Exploring the Wholistic Impact of Intimate Partner Violence on Women's Health - Research Article

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Improving women's health and well-being by exploring the impact of emotional, physical, and sexual intimate partner violence

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Abstract

Background: Over the past two decades, several studies have highlighted the harmful mental and physical effects of intimate partner violence (IPV) on its victims. However, more repeated measures research is needed to observe the long-term health and emotional effects of IPV. This includes how these impacts change when violence is reduced or ceases, such as when the perpetrator receives intervention. Further limitations of existing research include the lack of data on abuse frequency, severity, and impacts linked with specific forms of abuse.

Objectives: This research explores the impacts on IPV victims whose abusive (ex-)partners participate in perpetrator programs (PPs). It aims to identify distinct patterns of impacts associated with different IPV types and pinpoint the most damaging IPV behaviors through repeated measures data.

Design: Longitudinal.

Methods: In total, 349 heterosexual women, who were (ex-)partners of men enrolled in multiple European gender-based violence PPs, completed the Impact Outcome Monitoring Toolkit questionnaire.

Results: The results showed that emotionally abusive behavior and—especially coercive control and online violence—were highly prevalent and had profound, alarming impacts, including self-harm and suicidal ideation. Over two-thirds of the sample reported experiencing sadness as a result of the violence endured, which was identified as a significant impact. Moreover, isolation had a common effect on emotional and physical violence. Recognizing threats and their damaging effects on victims has emerged as crucial because of their impact on victims. Finally, sexual violence, refusing to use contraception and forcing sex were the most damaging behaviors. Interestingly, our study found specific impacts of extreme abusive behavior depending on the type of abuse.

Conclusion: This study clearly supports the statement that the impact of abusive behavior can persist after it ends, as half of the victims no longer experiencing violence at the end of the PP reported at least one impact.

Plain language summary

Improving women's health and well-being through exploring the impact of emotional, physical and sexual IPV

Background: Over the past two decades, several studies have highlighted the harmful mental and physical effects of intimate partner violence (IPV) on its victims. However, more repeated measures research is needed to observe the long-term health and emotional effects of IPV. This includes how these impacts change when violence is reduced or ceases, such as when the perpetrator receives intervention. Further limitations of existing research include the lack of data on abuse frequency, severity, and impacts linked with specific forms of abuse. Objectives: This research explores the impacts on

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IPV victims whose abusive (ex-)partners participate in perpetrator programs (PPs). It aims to identify distinct patterns of impacts associated with different IPV types and pinpoint the most damaging IPV behaviors through repeated measures data.
Design: Longitudinal. Cross-sectional repeated measures.
Methods: 349 heterosexual women, who were (ex-)partners of men enrolled in multiple European gender-based violence PPs, completed the Impact Outcome Monitoring Toolkit questionnaire.
Results: The results showed that emotionally abusive behavior and—especially coercive control and online violence—were highly prevalent and had profound, alarming impacts, including self-harm and suicidal ideation. Over two-thirds of the sample reported experiencing sadness as a result of the violence endured, which was identified as a significant impact. Moreover, isolation had a common effect on emotional and physical violence. Recognizing threats and their damaging effects on victims has emerged as crucial because of their impact on victims. Finally, sexual violence, refusing to use contraception and forcing sex were the most damaging behaviors. Interestingly, our study found specific impacts of extreme abusive behavior depending on the type of abuse.
Conclusion: This study clearly supports the statement that the impact of abusive behavior can persist after it ends, as half of the victim

Keywords
intimate partner violence, impact on victim's health, emotional well-being, perpetrators of violence

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Introduction

Intimate partner violence (IPV) affects over a quarter of women (ages 15–49) globally, including either physical and/or sexual violence by their intimate partner.[1] Evidently, in Europe, 22% of women and girls who have experienced physical and/or sexual violence by a current or past partner since the age of 15.[2] Over the past two decades, several studies have highlighted IPV's harmful mental and physical effects on victims.[3–8] Traditionally, studies have focused on the impacts of physical and sexual abuse.[3,9–11] Subsequent studies have also considered the impact of emotional abuse.[6,12,13]

Several emotional and mental impacts of IPV have been reported. For example, Dillon et al.[14] conducted a comprehensive review of 75 studies published between 2006 and 2012. They identified a range of mental health issues among IPV victims, including depression, post-traumatic stress disorder (PTSD), anxiety, low self-esteem, suicidal ideation, self-harm, sleep problems, and poor self-perceived mental health, aligning with the results of other studies.[7,8,12,15–19] Many studies analyzed the impact of IPV, measuring the likelihood of certain clinical mental health effects in women who experienced domestic abuse.[4,7,8,20–23] Other researchers, focusing mostly on mental health effects, measured the likelihood of certain impacts of abusive behavior types (emotional, physical, and sexual).[16,24,25] They also noted that victims often experience multiple types of abuse with varying frequencies and severities.[6] Substance abuse is another critical issue with studies indicating that a significant proportion of women undergoing substance abuse treatment programs experience IPV.[11,26–28]

Physical symptoms commonly reported in several studies[5,29] range from minor injuries to life-threatening conditions including cuts, bruises, fractures,[30] chronic pain, traumatic brain injuries,[23] and in extreme cases, death.[13,31] Additional possible physical impacts included in other studies were cardiovascular[32,33] and circulatory issues (e.g., heart attacks, heart disease, hypertension, thrombosis, and stroke),[34,35] fatigue, respiratory issues,[34,36] muscle conditions, weight fluctuations, and gastrointestinal conditions.[36,37] Additional studies have found moderate associations between IPV abortion,[38] miscarriage, and human immunodeficiency viruses/sexually transmitted diseases.[8] Winter and Stephenson[39] linked significant gynecological symptoms to sexual violence, noting issues such as bleeding post-intercourse, abnormal vaginal discharge, dysuria, and dyspareunia.[8,40]

Findings from previous research offer varying degrees of evidence supporting an association between IPV and adverse health or mental outcomes. However, establishing causality remains challenging because of the complex interplay among the factors involved. Studies involved diverse ethnic[41] and socioeconomic[16] groups globally; however, they have several limitations.

A common barrier in most studies was the limited availability and quality of linking IPV and health data. Challenges included small sample sizes and difficulty capturing the multifaceted effects of different abusive behaviors[29,42] while adequately controlling for other factors influencing health conditions and baseline estimates.[18] Therefore, studies lack differentiation of the impacts of different types of abusive behaviors, as they do not identify specific impacts for each type of abusive behavior.[6] Additionally, a lack of data exists on frequency and severity of the abuse. This is crucial information for further understanding the implications of IPV on victims' health and well-being.

Furthermore, most studies have focused on the emotional impacts measured through clinical mental disorders[18,43]

without considering other emotional impacts outside the clinical scope (e.g., loss of confidence and loss of trust).

Finally, although several studies have focused on evaluating the outcomes of perpetrator programs (PPs),[44–46] few have done so with a focus on victim safety or IPV impact reduction.[47] Therefore, a lack of research exists on the effects of IPV on health and well-being when perpetrators receive interventions.

This research explores the impact on IPV victims whose abusive (ex-)partners participate in PPs using the Impact Outcome Monitoring Toolkit data. It aims to identify distinct patterns of impact associated with different types of IPV and pinpoint the most damaging IPV behaviors. Moreover, longitudinal data were gathered (beginning and end of the PP) to analyze the impact of IPV (regarding frequency and presence of forms of abuse experienced by the (ex-)partner). In addition to the more widely studied violence categories (emotional, physical, and sexual), the Impact Monitoring Toolkit includes information on online abuse and different forms of coercive control behaviors. It also provides a broader set of possible effects, including nonclinical and emotional impacts.

