

Determining Factors in the Perception of Cyberbullying in Victimized Adolescents: Psychoeducational Implications

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Abstract—The knowledge of the perceptual structure that victims have of the cyberbullying phenomenon favors the adjustment of prevention and intervention programs. However, there are few studies that try to find out what are the factors that influence the construction of a certain perceptual structure on cyberbullying, let alone those that focus on a population such as victimized adolescents. This paper aims to know the perceptual structure that victimized adolescents have about cyberbullying, as well as the factors that determine the construction or modification of this structure. The sample consisted of 2148 adolescents (49.1% girls) of ages from 12 to 16 ($M = 13.9$; $SD = 1.2$). The results have shown that in the victims' perceptual structure the key factor is the intention to harm, closely linked to the asymmetry of power and publicity. Anonymity, revenge and repetition are also present in this structure, although its relationship with cyberbullying is indirect. Likewise, the results indicate that victimization experiences, as well as the intensity of the aggressions suffered, play a mediating role in the formation and modification of this perceptual structure. These results allow defining risk factors that would promote the durability of the victim's role and the conversion of victims into poly-victims. Knowledge of this perceptual structure provides key elements for the design of psychoeducational prevention and intervention programs in cyberbullying.

Keyword—Digital violence; intentionality; prevention; risk factors; secondary education

1 Introduction

After its emergence, the use and popularity of the Internet has been extended to the point that it is difficult to conceive life without this virtual network. One of the main achievements that the Internet has brought is the creation of a space which, although it is not physical, is very real: cyberspace. Cyberspace surpasses physical and social limits, and blurs the norms defining when and how to interact. This virtual space has also created numerous cyberscenarios that have become the bases for the virtual relationships that have arisen in diverse and numerous social networks [1]. Social

networks and instant messaging applications allow users to interact socially either person-to-person or within groups. This is the case of the most popular social networks among teenagers and young adults: Facebook, Instagram, Twitter, and WhatsApp [2].

Access to these tools from an early age is also exposing children and teenagers to dangerous situations, both in physical and virtual contexts, which they often know little or nothing about. Inability to control the use children and teenagers make of the Internet, and the lack of supervision by caregivers and parents is directly related to a series of negative consequences which have a direct influence on the daily lives of young people [3].

1.1 Cyberbullying: A construct in continuous definition

During the last two decades, research on cyberbullying has multiplied and diversified so much that it seems to be a resolved topic. However, there are still many controversies around this construct nowadays [4-6].

Some authors consider the conceptualization of cyberbullying as the existence of certain characteristics or criteria that enable to differentiate between cyberbullying and other acts of aggression carried out through technological and cyber means [7]. Among these criteria, at least five can be mentioned: intention to hurt, imbalance of power, repetition of harm, anonymity, and publicity. Regarding the intentionality to hurt criterion, in the cyber context, the detection and application of this criterion involves certain difficulties related to the lack of face-to-face communication, the ignorance in many cases of the identity of the aggressor, or the aggressor's ignorance of the consequences that their actions have for others [8]. On the other hand, as stated in Ref. [9] for younger people who spend many hours connected to social networks and other digital platforms, they can interpret the aggressions as playful acts or jokes. In these cases, the intentionality of the damage is masked and may no longer be perceived.

A second criterion that defines cyberbullying is the repetition of the aggression. But understanding this criterion in a cyber world can take on some nuances. In cyberspace, the repetition of the aggression or the damage caused does not necessarily imply that it comes from the same person or groups of people. As stated in [10], in virtual contexts it is not as important the repetition of the aggression as it is on the victim to repeatedly feeling the abuse. When the aggression runs through social networks, it is stored in the cloud or on the peers' terminal and the material can be spread causing repeated damage to the victim. This fact may happen even if the material is not disseminated. The victim knows that other people have it and experiences fear and continuous harm [11]. understand that the criteria that define cyberbullying can be related and interdependent among them. In this sense, they point out that the repetition of abuse implies intentionality. An abuse that occurs repeatedly towards a person cannot be labeled as an isolated event, but as an intentional behavior [12].

