavioural patterns started in cyberspace in offline scenes too. Violence and its level is therefore a direct determiner of deviant behaviour in cyberspace and physical violence emerging from it.

- Among users who qualified to be in the upper quartile based on the total score on Buss-Perry aggression test, (that is, they proved to be the most aggressive ones according to the total points) opted for aggressive solutions among the response alternatives of each story. This was irrespective of the fact whether it effectuated in physical or cyberspace. The second hypothesis presumed that a higher level of aggression would
result in a more severe violation of the norm and even inclination to violence was justified this way.

3. Those who spend more time on the Internet and are also a more active part of it, given more occasions, have a greater tendency to commit aggressive norm-breaching in cyberspace, therefore, digital competence is not only a precondition but also a catalytic power of deviant misconduct.

- I compared the duration of Internet use with the responses to aggressive and violent behaviour patterns and the scores of Buss-Perry aggression test. A user who spends more than five hours with the Internet applies all forms of online aggression in a higher proportion, especially berating. In case of physical violence, those users who spend less than an hour using the Internet precede the ones who spend more than five hours. We can conclude, that physical violence is not only in connection with the length, but also with the shortness of time spent using the Internet.

Furthermore, the time spent on the Internet is also in correlation with the results of the aggression test, more precisely, in case of verbal aggression, anger and hostility, the score of which is higher for the user who dedicates more time for the Internet.

Following their contraction, I compared the activity variables of social media websites and the frequency of their visits with the answers to aggressive and violent behaviour patterns and the scores of Buss-Perry aggression test.
The results indicate unambiguously that activity on social media websites and aggression show a close correlation, in other words, the higher the frequency of visits of community websites, the higher verbal aggression, hostility and aggression levels are.

The connection between the short-length Internet use and physical violence can be explained if we consider that the respondent, who spends short time on the Internet possesses less experience about the ways and forms of tension relief in virtual space, so he rather chooses the conventional space that he has been accustomed to. The third hypothesis assumed correlation between the length of time spent on the Internet, activity on the Internet and aggressive behaviour, thus the third hypothesis has also been proved.

4. The catalytic function of cyberspace (and the potential for anonymous operation) does not increase the tendency to aggressive tension relief and the inclination to the breach of norm emerging from it for every user. Users with legal awareness and higher empathy this does not have an effect on their tendencies.

- I measured the willingness to anonymous breach of norm with the anonymous online gossip behaviour pattern that the members of the sample were the least likely to select. Anonymity, in their own account, did not have a catalytic power, thus the fourth hypothesis has not been verified.
3.2 Further theses following the research results

5. In cyberspace during the process of decision making whether or not to violate the norm, legal awareness is a very powerful restraining control, being a greater guarantee for the conduct of legitimate tension relief.

- One reason the making of legitimate aggression variable was required was so that alternatives could be provided to users in the sample to preserve their conformity.

- The other reason is that legitimate aggression variable fulfils the role of indirect aggression in the research, which supported the reality of the research results and the recognition conforming users’ decisions by excluding respondents who are not motivated to violate norms, to which the indifference variable contributed in an even greater deal.

The results have indicated that the majority of respondents attempted to keep their behaviour between the boundaries of normality. A tendency towards conforming behaviour could be drawn from the entire research result. From this, I have gained an overview of the participants’ attitudes in certain situations, more precisely, that even conforming users cross the limits of normality, get carried away and show aggressive expressions in particular situations.

- The distribution of the opting for the legitimate aggression between law and social worker students was not homogeneous. Students of law represented higher legal awareness; instead of
violating the norms, they opted for legitimate aggression in more occasions, legal behavioural patterns, in contrast with social worker students with higher levels of empathy and tolerance.

Sociable respondents with legal awareness did not produce a difference of such extent after the scores of Buss-Perry aggression test (verbal aggression was higher among law students). Following the analysis of the results, it is apparent that the controlling factor by legal awareness exerts a stronger influence on norm-following conduct than a presumably higher level of empathy or tolerance, who showed significantly greater inclination to applying online threats (cyber-violence) and physical violence judging from the answer alternatives to certain stories.