Methods

Participants

The participants were 349 heterosexual female (ex-)partners of men enrolled in multiple European programs for IPV perpetrators. The sample size included all participants that contacted those programs from December 2018 to June 2023 and who agreed to participate in this study. The age range was wide (Table 1), with more than one-third (34.7%) between 31 and 40 years. Regarding relationship status, most women reported being in a relationship with the client (61.0%), and nearly one-third ended the relationship or were in the process of breaking it up (31.5%). Regarding the main hope or wish for the relationship in the future, nearly half of the partners reported a desire to continue the relationship and live together (41.3%), whereas a remarkable proportion (26.8%) was not sure of their hope; thus, they had no expectations about the future of the relationship.

In addition, most (ex-)partners reported having child(ren) (77.9%), mainly between 5 and 9 years of age (44.9%), and 6.6% of those ages lived with the man. Furthermore, nearly all children (90.8%) had witnessed at some point the IPV committed by the perpetrator against their (ex-)partners, the children's mothers (Table 1).

Table 1. Sociodemographic characteristics of survivors.

Variable	Level	Freq.	*N*	%
Age range	18–21	10	349	2.9
	22–30	89	349	25.5
	31–40	121	349	34.7
	41–50	87	349	24.9
	51–60	35	349	10.0
	Over 60	7	349	2.0
Relationship status	Together and living together	135	349	38.7
	Together but living apart	78	349	22.3
	Relationship ended and living apart	66	349	18.9
	In the process of splitting up	44	349	12.6
	Not sure	26	349	7.5
Hope for the relationship in the future	That we will be together and living together	88	213	41.3
	That this relationship will end	60	213	28.2
	In another relationship already	8	213	3.7
	Not sure	57	213	26.8
Children	Yes	272	349	77.9
	No	77	349	22.1
Number of children	1	95	272	34.9
	2	107	272	39.3
	3	50	272	18.4
	4 or more	20	272	7.4
Children age range[a]	0–4	83	272	30.5
	5–9	122	272	44.9
	10–14	96	272	35.3
	15–18	97	272	35.7
Children witnessed violence	Never	25	272	9.2
	Sometimes	126	272	46.3
	Often	121	272	44.5

[a]Children age range was multiple choice. Proportions obtained are relative, not absolute.

Measures

The Impact Outcome Monitoring Toolkit questionnaire developed by the European Network for the Work with Perpetrators of Domestic Violence (WWP EN)[48] was used in this study. This instrument consists of 10 versions, each tailored to different treatment phases (5 versions: T0—before starting the program, T1—program initiation, T2—mid-program, T3—end of the program, T4—6 months follow-up) and to the respondent (2 versions: client or (ex-)partner). The questionnaire assesses various dimensions of IPV through several scales, including violent behaviors (emotional, physical, and sexual), the impact of IPV on the victim, the effects of IPV and the situation of children, victim's safety (police call-outs and well-being), perpetrator's accountability and positive changes in perpetrators.

For the purposes of this study, we focused on two specific scales: violent behaviors perpetrated by clients as reported by (ex-)partners (emotional, physical, and sexual) and the impact of IPV on the victim. The violent behavior scale contains 29 items divided into 3 sub-scales measuring the 3 types of IPV: emotional (13), physical (14), and sexual IPV (8). These sub-scales assessed the frequency of

each violent behavior through a 3-points Likert scale (1 = "Never," 2 = "Sometimes," 3 = "Often"). The impact of violence on the victim scale includes 16 items evaluating the physical and emotional consequences on the (ex-)partner, using a dichotomous scale (1 = "No," 2 = "Yes").

In this research, T1 data (program initiation) was used to analyze the relationship between IPV suffered by and the impacts on them. Additionally, impacts reported at T1 (program initiation) and T3 (program completion) were matched against violent behaviors experienced at T1. On average, the period between T1 and T3 was 9 months. It is important to mention that this condition was equal for all healthcare institutions, as all PPs had similar duration.

The reporting of this study conforms to the STROBE statement.[49]

Statistical analysis

Data were obtained through intentional sampling[50] and following longitudinal (T1 and T3) design.[51] Thus, responses from (ex-)partners were collected at the beginning of each round of the program. Partners and ex-partners were contacted at the beginning of the PP to inform them about the content and methods of the program, the support services in case they needed them, and to learn about their experience and IPV assessment of the program's outcome. They were also contacted at the end of the PP or when the offender stopped going to the sessions. During these contacts, (ex-) partners responses to the questionnaire were collected. This information is crucial in order to assess the perpetrator programme outcome and impact on the victims/survivors. Responses were collected either over the phone or face to face, depending on the availability in each case. Data were collected from December 2018 to June 2023.

Statistical analysis was performed using the IBM SPSS Statistics version 29.0.1 software,[52] R version 4.4 and Stata13[53] statistical programs. On the one hand, frequencies of violent behaviors and impacts of IPV were obtained. Also, contingency analysis through chi-square test was carried out to analyze the association between each type of IPV and specific impacts with T1 data. For this contingency analysis, the condition of application of expected counts of at least 5 values was verified. Owing to the low proportion of responses obtained at "Often" response option, the response options indicating the presence of IPV (2 = "Sometimes," 3 = "Often") were grouped so that all expected cells were greater than or equal to 5. Thus, the 3-value frequency ordinal scale (1 = "Never," 2 = "Sometimes," 3 = "Often") was transformed into a dichotomous scale (Presence/Absence) in order to perform the contingency analysis, fulfilling the chi-square application condition.

On the other hand, multivariate logistic regression analysis was performed to assess the probability of a reported impact at T1 and at T3 in relation to the frequency of reported violent behaviors at T1.

The T1 and T3 data cases were matched using the (ex-) partners' ID code. Additionally, the association between the relationship status at T3 (partner or ex-partner) and the three types of IPV reported in T3 was analyzed using the chi-square test. The same analysis was performed with the impacts reported in T3.

Results

The frequencies of the main types of IPV and impacts, as well as the associations between them, are presented in this section.

Descriptives of IPV and impacts on (ex-)partner

The most frequent violent behaviors suffered by partners (see Appendix Table A1) were threats of harm (79.9%), isolation from friends or family (70.5%), locking her in the house (69.9%), and coercive control in relation to what she does, where she goes, and who she can meet (65.9%). By contrast, the least frequent emotional IPV behavior was humiliating or embarrassing in front of others (7.7%). In terms of physical IPV (see Appendix Table A1), slapping, pushing, and shoving were the most frequent types of physical IPV (62.8%), while burning (0.9%) and biting (1.1%) were the least frequent physical violent behaviors. Regarding sexual IPV (see Appendix Table A1), notably lower frequencies were obtained in comparison to emotional and physical IPV, with the most frequent being touched in way which caused fear/alarm/distress (31.2%), being forced to have sex when she did not want to or did not stop when she wanted to stop (27.8%), being forced into doing something sexual she did not want to (26.6%), and disrespecting her boundaries or safe words (26.1%). It is quite remarkable that the least frequent sexual violent behaviors were sexual assault (3.4%) and hurting during sex (4.0%). In terms of the impact of IPV (see Appendix Table A2), by far the most prevalent impact obtained was feeling sadness (71.3%), followed by feeling angry/shocked (49.6%), losing respect for your partner (48.7%), feeling anxious/panic/lost concentration (44.1%), suffering injuries such as bruises/scratches/minor cuts (43.8%), and stopping trusting partner (43.3%). Diametrically opposed, the least frequent impacts were self-harm or suicidal feelings (4.6%) and worrying that their partner would leave them (7.2%).