As with the bullying construct, the imbalance of power is a distinctive characteristic of cyberbullying. As stated in [13], in cyberspace, the imbalance of power (which implies an emotional, social, or psychological superiority) is materialized mainly in

provoking situations in which the victims cannot defend themselves. For the creation of these situations, it is necessary for the aggressor to have knowledge, mastery and competence in technological means substantially superior to those of the victims [10]. This ICT domain can be used to impersonate the victim and disseminate private content, to hide the identity of the attacker, to exclude someone from distribution lists, etc. [14]. As stated in Ref. [13] imbalance of power acquires a social dimension to which adolescents attach considerable importance. Having more followers or more 'likes' to the uploaded content almost automatically makes them popular and, in some way, leaders of their peer groups. As with other criteria, the power imbalance has been linked to the intention to hurt [15] or to the concealment of the identity of the aggressor [11].

The anonymity of the aggressor is considered another identifying criterion of cyberbullying. Unlike face-to-face contexts where it is very difficult to hide the identity of the aggressor, in cyberspace it is very simple with minimal technical knowledge. Specifically, as stated in Ref. [16] being able to hide their own identity prompts some young people to initiate reprisals against their peers to prove to themselves their ability to hurt others, among other things. These actions are impossible to be done in physical contexts, but the possibility of not being identified opens the door to aggression in cyberspace. However, some studies suggest that despite attempts to conceal identity, victims know or intuit who their aggressors are. The type of aggression received, as well as the time and context in which it occurred, reveal important information about the perpetrator. This generally belongs to their most immediate social environment (group of friends, school, neighborhood) [10,17].

A fifth identifying criterion of cyberbullying corresponds to the uncontrolled dissemination of the abuses suffered by the victims. However, there are researchers who question dissemination as a defining criterion of cyberbullying [18]. Its importance is placed in its ability to contribute to the severity of the aggression [15].

1.2 What do teenagers understand by cyberbullying?

Previous studies warn that the perception that adolescents have of some phenomena such as bullying, or cyberbullying do not coincide with the definition researchers have [19] These discrepancies contribute to the creation of two very different realities in which adolescents define an abuse as a joke that, in contrast, researchers describe as an episode of cyberbullying. Knowing the defining characteristics of cyberbullying for adolescents will allow to adjust the prevalence data, as well as reorienting prevention and intervention programs against violence.

Beyond the debate on the number of criteria that adolescents use to define cyberbullying, other research has focused on the analysis of the relationship that is established between some of these criteria and the hierarchical nature of these relationships. As stated in [20] analyze the link between intention and repetition in a sample of 287 children aged 11 to 12 years. These researchers conclude that children and adolescents do not have a clear definition of cyberbullying. In particular, they point out that the perception young people have regarding this construct is highly variable and arbitrary and it is very difficult to determine whether the relationship

between intentionality and repetition is a defining characteristic of cyberbullying. Other researchers recognize the complexity in determining adolescents' perception of cyberbullying but they also find that many young Europeans associate repetition and intention, since if aggressive behavior is repeated, there must be an intention to hurt the victim [21].

The greater relevance of certain criteria over others is also studied by [15] with samples from different European countries. Their results show that there are two criteria that adolescents attach particular importance to in differentiating a cyberaggression from an episode of cyberbullying: intent and imbalance. However, these conclusions are not shared by other researchers. As stated in [22] when analyzing the definition that young Australians give to cyberbullying, the intentionality and imbalance criteria are not the most characteristic and are sometimes absent. These researchers include a new variable to study in the definition of cyberbullying: the impact that aggressive behavior causes on the victim. Other criteria analyzed are anonymity and publicity. Although the researchers consider them the key factor in the definition of cyberbullying, adolescents highlight their importance in measuring the impact of aggression, but not in differentiating a specific aggression from an episode of cyberbullying [15, 21]. The evidence of ambiguity and arbitrariness in adolescents' definitions of cyberbullying is found in the contradictions among the different studies that have analyzed this topic. Studies using samples of Swiss adolescents conclude that the public dimension of the assaults is not only an essential characteristic of the definition of cyberbullying, but it is also a fact used to determine the severity of the harm caused to the victim [23].

The interest that this topic has provoked in the research community, it has led researchers from different countries to analyze the perceptions that their adolescents have of a phenomenon that threatens public health. As stated in Ref. [8] although adolescents include five criteria in the definition of cyberbullying, they do not apply them to all types of abuse. Specifically, they warn that these five criteria are only explicitly present in visual abuses related to the uncontrolled dissemination of compromised and harmful material, as well as identity theft. On the contrary, they point out that these five criteria do not appear simultaneously when it comes to including abuses linked to exclusion or verbal or written aggressions in the definition of cyberbullying. In these cases, the number of defining criteria decreases.