It may be assumed, on the basis of the action patterns of sociable respondents with legal awareness, that the priority of law students is the power of the law, while they rely less on the subjective elements of the decision-making procedure about the breach of norms, furthermore, the influence of the community and autonomous moral judgement was less significant.

6. Between female and male users, men’s aggression was more likely to be manifested as norm-violating in cyberspace, in other words,
female users control their anger more effectively and are less inclined to opt for violating forms of behaviour.

- In both the cases of men and women, the decision about offensive conduct was made similarly. According to the results of Buss-Perry aggression questionnaire, women scored higher on anger and verbal aggression, while men did so on physical aggression and hostility in the entire sample. Regarding the total score, men and women showed only little difference, nevertheless, in the case of manifested manners online (berating, threatening, online gossiping, and anonymous gossiping) and physical violence, men’s averages were significantly higher in comparison with women’s. Since the realized behavioural patterns and the results of Buss-Perry aggression test were in correspondence for the whole duration of the research, men and women produced the same situation as law and social worker students. Women scored higher on the results of Buss-Perry aggression test, however, in their behaviour they decided against this. This demonstrates that female users utilized more control compared to males. This paradox may refer to socialization, more precisely, female empathy and tolerance formulated during socialization. Thus, in one case it is legal knowledge that provides strong control, while it is empathy and tolerance formed through socialization in the other.

3.3 The utilization of the dissertation

The result of the research highlights the power of aggression, a universally valid risk factor, which is generated in everyday situations
between regular users, and give ground to more severe forms of cyber-deviances such as harassment, blackmail, verbal abuse, discrediting, attacks against system integrity, as well as physical violence in connection with all these in space and time. Procedures to treat aggression are not novel, there are numerous full-fledged, tried and tested tools in the practice of psychology, socio-psychology and criminology. The result of this study is substantial in itself in pointing out that aggression is responsible for cyber-deviances appearing as part of ordinary communication, while, on the other hand, the virtual form of aggression appears in the case of all users. The dissertation formulates it unambiguously that in order to prevent the spreading behaviour pattern, raising the awareness of law and online practice based on life-situations must be emphasized in the future. The significance of the dissertation also lies in the justification of a risk factor, while its utilization involves the elaboration of a functional program by which the effects of the risk factors may be mitigated.

3.4. Directions of prevention prompted by research results

Raising legal awareness. In this case, legal awareness means the knowledge of the dangers threatening the society and its legal implications that norm-breaching activities pose. One fundamental condition for the norm-following behaviour of a user is that in practical life situations, he or she acknowledges and adheres to the dominating norms, particularly legal ones that the society sets up. This can be achieved by learning practical schemes that guide a user towards appropriate conduct in cyberspace, as well as by learning the legal sanctions of destructive activities. The latter one is also useful for
another purpose, that is the Internet user recognizes the unlawful patterns in his or her own objectives and is aware of the severity of the penalties of those actions. Strengthening and expanding legal knowledge is a priority by gaining familiarity with the two above mentioned fields. Several prevention programs and practices include precautionary options to avoid the behavioural patterns feeding on violence materialized in cyberspace, targeting mainly young generations. Unlawful manners are more frequent among the generations between 18 – 45 years of age, though, which prompts the necessity of a much wider expansion of preventive programs in the population. Thus, awareness of the content of regulations is as important as the strict regulation of cyberspace itself.

Creating legitimate opportunities. Creating legitimate opportunities to relieve violent tension is inevitable for the purpose of maintaining conformity. According to the research results, a conforming user seeks to remain within the boundaries of conformity in any given situation. Violent tensions gain ground in any way, though, as results show, very often in cyberspace. In case there is an opportunity to get rid of the strain and keep the laws in parallel, there is a greater chance to avoid that a particular behaviour type will cause legal harm or to consolidate the extent of arrogant communication. Therefore, community websites have introduced and now apply several pragmatic solutions today. Among the most popular options there are some functions operating such as the cancellation of negative content or the necessity of intervention of the content service provider (for example, the possibility to report on online social media websites).
Legitimate aggression *in this case* is qualified as indirect aggression, when violent tensions are relieved through others in a non-offending conduct. The technical alternatives of legal possibilities are to *prevent* offensive reactions, in other words, they support *legitimate responses* to aggravating contents. As a consequence, there is a demand to create and expand legal technical circumstances and to familiarize users belonging to various age groups with them.