Violent behaviors and its impacts (T1)

As can be seen in Table 2, the chi-square test proved that the impact of self-harming/feeling suicidal was more related to being isolated from friends or family (87.5%, $\chi^2 = 6.876$, $p = 0.032$), coercive control by being told what to do/not do, where to go or not go, who to see/not see (87.5%, $\chi^2 = 7.926$, $p = 0.019$), and online emotional IPV (100%, $\chi^2 = 8.757$, $p = 0.033$). Nearly all women who

Table 2. Contingency table of the impacts and type of emotional violence reported by victims ($n = 349$).

Impacts	Emotional violence												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Injuries such as bruises/scratches/ minor cuts	69.9***	80.4***	80.4***	28.8**	72.5***	62.1**	79.7***	79.1***	90.2***	66.6***	67.3***	26.2*	90.6***
Injuries needing help from doctor/ hospital	71.5***	80.0**	74.3*	38.6***	74.3***	64.3**	75.7	90.0***	92.9**	62.9	71.4***	27.9	88.2*
Lost respect for your partner	69.4***	80.6***	78.2***	21.8	58.8	61.8***	83.5***	69.4	91.2***	68.8***	61.2*	25.3	95.2***
Made you want to leave partner	68.5*	82.2***	78.1***	23.3	61.0*	54.1	81.5***	70.5	89.7***	67.1**	60.3	27.8*	92.3***
Depression/sleeping problems	74.0***	86.3***	80.8***	21.9	63.0**	63.0**	87.0***	71.9*	91.1***	73.3***	61.6*	25.6	96.5***
Stopped trusting partner	66.9*	79.5**	77.5***	22.5	58.9	57.6	78.1*	68.9	88.7***	70.2***	58.9	22.3	95.9***
Felt unable to cope	68.4*	82.9***	76.9**	21.4	58.1	60.7*	84.6***	72.6*	88.9**	70.9***	56.4	21.9	94.7***
Felt worthless or lost confidence	78.1***	84.0***	80.7***	26.1*	60.5*	65.5***	86.6***	74.8**	90.8***	75.6***	59.7	29.1*	94.9***
Felt sadness	57.5	71.5	67.9	18.9*	51.4	49.8	71.9	63.9	81.9	59.0	51.4	22.4	82.4
Felt anxious/panic/lost concentration	70.8***	81.2***	77.9***	22.1	55.8	57.1	75.3	71.4**	85.7*	69.5***	61.7*	27.3*	92.0***
Felt isolated/stopped going out	80.0***	86.4***	89.1***	31.8***	63.6***	74.5***	**87.3*** **	79.1***	**94.5*** **	74.5***	66.4***	28.7*	**93.5*** **
Felt angry/shocked	62.5	78.0**	75.1***	22.5	53.2	56.1	74.0	65.3	83.2	60.1	54.9	20.4*	88.0**
Self-harmed/felt suicidal	81.3**	**87.5***	**87.5***	56.2***	68.7***	81.2**	81.2	81.2	93.7	87.5**	75.0*	31.3	**100.0***
Feared for life	72.5***	81.7***	81.0***	33.8***	72.5***	66.2***	82.4***	80.3***	92.3***	68.3***	63.4***	20.7	88.6***
Felt had to watch what you say/do	64.0	78.9*	78.1***	31.2***	64.8***	57.8	74.2	78.9***	89.1**	69.5***	64.8**	25.2**	88.6*
Worried partner might leave	68.0	84.0	76.0	24.0	56.0	56.0	88.0	76.0	88.0	68.0	64.0	32.0**	96.0
Defended self/children/pets	68.5	74.0	80.8**	38.4***	75.3***	58.9	78.1	79.5**	89.0	65.8	65.8*	29.6	85.9
Felt afraid of partner	67.2*	79.0**	77.6***	25.2*	67.8***	55.2	81.8***	69.9	91.6***	66.4**	52.4	20.0	87.1
Total	69.9	81.0	78.8	28.3	63.1	61.2	80.6	74.6	89.6	69.1	62.0	25.8	91.7

Items of emotional violence are numbered as follows: (1) Insulted or put you down, (2) isolated from friends or family, (3) told what to do/not to do, where to go/not go, who to see/not see, (4) made you feel you had to ask permission to do certain things such as going out, seeing friends, etc., (5) threats to hurt your children, (6) made your children feel afraid by things he did/say, (7) prevented you from leaving the home, (8) controlled the family money, (9) threats to hurt you, (10) extreme jealousy or possessiveness, (11) told you what to wear or not to wear or how to do hair/make up, (12) humiliated/embarrassed you in front of others, (13) do some of those behaviors online. The variables are measured at T1.

Significance level of chi-square (χ^2) test: *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$.

reported this impact also reported the presence ("Often" or "Sometimes") of these types of emotional violence. A second pattern was obtained regarding the impact of the victim feeling isolated. In this sense, most women who reported this impact also referred to the following types of emotional IPV: threats to hurt (94.5%, $\chi^2=27.897$, $p<0.001$), being prevented from leaving home (87.3%, $\chi^2=23.191$, $p<0.001$) and online emotional IPV (93.5%, $\chi^2=18.943$, $p<0.001$). Hence, emotional IPV was mainly related to feeling isolated, self-harming, and feeling suicidal.

The association between physically violent behaviors and their impact on the victim was found to be different from that of emotional behavior. Chi-square test (see Table 3) showed that being slapped, pushed, and/or shoved was overall related with the following impacts: self-harmed/felt suicidal (93.7%, $\chi^2=13.467$, $p<0.001$), injuries needing help from doctor/hospital (92.9%, $\chi^2=28.826$, $p<0.001$), injuries such as bruises/scratches/minor cuts (90.8%, $\chi^2=46.016$, $p<0.001$), fear for life (90.8%, $\chi^2=51.287$, $p<0.001$), defending self/children/pets (90.4%, $\chi^2=10.784$, $p=0.005$), and feeling isolated/stopping going out (89.1%, $\chi^2=22.604$, $p<0.001$). With regard to being threatened of hurt (notably, threats of physical abuse can lead to physical consequences, such as a woman falling down while running trying to escape from the threatening situation. Moreover, overlaps often exist between the different types of abusive behaviors, especially between physical and emotional abusive behavior. Therefore, those women who are victims of emotional abusive behavior some of them are also victims of physical abusive behaviors, resulting in mixed impacts), the most related impacts obtained were as follows: injuries such as bruises/scratches/minor cuts (83.0%, $\chi^2=53.618$, $p<0.001$), injuries needing help from doctors or hospitals (81.4%, $\chi^2=22.900$, $p<0.001$) and fear of life (77.5%, $\chi^2=48.049$, $p<0.001$). Therefore, physical IPV activity is primarily associated with injuries, isolation, and fear of life.

Regarding violent sexual behaviors (see Table 4), notably lower frequencies were obtained overall, and its association to impacts also resulted in a lower frequency. Chi-square test showed a significant contingency between the impact of injuries such as bruises/scratches/minor cuts and the following sexual violent behaviors: being touched in ways which caused fear/alarm/distress (49.0%, $\chi^2=40.936$, $p<0.001$), being forced to have sex when she did not want to or did not stop when she wanted to stop (49.0%, $\chi^2=62.488$, $p<0.001$), being forced into doing something sexual she did not want to (44.4%, $\chi^2=44.176$, $p<0.001$), and having her boundaries or safe words disrespected (42.5%, $\chi^2=38.555$, $p<0.001$). Another impact, the need to defend self/children/pets, was also related to the same violent sexual behaviors: being touched in ways that caused fear/alarm/distress (47.9%, $\chi^2=12.307$, $p=0.002$), forcing her to have sex when she did not want to or did not stop when she wanted to (47.9%, $\chi^2=19.315$, $p<0.001$), being forced into doing something sexual she did not want to (46.6%, $\chi^2=23.782$, $p<0.001$), and having her boundaries or safe words disrespected (45.2%, $\chi^2=17.531$, $p<0.001$). Thus, these four types of sexual IPV followed a common pattern in their relationship with these two specific impacts, as almost half of the victims who suffered from these types of sexual IPV also reported these specific effects. Consequently, sexual IPV was mostly related to minor injuries and defense of the child(ren), pets, and herself.