After a decade trying to determine how adolescents perceive and define cyberbullying, the results obtained do not offer a clear picture. The differences in the study samples, and in the data, collection instruments, among other factors, cause a huge disparity in the results that makes difficult to understand why adolescents sometimes classify the same cyber-aggression as an episode of cyberbullying and other times they do not [24]. The review of the scientific literature shows that there has been many studies focused on the analysis of adolescents' perceptions of cyberbullying. However, very few have included in these analyzes the application of these perceptions to the different modalities in which this phenomenon can manifest itself. Undoubtedly, a more complete study should include not only knowledge of the criteria that adolescents use to define cyberbullying, but also an exhaustive analysis of the aggressive behaviors to which these criteria apply and why other cyber-aggressions

are not included within this definition. Access to these perceptions and beliefs would provide very relevant information that would allow us to understand why the problem of cyberbullying persists and why the victims tend to increase the durability of their role. The present study aims to contribute new results to the analysis of this topic by focusing the study sample on victims of cyberbullying. The objectives pursued are:

- 1) To determine the criteria that victims use to define cyberbullying
- 2) To analyze whether the type of victimization suffered modifies the perception of cyberbullying and the modality in which it manifests itself

2 Method

2.1 Participants

The sample consisted of 2148 adolescents (50.9% boys and 49.1% girls; $SD=.5$) of ages from 12 to 16 ($M=13.9$; $SD=1.2$). To select the participants, we applied a stratified multistage, approximately proportional, sampling procedure with conglomerates and random selection of groups in public secondary schools in which Compulsory Secondary Education (ESO) is taught. The strata considered were the provinces and geographical areas of Extremadura (Spain), selecting towns in the north, south, east, and west of the region, and taking their different socio-cultural contexts into account. The conglomerates used were the secondary schools. In each school, one of the four courses making up the ESO (1st year, ages 12-13; 2nd year, age 14; 3rd year, age 15; and 4th year, age 16) was selected at random.

2.2 Instrument

The instrument used for the collection of data was a questionnaire of 28 questions grouped into nine blocks. The first block consists of three questions that allow one to identify whether the adolescents consider themselves to be aggressors, victims, or witnesses of cyberbullying. From this identification, we can analyse how they behave in the rest of the questionnaire, i.e., what perception they have of the phenomenon of cyberbullying. These first three questions also provide insight into how often during the last three months they had committed, been victims of, or observed cyberbullying episodes. The scale used comprised four values: 'never', 'once or twice', 'once a week', and 'several times a week'. This scale has been used in many studies analysing the prevalence of cyberbullying [25]. A respondent is considered to have played the role of aggressor, victim, or witness when they say they have been involved at least 1 or 2 times in some of the behaviours they are presented with. The item used to identify the victims is the following, for which they have to indicate how often during the past three months they had suffered any of the following behaviours:

- 1) I have been insulted through the mobile phone or Internet
- 2) I have been threatened or blackmailed through the mobile phone or Internet

- 3) Lies and false rumours have been spread about me through the mobile phone or Internet
- 4) I have been removed from contact lists on social networks, group chats, or emails so as to exclude me
- 5) I have had someone pretend to be me, and my email, private chat rooms, or social network profile have been accessed without my permission
- 6) They have sent by mobile phone or Internet incriminating photos or videos, which are denigrating or demeaning to me
- 7) They have recorded fights in which I participated and spread them through mobile phones, social networks, or other cyber means
- 8) They have sent sexual or erotic type of content in which I took part

The items used to identify witnesses and aggressors are similar. For example, instead of asking them to indicate whether they felt threatened, we asked if they have threatened another student (in the case of the aggressors) or have seen another student threatened (for the witnesses).

A reliability analysis of the instrument showed satisfactory internal consistency of the blocks of items aimed at identifying the victims (Cronbach's alpha: $\alpha=.84$).