*Improving norm-following operations by adapting problem-solving schemes in the conventional space.* Using spaces in balance is a key factor in treating negative tensions and recognizing actual harm done by violent manners. Today, it is a requirement that everyone possess digital skills, which may only be achieved if the instruments in computer technology and the Internet is the base of education, being widely and freely available. Acquiring digital skills is an important, but not the most significant element in socialization. Operations in cyberspace are impersonal, where the individual does not sense the other party’s all metacommunicative feedback, so his or her decisions are made according to false perceptions and misbeliefs. Besides, the overuse of the Internet takes away the possibility of the disappearance of forceful attitudes into physical space (e.g. doing sports). Through actual social relationships the empathic skill may be strengthened, a skill by which the individual can sense and experience the harmful effects he or she can cause to other people by aggressive behaviour. Despite the fact that digital competence is a basic necessity, it is also a supporter of violent norm-breaching in cyberspace, which may only
be avoided if it is in balance with the experiences provided by traditional space.

**Improving communications and conflict-solving skills.** The results of the research point out that the most frequently occurring violent action online is flaming (55%). Flaming is motivated mostly by reactive aggression, generally forming during the process of conflicts as consequences of communicative deficits in which parties do not possess adequate and optimal means to resolve conflicts.

Since content-related crime and other deviant behavioural patterns occur in communication channels and are based on the process of communication, one of the most significant tasks of the participants of social processes in the future is enabling the society to communicate non-violently.

**Registration of infringements and conducting continuous measurements.** Traditional patterns for the violation of rights that occur in cyberspace (e.g. defamation, harassment, false accusations) are only partly registered or not at all, by the eligible authorities as online norm-violations in their statistic databases. This way, the criminal statistics for crimes committed in cyber environment in itself does not provide adequate guidance for specialists elaborating preventive programs. In the light of this, it is utterly important that unlawful behaviour occurring in one of the many scenes of cyberspace be registered as a separate category in the input and output statistics of authorities. The measurement of violence of rights in cyberspace is not homogenous and evenly consistent, which makes it impossible to follow the structure and dynamics of behavioural patterns in the class
of cyber-deviances. Therefore, it would be a major step forward if data registered by authorities could be processed, analysed and tendencies could be followed through with the methods of science, for instance by the operation of a research institution founded to meet this aim.

3.5 Prevention by the development of the new measurement instrument

There are a wide variety of preventive recommendations in order to ward off aggressive behaviour in online space. In contrast, only a few practical solutions exist that could be applicable in all walks of life. In online environment interactions, although life situations are continually generated which every user is a potential part of, normal behavioural patterns with legal and social implications remain little known or unprecedented. The adverse effects of negative behavioural patterns concern the entire society, from underage to senior Internet users, both from the aspect of victims and offenders. The ever-intensifying challenges in time and space must appropriately be built into prevention programs not solely for the purpose of the protection of a particular age group. Moreover, every user should also be given the opportunity to become aware of various forms of unlawful or immoral reactions and to learn about and practise a series of actions by which causing or suffering harm may be avoided. Therefore, as a base of prevention practice, I propose the introduction of a questionnaire containing projective stories that was developed and applied as a measurement instrument in a research. This can be used in order to measure norm-breaching behaviour and decisions, to test behaviour, and to recommend pre-programmed and continuously
updated correct action and decision schemes - particularly in case of breaching a legal norm - that offer potential legitimate solutions as a way of tension relief, and suggest more conventional answers instead of violent reactions for users.

4. **Publications in connection with the research topic**