Regression analysis on impacts at T1 and T3

Additional aspects of the association between impact and violent behavior were analyzed using regression methods. Multivariate logistic regression models were used to determine which specific behavioral items could increase the likelihood of certain impacts. For each impact item dependent variable (DV) at T1 and T3, we ran separate models, including the specific behavioral items reported at T1 independent variable (IDV) categorized by IPV type (emotional, physical, or sexual). It is important to note that these behavior types overlap in most cases. Only 11% ($n=32$) of the respondents reported experiencing exclusively emotional abusive behaviors and not other types. The partner's age, perception of the relationship status, and whether she had children were included in the models as control variables (collecting victims' data is challenging and sensitive. We aimed to avoid any incorrect or misleading implications of victim "profiling"). Behaviors that increased the likelihood of at least five impacts were considered more damaging. These specific behaviors are presented below.

Among the emotional behaviors, the most negative impacts on victims at the beginning of the PP were associated with threats to hurt the children (5) or (ex-)partner (9), controlling family money (6), controlling the (ex-)partner's appearance (5) (clothing, make-up), and online abuse (6). These impacts include various short- and long-term psychological effects such as fear of the perpetrator, fear of life, feeling sad, experiencing depression or sleep problems, feeling worthless, losing confidence, feeling angry or shocked, feeling unable to cope, feeling anxious, panicking, and losing concentration. Other impacts were related to the abuser or the relationship, such as losing respect and trust for the offender, wanting to leave him or, conversely, being worried that the man might leave. Additional impacts affected the victim's behavior, such as being careful about what she says/does. The aforementioned emotional behaviors also increased the likelihood of short-term physical impacts, such as injuries requiring help from a doctor/hospital, bruises, scratches, or minor cuts.

The following physical behaviors had similar harmful impacts: kicking or punching the victim (5); restraining, holding her down, tying her up (8); stalking or harassing (11); and locking her in the house (5). Among sexual behaviors, refusing to use contraception or protection for safe sex (7) and forcing the victim into unwanted sex (6) had higher levels of negative impact (see Appendix Tables B1–B3).

Table 3. Contingency table of the impacts and type of physical violence reported by victims ($n = 349$).

Impacts	Physical violence													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Injuries such as bruises/scratches/ minor cuts	**90.8*** **	64.1***	60.8***	4.6*	7.2**	37.3***	41.2***	**83.0*** **	30.1***	18.3*	34.0***	22.9***	49.0***	28.8***
Injuries needing help from doctor/ hospital	**92.9*** **	72.9***	67.1***	8.6***	11.4***	35.7*	40.0***	**81.4*** **	38.6***	24.3***	42.9***	35.7***	50.0***	32.9**
Lost respect for your partner	85.3***	46.5	43.5	2.9	4.7	28.8	30.0	69.4*	20.0*	13.5**	24.1	16.5*	42.9***	25.3*
Made you want to leave partner	83.3**	47.9	41.8	3.4	6.2	25.3	32.2	69.9	20.5	14.4	21.9*	18.5*	39.0**	24.0
Depression/sleeping problems	83.6*	45.9	41.8	2.7	4.8	28.8	32.9	69.2	22.6	15.1	24.7	17.8	40.4*	22.6
Stopped trusting partner	85.4**	41.7	40.4	1.3	3.3	29.1	32.5	63.6	18.5	13.2	21.9	15.2	36.4	23.2
Felt unable to cope	86.3**	41.9	40.2	2.6	3.4	30.8	29.9*	65.0	17.1	14.5	17.9	17.9	40.2	28.2**
Felt worthless or lost confidence	83.2	49.6	47.9	4.2	5.9	27.7	37.0**	68.9	21.0	16.0	27.7	21.0**	42.0*	26.9**
Felt sadness	75.5	38.6	36.5	1.6	2.8	22.1	24.9	60.6	15.7	12.0	19.7	12.9	30.5	17.7
Felt anxious/panic/lost concentration	81.8*	42.9	41.6	3.2	5.8	31.8**	34.4**	68.8	18.8	15.6	27.3*	18.8*	42.9***	24.0**
Felt isolated/stopped going out	**89.1*** **	53.6**	50.0*	3.6*	6.4	27.3	37.3**	72.7***	23.6*	17.3*	32.7***	24.5***	44.5**	30.9***
Felt angry/shocked	78.0	38.7	37.0	2.3	4.6	26.6	28.9	61.8	17.9	17.3*	23.7*	16.2	34.1	22.5
Self-harmed/felt suicidal	**93.7*** **	62.5***	62.5*	12.5***	18.7***	43.7*	62.5***	62.5	43.7*	25.0	43.7*	37.5***	56.2***	56.2***
Feared for life	**90.8*** **	60.6***	57.0***	4.2	7.0*	30.3	40.8***	77.5***	26.1**	21.8***	33.8***	25.4***	43.7***	31.7***
Felt had to watch what you say/do	86.7***	50.0*	50.8**	3.9	8.6***	35.2**	33.6*	71.9*	26.6**	27.3***	28.1*	22.7***	43.7**	29.7***
Worried partner might leave	84.0	48.0	48.0	0.0	0.0	24.0	24.0	56.0	8.0	4.0	12.0	20.0	40.0	24.0
Defended self/children/pets	**90.4** **	54.8*	54.8*	5.5	8.2	42.5***	39.7*	74.0	31.5**	28.8***	42.5***	28.8***	53.4***	34.2***
Felt afraid of partner	82.5*	43.4	44.1	4.2	4.9	24.5	32.2	76.2***	18.2	14.7	27.3**	19.6*	42.7***	18.9
Total	85.7	50.2	48.1	4.0	6.3	30.6	35.2	69.6	23.3	17.4	28.1	21.8	42.9	27.9

Items of physical violence are numbered as follows: (1) Slapped/pushed/shoved you, (2) kicked/punched you, (3) beaten you up, (4) burned you, (5) bitten you, (6) restrained/held down/tied up, (7) put his hands on your throat or face (trying to choke or strangle or suffocate), (8) threatened to hurt you, (9) hit you with an object or weapon, (10) threatened you with a weapon, (11) threatened to kill you, (12) prevented you from getting help for injuries, (13) stalked/followed/harassed you, (14) locked you in the house or room. The variables are measured at T1.
Significance level of chi-square (χ^2) test: *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$.

Table 4. Contingency table of the impacts and type of sexual violence reported by victims ($n = 349$).