The questionnaire's 25 remaining questions aimed at determining the perception of cyberbullying and the modalities in which it manifests itself. The 25 questions are grouped into 8 thematic blocks corresponding to the different modes in which this phenomenon manifests itself in accordance with the "type of behaviour" criterion: Insults (including homophobia), threats (including blackmail), spreading false rumours, exclusion (from contact lists, social networking, etc.), identity theft, sexting, posting denigrating images or videos, and recording and disseminating physical aggressions [26]. Each but one of these blocks comprises 3 questions. The exception is the "insults" mode for which there are 4 questions to try to cover the great variety of types of insults that were encountered. With these questions, we can determine the perception adolescents have of behaviours regarded as manifestations of cyberbullying, and the criteria they use to define those behaviours. The scale comprises 5 values to indicate the degree of agreement with each of the items presented (strongly agree, agree, neither agree nor disagree, somewhat disagree, and disagree). Multi-item measurements help to minimize the perceptual bias of the respondent [27]. A reliability analysis showed satisfactory internal consistency in the block of items designed to access the perceptions of cyberbullying (Cronbach's $\alpha=.79$). We also calculated the degree of internal consistency for each of these 8 thematic blocks. The following are the results: insults ($\alpha=.82$), threats ($\alpha=.71$), spreading false rumours ($\alpha=.76$), exclusion ($\alpha=.78$), identity theft ($\alpha=.85$), sexting ($\alpha=.79$), posting denigrating images or videos ($\alpha=.77$), and recording and disseminating physical aggressions ($\alpha=.82$).

2.3 Procedure

Due to the study involving minors, it was necessary to have the parents' consent, and the approval of the Regional Administration's education inspectors and the different schools' management teams. To obtain the parents' consent, they were sent a

letter describing the nature of the study, the use of the data, and the commitment to confidentiality and anonymity. This letter was accompanied by a form that parents needed to send back to the school if they did not want their children to participate in the study.

The education inspectors and management teams were sent a report in which the objectives of the research, the procedures, and the guarantee of anonymity of the participants were detailed. This was thus in full compliance with the ethical standards governing secondary schools.

Once the consent from the parents and school authorities was obtained, the collection of data consisted in the researchers going to each of the selected schools in turn, where they distributed the questionnaires in each of the classes, and remained in those classrooms until all of the participants who had voluntarily wanted to take part had handed them back filled in.

2.4 Data analysis

From the data collected with the questionnaire, it was to identify the adolescents who define themselves as victim, and performed an exploratory factor analysis to determine whether their definitions of cyberbullying varied according to their role in the different cyberbullying situations they themselves experience.

3 Results

A total of 328 adolescents declared themselves to be victims of cyberbullying (131 boys and 197 girls). With respect to the variable corresponding to the type of aggressive behaviour, the descriptive results show that cybervictims are subject to more than one form of cyberbullying (see Table 1).

Table 1. Distribution of cybervictims in the different modes of cyberbullying

	Cybervictims
Threats	141
Spreading false rumours	198
Insults	136
Exclusion	93
Impersonation	87
Sexting	49
Physical attacks	58
Videoclip	167

The resulting KMO index of .85 and a significance level in the Bartlett sphericity test of .001, provided the sufficient guarantee of reliability of the results. The principal component analysis showed that, although in principle up to 7 factors were detected as present in the concept adolescents have of cyberbullying, only 4 explain

the variability of the responses and provide a closer approximation to the general perception that more than 88% of the participants has (see Table 2).

Factor 1. Intent to hurt. This factor groups together the responses of the victims in which they show the intention to hurt in the attacks described. This factor accounts for 43.77% of the variance (see Table 2), has an internal reliability of $\alpha=.83$, and a mean factor loading of .57.

Factor 2. Advertising. This factor includes the responses of the victims in which they warn that the uncontrolled spread of the attacks suffered is a key condition for identifying these attacks as cyberbullying episodes. This factor accounts for 23.17% of the variance (see Table 2), has a moderate internal reliability ($\alpha=.69$), and a mean factor loading of .55.

Factor 3. Imbalance of power. This factor includes the responses in which the victims evidence the imbalance of power in favour of the perpetrator and place it as a necessary criterion for such aggression to occur and can be classified as cyberbullying. This factor accounts for 13.78% of the variance (see Table 2), has high internal reliability ($\alpha=.77$), and a mean factor loading of .53.