Impacts	Sexual violence							
	1	2	3	4	5	6	7	8
Injuries such as bruises/scratches/ minor cuts	49.0***	44.4***	34.0***	42.5***	26.8***	49.0***	22.2***	15.7***
Injuries needing help from doctor/ hospital	42.9**	37.1*	28.6**	40.0*	27.1**	37.1	25.7***	17.1*
Lost respect for your partner	39.4**	31.8	24.1*	31.8**	22.4**	33.5	17.1	11.2
Made you want to leave partner	38.4*	34.2*	25.3*	34.2*	21.2*	40.4***	17.8	12.3
Depression/sleeping problems	41.8***	35.6**	28.1***	37.7***	24.7***	41.1***	19.9**	13.7*
Stopped trusting partner	35.1	33.1	23.2	30.5	19.9***	37.7***	15.9	10.6
Felt unable to cope	33.3	34.2	26.5*	34.2*	23.1**	34.2	17.1	12.0
Felt worthless or lost confidence	34.5	31.1**	27.7***	34.5**	26.1***	32.8***	20.2*	13.4*
Felt sadness	31.7*	28.5	20.9	26.5	16.1	30.9	14.1	8.0
Felt anxious/panic/lost concentration	41.6***	36.4***	28.6***	34.4**	20.8*	36.4**	19.5**	13.0*
Felt isolated/stopped going out	33.6	28.2	23.6	30.0	20.0	30.0	16.4	12.7
Felt angry/shocked	30.1	29.5	20.8	28.9	15.0*	31.2	12.7	9.2
Self-harmed/felt suicidal	31.2	31.2	31.2***	31.2	31.2**	37.5*	25.0	18.7
Feared for life	43.0***	36.6***	26.1**	33.1**	23.2***	39.4***	19.0*	12.7*
Felt had to watch what you say/do	38.3	36.7**	25.8*	37.5***	23.4**	40.6***	21.1**	13.3
Worried partner might leave	28.0	20.0	16.0*	44.0	36.0**	20.0	12.0	4.0
Defended self/children/pets	47.9**	46.6**	32.9**	45.2***	21.9	47.9***	24.7**	15.1*
Felt afraid of partner	38.5*	34.0***	24.5	32.9*	18.2	37.8**	18.9*	10.5
Total	37.7	33.8	26.0	35.0	23.2	36.5	18.9	12.4

Items of sexual violence are numbered as follows: (1) Touched in a way which caused fear/alarm/distress, (2) forced into doing something sexual you did not want to, (3) hurt during sex, (4) had boundaries or safe words disrespected, (5) refused my request to use contraception or protection for safer sex, (6) forced you to have sex when you did not want to or did not stop when you wanted to, (7) sexually assaulted or abused in any way, and (8) threats to sexual assault/abuse you. The variables are measured at T1.
Significance level of chi-square (χ^2) test: *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$.

The number of responses decreased to 163 at the end of the program (T3).

We used logistic regressions to analyze impacts at T3 in relation to behaviors reported at T1. The analysis revealed that certain behavioral items demonstrate distinct short-term (T1) and long-term (T3) impacts. In case of emotional behaviors, threatening to hurt the children (7) and forms of coercive control, preventing her from leaving home (8), controlling what she can (not) say/do (7) were the most damaging based on victims' perspective. In case of physical abuse, stalking (5) and death threats (6) had more harmful impacts.

Logistic regressions specifically focusing on the presence of high levels of abusive behaviors, using dichotomous variables (high emotional/physical/sexual: "Yes"/"No"), showed that extreme behavior levels have more specific impacts. For emotional abuse, these impacts included bruises, scratches, and minor cuts ($d = 0.71$, $p < 0.05$), depression and sleeping problems ($d = 0.79$, $p < 0.05$), fear of life ($d = 1.04$, $p < 0.01$), and fear of the abuser ($d = 0.55$, $p < 0.1$) (see Appendix Table B4). As mentioned earlier, in approximately 90% of the cases, women experienced both emotional and physical violence, which explains the short-term physical effects. In the case of extreme levels of physical abuse, the impacts included bruises, scratches, minor cuts ($d = 1.36$, $p < 0.01$), loss of trust in the perpetrator ($d = 0.83$, $p < 0.01$), fear of life ($d = 1.26$, $p < 0.01$), and the need to defend herself, her children, or pets ($d = 1.05$, $p < 0.05$) (see Appendix Table B5). Higher levels of sexual abuse can be suspected if the victim experiences the following harmful impacts: bruises, scratches, minor cuts, depression, sleeping problems ($d = 1.65$, $p < 0.01$), and the need to be careful about what she says or does ($d = 1.08$, $p < 0.05$) (see Appendix Table B6).

Around half of the respondents ($n = 78$, 47.8%) answered that the violent behavior of their partners had completely reduced by the end of the program; however, 48.72% ($n = 38$) still experienced at least one, and 34.6% ($n = 38$) (see Appendix Table C1) from 2 to 17 impacts. About 28.24% ($n = 24$) of those victims who reported at least one form of violent behavior were still experiencing at least one impact and 68.23% ($n = 58$) reported between 2 and 13 impacts (see Appendix Table C2).

Violent behaviors and its impacts between partners and ex-partners (T3)

Chi-square test proved similar proportions between partners and ex-partners of emotional IPV in nearly all violent behaviors suffered ($p > 0.05$). However, the following

emotional IPV behaviors resulted significantly higher in ex-partners: threats to hurt the children (13.6% ex-partners versus 2.5% partners, $\chi^2 = 9.536$, $p = 0.008$) and controlling the family money (18.8% ex-partners versus 5.8% partners, $\chi^2 = 8.891$, $p = 0.012$). By contrast, preventing from leaving the home (6.3% ex-partners versus 24.8% partners, $\chi^2 = 8.087$, $p = 0.018$) resulted significantly higher in partners.

With regard to physical IPV, threats with a weapon (4.2% ex-partners versus 0.0% partners, $\chi^2 = 5.102$, $p = 0.024$) and being locked in the house or in a room (4.2% ex-partners versus 0.0% partners, $\chi^2 = 5.102$, $p = 0.024$) were significantly more frequent in ex-partners. All other physical violent behaviors were found to be similar between partners and ex-partners. All other physical violent behaviors were found to be similar between partners and ex-partners ($p > 0.05$).

In terms of sexual IPV, due to the low presence of sexual violent behaviors at T3, similar proportions were obtained between partners and ex-partners ($p > 0.05$).

Last but not least, just four impacts of IPV resulted significantly differentiated between partners and ex-partners. Specifically, injuries needing help from doctor/hospital (4.2% ex-partners versus 0.0% partners, $\chi^2 = 5.102$, $p = 0.024$), feeling angry or shocked (39.6% ex-partners versus 23.1% partners, $\chi^2 = 4.628$, $p = 0.031$), defending herself or children or pets (18.8% ex-partners versus 3.3% partners, $\chi^2 = 11.545$, $p < 0.001$), and feeling afraid to perpetrator (25.0% ex-partners versus 10.7% partners, $\chi^2 = 5.541$, $p = 0.019$). The remaining impacts of IPV at T3 resulted similarly between women in current relationships and those who had ended the relationship ($p > 0.05$).

Discussion

This study aimed to explore the impact on victims of IPV whose abusive (ex-)partners participated in PPs.

The results showed the most prevalent emotional, physical, and sexually abusive behaviors that victims received from their (ex-)partners who were enrolled in the PPs. Emotionally abusive behavior, and more concretely, coercive control, emerged as a highly prevalent abusive behavior (approximately 80% of the sample), followed by some physically abusive behaviors (two-thirds of the sample), whereas sexual IPV was the least reported violence by victims (approximately one-third). More than two-thirds of the participants felt sadness because of the IPV suffered, emerging as a crucial impact to be tackled. However, as such a generally reported impact, no specific behavior can be linked to it. Nearly half of the sample felt anger, lost respect, and trust in (ex-)partners. Other emotional (anxious/panic/lost concentration) and physical impacts (bruises/scratches/minor cuts) aligned with previous research findings.[5,8,12,14–17,29,31]

Distinct patterns of the impact associated with different types of IPV were revealed. Emotional IPV was strongly linked to isolation, self-harming behaviors, and suicidal ideation; physical IPV behavior was primarily associated with injuries, isolation, and fear of life; sexual IPV resulted in injuries and the need for a partner to defend herself, her children, or pets. These results highlight the importance of certain impacts, such as isolation, which is common across both emotional and physical IPV. Social isolation has been shown to play a crucial role in IPV, as it plays a two-fold role contributing to IPV[54] and heightens survivors' vulnerability to violence.[55] The results of this study revealed that isolation is also an important impact/consequence of IPV, emphasizing the importance of social support in cases of IPV.[56]

This study has identified abusive behaviors that are more damaging in terms of provoking several impacts on the victim or that produce impacts that are especially critical. First, the results indicated that emotional abuse, particularly coercive control (e.g., threatening to hurt the children, telling her what to do, how to behave, and making her ask for permission) and online IPV, have profound, alarming impacts, including self-harming and suicidal ideation. These results are consistent with those obtained in the first EU-wide survey on violence against women conducted by the EU Agency for Fundamental Rights,[2] which found that the most common forms of impact derived from coercive control were psychological consequences (65%), shock or fear (52%), physical injuries (29%), safety concerns (22%), and PTSD symptoms (22%). Coercive control has been shown to be prevalent in Europe (on average, it is present in at least 1 out of 30 couples in Europe)[57] and has emerged as a crucial factor differentiating between types of IPV.[57] Previous results from the Mirabal Project also emphasized the importance of the "expanded space of action" as a crucial outcome or improvement for victims.[58] Online violence has been studied further in recent years, particularly since the COVID-19 pandemic.[59] Studies have pointed to the impact of gender-based cyberviolence, ranging from negative psychological, social, and reproductive health outcomes, and its link with offline violence has also been reported.[60–66] Notably, the negative effects of online abuse, namely depression, anxiety, loneliness, self-harm, and suicidal ideation, have been the most researched in the adolescent population but not in victims of IPV without a gender approach.[67–69] Our study suggests that online IPV use may have a more severe and alarming impact than previously expected in IPV cases. Therefore, there is a need to pay more attention to this type of IPV and develop meaningful strategies to prevent it.[70]

Second, this study's results showed that physical threats can result in fear of life in partners, highlighting the importance of recognizing threats and their damaging effects on victims. Victims identify threats to induce feelings of danger and unsafety, which can be used to gain control over the (ex-)partner.[71] Moreover, stalking, harassment, and restraining victims' movements were identified as producing more impact, emerging as crucial physical abusive

behaviors to screen for. Stalking has been identified by several studies as having devastating effects on victims, affecting their psychological and physical well-being as well as other relationships and employment.[72–76] Mechanic et al.[77] found that stalking directly impacts women's fear of future serious harm or death, even after controlling for the effects of physical IPV, and that emotional abuse was a strong predictor of within- and post-relationship stalking.

Finally, as for the sexual IPV, refusal to use contraception and forcing sex were the most damaging behaviors. Recent research has emphasized the importance of focusing on reproductive coercion as it is highly associated with IPV and disproportionately affects women who also experience physical violence.[78] Moreover, it has been stated that when reproductive coercion and IPV co-occur, the risk of unintended pregnancy increases.[79] Therefore, to prevent unintended pregnancies, it is important to include both aspects in preventive programs.

Victims who experienced higher levels of abuse (regarding the number of IPV forms) were commonly associated with the following impacts: bruises, scratches, cuts, and long-term effects such as depression, sleeping problems, and fear of life. This result corroborates findings from other studies that describe the long-term effects of IPV.[80–82] Interestingly, our study found specific effects of extreme abusive behavior depending on the type of abuse. Therefore, the impact of being afraid of the abuser was especially salient for extreme emotional abuse, loss of trust in the perpetrator, and the need to defend herself, her children, or pets, which were more specific to extreme physical abuse, while the need to be careful about what the victim said or did was specifically linked to sexual abuse. This result is crucial, as, according to Nevala,[83] recognizing the differences between IPV types regarding their specific impacts can enhance further adjustment and improvement of tools designed for early detection and risk assessment.

Several studies have shown that the impact of violence can persist after the violence has finished.[80,81,84] This study supports these findings, as half of the victims who no longer experienced IPV at the end of the PP still reported at least one impact. Moreover, results from this study have allowed to detect those abusive behaviors that provoke longer-term impacts. This indicates the need to follow-up on victim safety after PP, even when IPV has stopped. Moreover, it underscores the importance of providing long-term support groups for IPV victims, as suggested by Page et al.[85] High variability in survivors' lived experience and the consequent impacts of violence has also been found, as shown in studies by Smith[86] and Carman et al.[87] Their study reviewed stories of healing and recovery, ongoing recovery, and non-recovery, underscoring the need for tailored interventions to address the specific needs of IPV victims effectively.

Research has shown that leaving an abusive relationship can increase risk for victims.[88–91] This study found that victims who had left the relationship with the perpetrator were more likely to report suffering threats (either toward the children or toward themselves) and economic abuse. This resulted in victims suffering from injuries and having to defend themselves and children, with fear being a main impact that differs them from victims still in the relationship.

This study linked specific abusive behaviors with holistic impacts that go beyond health and clinical-psychological impacts. Our findings can help tailor interventions for both victims and perpetrators and detect more alarming, extreme IPV cases. Important aspects of victim support services and perpetrator interventions might benefit from the results of this study to update some current practices. For example, risk assessment and management could be updated based on the impacts identified in this research. Services can also tailor responses to individuals by considering the combination of abusive behaviors victims have experienced and the likely impacts, even if the relationship has ended.

Limitations

This study has some limitations. First, the medium sample size[92] is an important limitation. Future studies with a large sample size ($N > 1000$[92]) could focus on victims of one type of abusive behavior to detect specific impacts. Also, the sample is not representative of all women victims of IPV because it was obtained with an intentional sampling method. Given this limitation, future research could replicate this study using a random sample of PPs worldwide. Also, this study's results are not generalizable to the entire population of women victims of IPV due to the clinical sample obtained, as it was composed by women victims of IPV whose (ex-)partners attend a PP. The sample size reduction from T1 to T3 is also another important limitation, although drop-outs from PPs are quite common in social sciences research.[47] In this sense, the matched sample T1–T3 has limited the statistical conclusions of some of the regression analysis performed. In addition, different types of online abuse have not been measured and screened for, future research should include them in the analysis. Finally, the absence of a control group prevented an experimental design in this study. Therefore, future research could include a control group of women from the general population for comparison with women victims of IPV whose (ex-)partners attended a PP.

Conclusion

This study identifies the most frequent violent behaviors in each IPV category (emotional, physical, and sexual) and those that best explain the impacts suffered by the female victims. Understanding the association between IPV and its impacts is crucial for creating interventions that foster

women's quality of life and health. Also, from a preventive perspective, tackling the specific types of IPV identified in this study is key to preventing related impacts. Practitioners must consider these aspects when designing interventions to support victims and change perpetrators' behaviors.

Declaration

Ethics approval

The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of the European Network for the Work with Perpetrators with reference number WWPEN_24022016.

Consent to participate

Informed consent was obtained from all subjects involved in the study. For some participants, the consent was obtained in written and for some other it was obtained verbal. In the cases in which the consent was obtained verbal this was because some service providers contacted the participants to phone calls.