Factor 4. Form of social relationship. This factor includes the responses of the victims in which the attacks described are interpreted as a form of harmless relationship and fun among adolescents. This factor accounts for 10.01% of the variance (see Table 2), has a moderate internal reliability ($\alpha=.78$), and a mean factor loading of .50.

Table 2. Total variance explained by the components

Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% variance	Cumulative %	Total	% variance	Cumulative %
1	5.81	43.77	43.77	5.81	43.77	43.77
2	3.16	23.17	66.94	3.16	23.17	66.94
3	1.98	13.78	80.72	1.98	13.78	80.72
4	1.43	10.01	90.73	1.43	10.01	90.73
5	0.68	5.39	96.12			
6	0.42	2.82	98.94			
7	0.17	1.06	100			

Extraction method: Principal component analysis

The factor extraction indicates that there are three key criteria that the victims use to define cyberbullying: ‘intent to hurt’, ‘advertising’, and ‘imbalance of power’. Nevertheless, they only attribute all three criteria simultaneously to impersonation (see Table 3).

Table 3. Total variance explained by the four principal components: cybervictimims

	Components			
	1	2	3	4
Definition of cyberbullying	.742	.541	.529	
Threats	.529	.487		
Spreading false rumours	.453			.348
Insults				.364
Exclusion	.587	.391		
Impersonation	.615		.322	
Sexting	.628		.327	
Physical attacks	.503	.569		
Videoclip	.416	.488		.501

Extraction method: Principal component analysis
 Rotation method: Varimax. The rotation converged in 8 iterations

The results for the intentionality factor show that victims perceive all the forms of cyber abuse considered in the present study, except insults, to be committed with the objective of causing harm to peers. Beyond the identification of isolated criteria, the results of this work confirm that victims establish very close relationships between pairs of criteria. This is the case, for example, of the intention to hurt and the spread of aggression when applied to abuses that take the form of threats. In this type of aggression, the imbalance of power is not a relevant criterion, nor it is related to intentionality. On the other hand, it is evidenced that victims do not classify the spread of rumours and insults as aggressive behaviours on many occasions, since they do not perceive intentions to hurt. On the contrary, they interpret them as jokes, playful forms of interaction or simply as mechanisms of interaction between young people. In other forms of aggression, the intentionality criterion is present in a very evident way. This is the case, for example, of exclusion and physical attacks. Regarding physical aggression, no one hits others except with the aim of harming them, especially in a society in which physical aggression is socially punished. Regarding exclusion, adolescence is an evolutionary stage where the relationship with peers is so important that the mere thought of feeling excluded causes fear. That is why they interpret that when someone wants to exclude them, he hides a desire to hurt them.

4 Discussion

This study has shown that adolescents and researchers have different ways of describing and interpreting reality. Of the 5 criteria considered identifiers of cyberbullying, the victims detected in this study only recognized three: intention to harm, imbalance of power and publicity. The absence of the repetition criterion may perhaps be justified by the relationship that this criterion has with advertising [15]. However, anonymity is not a key criterion, probably because victims intuit who their aggressors may be. For them it does not make sense that an unknown person knows their weaknesses and attacks them [22]. In addition, many of these attacks have already started in physical contexts [28]. What causes the virtual space to have great importance is

the proliferation of the aggressions both in quantity and intensity. In quantity not only because of the repetition of the aggression, but also because of the repetition of the damage caused. Every time an abuse is spread through social networks and it reaches the victim, the same damage is experienced as if it is for the first time.

In this sense, cyberbullying episodes are a continuation of aggression experienced in the school context. The creation of peer support groups can promote the learning of how to resolve interpersonal conflicts, and the development of a capacity for empathy. The establishment and consolidation of a safety net in the form of presentational adolescent support groups in classroom contexts, so important at this stage of a person's development, can foster the acquisition of prosocial attitudes and behaviours, and reduce instances of cyberbullying as well as encourage the reporting of such instances.