Consent for publication

Written informed consent for publication was provided by the participant(s)

Author contributions

Bertac Vall: Conceptualization; Investigation; Writing – original draft; Validation; Visualization; Writing – review & editing; Project administration; Supervision.
Jaume Grané-Morcillo: Investigation; Methodology; Data curation; Writing – original draft.
Nóra Regös: Methodology; Data curation; Writing – original draft.
Alessandra Pauncz: Funding acquisition; Supervision; Conceptualization.
Marianne Hester: Conceptualization; Supervision.

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Appendix

Table A1. Frequencies of the violent behaviors reported by victims ($n = 349$).

Type of violence	Frequency of violence					
	Never		Sometimes		Often	
	Freq.	%	Freq.	%	Freq.	%
Emotional violence						
Insulted or put you down	142	40.7	132	37.8	75	21.5
Isolated from friends or family	103	29.5	148	42.4	98	28.1
Told what to do/not do, where to go/not go, who to see/not see	119	34.1	135	38.7	95	27.2
Made you feel you had to ask permission to do certain things such as going out, seeing friends, etc. (above and beyond being polite)	275	78.8	44	12.6	30	8.6
Threats to hurt your children	163	46.7	114	32.7	72	20.6
Made your children feel afraid by things he did/say	168	48.1	121	34.7	60	17.2
Prevented you from leaving the home	105	30.1	103	29.5	141	40.4
Controlled the family money	125	35.8	140	40.1	84	24.1
Threats to hurt you	70	20.1	123	35.2	156	44.7
Extreme jealousy or possessiveness	154	44.1	112	32.1	83	23.8
Told you what to wear or not to wear or how to do hair/makeup	164	47.0	122	35.0	63	18.1
Humiliated/embarrassed you in front of others	281	80.5	41	11.7	27	7.7
Do some of those behaviors online	63	18.1	160	45.8	126	36.1
Physical violence						
Slapped/pushed/shoved you	83	23.8	194	55.6	83	23.8
Kicked/punched you	204	58.5	100	28.7	45	12.9
Beaten you up	209	59.9	102	29.2	38	10.9
Burned you	341	97.7	5	1.4	3	0.9
Bitten you	336	96.3	9	2.6	4	1.1

(Continued)

Table A1. (Continued)

Type of violence	Frequency of violence					
	Never		Sometimes		Often	
	Freq.	%	Freq.	%	Freq.	%
Restrained/held down/tied up	263	75.4	68	19.5	18	5.2
Put his hands on your throat or face (trying to choke or strangle or suffocate)	253	72.5	78	22.3	18	5.2
Threatened to hurt you	130	37.2	152	43.6	67	19.2
Hit you with object or weapon	285	81.7	52	14.9	12	3.4
Threatened you with a weapon	305	87.4	32	9.2	12	3.4
Threatened to kill you	275	78.8	49	14.0	25	7.2
Prevented you from getting help for injuries	302	86.5	35	10.0	12	3.4
Stalked/followed/harassed you	236	67.6	81	23.2	32	9.2
Locked you in house or room	282	80.8	54	15.5	13	3.7
Sexual violence						
Touched in way which caused fear/alarm/distress	240	68.8	87	24.9	22	6.3
Forced into doing something sexual you did not want to	256	73.4	72	20.6	21	6.0
Hurt during sex	284	81.4	51	14.6	14	4.0
Had boundaries or safe words disrespected	258	73.9	61	17.5	30	8.6
Refused my request to use contraception or protection for safer sex	295	84.5	31	8.9	23	6.6
Made to have sex when you did not want to or did not stop when you wanted to	252	72.2	68	19.5	29	8.3
Sexually assaulted or abused in any way	304	87.1	33	9.5	12	3.4
Threats to sexual assault/abuse you	319	91.4	21	6.0	9	2.6

The variables are measured at T1.

Table A2. Frequencies of the impacts of violence reported by victims ($n = 349$).

Type of impact	Impact			
	Yes		No	
	Freq.	%	Freq.	%
Injuries such as bruises/scratches/minor cuts	153	43.8	196	56.2
Injuries needing help from doctor/hospital	70	20.1	279	79.9
Lost respect for your partner	170	48.7	179	51.3
Made you want to leave partner	146	41.8	203	58.2
Depression/sleeping problems	146	41.8	203	58.2
Stopped trusting partner	151	43.3	198	56.7
Felt unable to cope	117	33.5	232	66.5
Felt worthless or lost confidence	119	34.1	230	65.9
Felt sadness	249	71.3	100	28.7
Felt anxious/panic/lost concentration	154	44.1	195	55.9
Felt isolated/stopped going out	110	31.5	239	68.5
Felt angry/shocked	173	49.6	176	50.4
Self-harmed/felt suicidal	16	4.6	333	95.4
Feared for life	142	40.7	207	59.4
Felt had to watch what you say/do	128	36.7	221	63.3
Worried partner might leave	25	7.2	324	92.8
Defended self/children/pets	73	20.9	276	79.1
Felt afraid of partner	143	41.0	206	59.0

The variables are measured at T1.

Table B1. Logistic regression results on likelihood of impacts at T1 and T3 in relation to emotional behavior frequency at T1.

Emotional violence														
Impacts (Y/N)	Threats to hurt children		Threats to hurt ex/partner		Prevent her leaving from home		Control family money		Control appearance		Online		Control her actions	
	T1	T3	T1	T3	T1	T3	T1	T3	T1	T3	T1	T3	T1	T3
Injuries such as bruises/scratches/ minor cuts			Sometimes (1.26)*** Often (1.70)***						Often (1.46)**		Sometimes (0.95)**			
Injuries needing help from doctor/hospital	Often (2.10)***		Sometimes (1.01)* often (1.34)*								Sometimes (0.84)*			
Lost respect for your partner		Often (2.405)*				Sometimes (1.226)*	Often (1.13)**							
Made you want to leave partner	Often (1.38)**						Often (0.95)**					Sometimes (2.54)**		
Depression/sleeping problems							Sometimes (0.99)* Often (1.41)***	Sometimes (2.006)**	Often (1.60)***		Sometimes (0.83)**	Sometimes (2.03)*		
Stopped trusting partner		Often (3.34)*						Often (2.297)*	Sometimes (1.00)** Often (1.08)*					Sometimes (2.086)*
Felt unable to cope		Sometimes (5.9)***				Sometimes (3.6)***	Often (1.33)***							Sometimes (2.34)*
Felt worthless or lost confidence				Sometimes (2.53)*	Often (0.95)*	Sometimes (2.7)**	Sometimes (1.22)** Often (0.95)*	Sometimes (3.44)* Often (4.07)*		Often (−8.016)**		Sometimes (5.024)*		
Felt sadness		Often (2.47)**	Often (1.44)**			Sometimes (1.44)**					Sometimes (0.85)* Often (1.12)*			Often (2.57)*
Felt anxious/panic/ lost concentration				Sometimes (1.47)**							Often (1.12)**			
Felt isolated/stopped going out			Sometimes (0.90)**	Sometimes (−3.43)** Often (3.8)**	Sometimes (0.86)**	Sometimes (3.45)** Often (3.8)*	Sometimes (1.08)**							Sometimes (3.19)*
Felt angry/shocked		Sometimes (1.88)**	Sometimes (0.58)*		Sometimes (0.58)*	Sometimes (2.8)***								Sometimes (2.84)*** Often (3.23)**
Self-harmed/felt suicidal	Sometimes (5.55)** Often (5.97)**	Often (1.57)***						Often (1.17)*						Feared for life Felt had to watch what you say/do
Often (1.36)*	Often (5.79)***	Sometimes (1.42)*** Often (1.34)** Sometimes (2.11)**		Often (2.95)*	Sometimes (2.82)*** Often (−4.56)***	Sometimes (−2.43)**		Sometimes (0.78)* Often (1.52)**		Sometimes (1.31)*	Often (−3.16)**		Sometimes (1.94)*	Worried partner might leave Defended self/ children/pets
Often (1.47)**	Sometimes (2.03)*	Sometimes (0.99)** Often (1.17)**					Often (−4.26)**	Sometimes (0.71)*					Sometimes (2.37)** Often (3.075)*	Felt afraid of partner

Coefficient values are added in brackets. Logistic regressions were run for each impact item dependent variable (DV) separately including behavioral items independent variable (IDV) by abuse type. Dependent variables were measured at T1 and T3 with independent variables of behavioral items at T1. Only statistically significant behaviors that were valid for at least five impacts are presented in this table. For the full list of included items, please see Note of Appendix Table A2.
Significance level of logistic regressions: *$p < 0.1$. **$p < 0.05$. ***$p < 0.01$.