For the victims, the criterion to which they place the greatest value is the intention to hurt. The factor load reached both in the definition of cyberbullying and in many of the modalities analysed is a proof of this. These results are in line with those of other researchers who state that the main defining criterion of cyberbullying is the intention to hurt [29]. But in a cybernetic context where the identity of the aggressor is not always known, it is difficult to interpret the intentionality of the attacks received. And if this abuse comes through the uncontrolled dissemination of material, victims could not ensure that those who disseminate it have the intention of causing harm. As shown, there are still many questions that remain unsolved regarding the delimitation of identifying criteria for cyberbullying. In this sense, as stated in [22] suggest that perhaps it is time to rethink the intentionality criterion and replaced it by another such as the impact that the aggression causes on the victim. Other studies indicate that for the intentionality criterion to acquire a relevant value, it must be linked to the imbalance of power [15]. These studies offer new perspectives of analysis where it is necessary to review and expand the list of criteria, but also to study the network of relationships that can be established between them.

Likewise, this study reveals that although intentionality is a key factor in identifying cyberbullying, advertising also occupies an important place. The use that adolescents make of social networks and the addiction that many of them have to these forms of relationship and communication, explains why the uncontrolled dissemination of harmful content is interpreted as an act of violence against the victims. However, the imbalance of power acquires less importance, perhaps due to the false belief of equality that social networks give. Instead, other studies insist on giving greater relevance to the power imbalance [21]. These studies insist that the imbalance represents a dynamic of action and reaction microprocesses, so that, as the aggressors become aware of the damage they cause to the victim, they reinforce their perception of power. However, in the case of the victims, these dynamics of action and reaction are not fulfilled. Finally, the explanation that can be attributed to the decrease in the scores obtained in the intentionality factor in some of the cyberbullying modalities is due to the normalization that adolescents make of their abusive behaviour or the aggressions they suffer. This normalization causes that aggressions, suffered or committed, tend to be justified and interpreted as harmless behaviour patterns characteristic of the young population [19].

In the analysis of the relationships between the criteria, as stated in [10] the link between anonymity and power imbalance. In the case of victims, the ignorance of the identity of the aggressor can generate a feeling of greater helplessness, placing him in a situation of inferiority with respect to his aggressor. The reduction of this asymmetry can occur due to the extent that the victim can know the identity of the aggressor to be able to face him/her or mitigate the effects of the damage. If the victim manages to face the situation of defencelessness, their perception of control increases and the asymmetry with the aggressor decreases.

This study highlights the existence of another factor related to the ‘forms of social relationship’ characteristic of adolescents associated with playful themes. Under this label adolescents includes verbal aggressions such as insults, spreading false rumours, or visual abuse such as the publication and dissemination of images or videos. Even victims come to interpret these types of abuse as mechanisms of social interaction that promote communication and interaction between young people. For this, they justify the possible pain they cause or suffer by alluding to the strength of the peer group. The fear of being excluded helps to strengthen this type of justification. Along these lines are the works of other researchers who point out that adolescents internalize and normalize offensive patterns, reducing the severity of the possible effects caused [30-31].

But the contributions of this study are not only limited to offering a description of the criteria that victims use to define cyberbullying. In fact, it also provides access to the interpretation victims have of different forms of abuse, which they sometimes do not consider harmful. From the results of this study, it can be deduced that victims do not have a single interpretation of a specific type of abuse, since they sometimes consider it as cyberbullying and other times as forms of social relationship. The experience of victimization, or the intensity of the damage, can explain this duality of interpretations. There seems to be no doubt in classifying identity theft as an intentional abuse, carried out by someone with greater technical mastery who has the aim of spreading compromised private messages or material. In other words, in this type of abuse, the three criteria that victims use to define cyberbullying coincide.

5 Conclusion

The contributions of this study show that there are still many questions to be addressed in the analysis of cyberbullying. The role played in this case by the victims, the experiences of victimization suffered, the intensity of the aggressions, and the need to belong to the peer group are variables that influence the perception adolescents have of both the concept of cyberbullying and the modalities in which it manifests itself. Technological development and the accessibility that young people have to these types of resources has caused social networks to be one of the main means of relationship and communication for adolescents. In this dual world, the cybernetic part acquires progressively more value and everything that passes through it acquires an overwhelming importance. The absence of face-to-face communication increases

many misunderstandings that adolescents interpret as failures, offenses or aggressions by giving it intentionality to harm.

Knowledge of adolescents' perception of cyberbullying will allow a better adjustment of prevention and intervention programs against violence. If young people do not interpret certain abuses as forms of aggression, or if they justify them by referring to their playful nature, we could encourage victims to become long-term poly-victims.

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