Table B2. Logistic regression results on likelihood of impacts at T1 and T3 in relation to physical behavior frequency at T1.

Physical violence										
Impacts (Y/N)	Kick/punch		Restrained/hold down		Locked her in the house		Stalk/harass		Threat to kill	
	T1	T3	T1	T3	T1	T3	T1	T3	T1	T3
Injuries such as bruises/scratches/ minor cuts	Sometimes (0.90)**		Sometimes (1.07)**				Sometimes (0.77)* Often (1.60)**			
Injuries needing help from doctor/hospital	Sometimes (1.68)*** Often (2.59)***									
Lost respect for your partner	Often (1.16)*	Sometimes (−2.093)*	Sometimes (0.77)*				Sometimes (1.02)***			Sometimes (2.34)**
Made you want to leave partner	Sometimes (0.70)*						Often (1.05)*			
Depression/sleeping problems							Sometimes (0.82)**	Often (3.59)*		Sometimes (3.97)***
Stopped trusting partner			Sometimes (0.95)**		Sometimes (.97)**		Often (1.33)**			
Felt unable to cope			Sometimes (1.65)**		Often (2.14)*		Sometimes (1.20)*** Often (1.22)*			
Felt worthless or lost confidence							Sometimes (0.82)**	Sometimes (4.84)***		Sometimes (5.57)**
Felt sadness				Sometimes (−1.6)*				Often (1.27)*		Often (2.7)*
Felt anxious/panic/lost concentration			Sometimes (1.02)**				Sometimes (1.32)*** Often (2.05)***	Sometimes (1.87)** Often (5.43)**		Sometimes (3.04)***
Felt isolated/stopped going out					Sometimes (0.84)*					
Felt angry/shocked										
Self-harmed/felt suicidal										
Feared for life	Sometimes (0.88)** often (2.38)***				Sometimes (1.02)**					
Felt had to watch what you say/ do				Sometimes (−3.81)**			Sometimes (0.71)**			Sometimes (4.23)*** Often (7.66)***
Worried partner might leave										
Defended self/children/pets			Sometimes (1.72)***		Sometimes (1.02)*					
Felt afraid of partner			Sometimes (0.83)*	Sometimes (−3.047)*			Often (1.85)**	Sometimes (1.72)*		

Coefficient values are added in brackets. Logistic regressions were run for each impact item dependent variable (DV) separately including behavioral items independent variable (IDV) by abuse type. Dependent variables were measured at T1 and T3 with independent variables of behavioral items at T1. Only statistically significant behaviors that were valid for at least five impacts are presented in this table. For the full list of included items, please see Note of Appendix Table A2.

Significance level of logistic regressions: *$p < 0.1$. **$p < 0.05$. ***$p < 0.01$.

Table B3. Logistic regression results on likelihood of impacts at T1 and T3 in relation to sexual behavior frequency at T1.

Sexual violence				
Impacts (Y/N)	Refused to use contraceptives		Made her have unwanted sex	
	T1	T3	T1	T3
Injuries such as bruises/scratches/minor cuts			Often (2.46)***	
Injuries needing help from doctor/hospital	Sometimes (1.37)*			
Lost respect for your partner				
Made you want to leave partner	Sometimes (1.20)**		Sometimes (1.38)** Often (3.70)***	Sometimes (3.66)*
Depression/sleeping problems	Sometimes (1.80)***			
Stopped trusting partner	Sometimes (1.13)*		Sometimes (1.20)*	
Felt unable to cope				
Felt worthless or lost confidence				
Felt sadness				
Felt anxious/panic/lost concentration				
Felt isolated/stopped going out				
Felt angry/shocked			Often (1.46)*	
Self-harmed/felt suicidal				
Feared for life	Often (2.07)**		Often (2.18)***	
Felt had to watch what you say/do	Sometimes (1.31)**			
Worried partner might leave	Sometimes (5.34)** Often (4.69)*			
Defended self/children/pets				
Felt afraid of partner			Sometimes (0.99)*	

Coefficient values are added in brackets. Logistic regressions were run for each impact item dependent variable (DV) separately including behavioral items independent variable (IDV) by abuse type. Dependent variables were measured at T1 and T3 with independent variables of behavioral items at T1. Only statistically significant behaviors that were valid for at least five impacts are presented in this table. For the full list of included items, please see Note of Appendix Table A2.
Significance level of logistic regressions: *$p < 0.1$. **$p < 0.05$. ***$p < 0.01$.

Table B4. Logistic regression results on likelihood of impacts in relation to the presence of extreme emotional behavior at T1 ($n = 302$).

Impacts independent variables	Extreme emotional violence dependent variable
Y/N	Yes
Injuries such as bruises/scratches/minor cuts	0.71**
Injuries needing help from doctor/hospital	−0.473
Did not have an impact	0.588
Lost respect for your partner	0.0018
Made you want to leave partner	0.399
Depression/sleeping problems	0.79**
Stopped trusting partner	0.226
Felt unable to cope	0.079
Felt worthless or lost confidence	−0.056
Felt sadness	−0.156
Felt anxious/panic/lost concentration	0.374
Felt isolated/stopped going out	0.465
Felt angry/shocked	−0.074
Self-harmed/felt suicidal	−1.009
Feared for life	1.045***
Felt had to watch what you say/do	0.338
Worried partner might leave	0.0126
Defended self/children/pets	−0.554
Felt afraid of partner	0.55

Coefficient values are added in brackets. Logistic regression was run with dichotomous dependent variable presence of extreme emotional abuse (Y/N) including all impact items as IDVs. Both dependent and independent variables refer to T1.
Significance level of logistic regressions: *$p < 0.1$. **$p < 0.05$. ***$p < 0.01$.

Table B5. Logistic regression results on likelihood of impacts in relation to the presence of extreme physical behavior at T3 ($n = 281$).

Impacts independent variables	Extreme physical violence dependent variable
Y/N	Yes
Injuries such as bruises/scratches/minor cuts	1.366***
Injuries needing help from doctor/hospital	0.652
Did not have an impact	1.85**
Lost respect for your partner	−0.511
Made you want to leave partner	−0.555
Depression/sleeping problems	0.004
Stopped trusting partner	0.829*
Felt unable to cope	−0.468
Felt worthless or lost confidence	−0.185
Felt sadness	−0.675
Felt anxious/panic/lost concentration	0.411
Felt isolated/stopped going out	−0.287
Felt angry/shocked	0.031
Self-harmed/felt suicidal	0.491
Feared for life	1.256***
Felt had to watch what you say/do	0.228
Worried partner might leave	0.553
Defended self/children/pets	1.048**
Felt afraid of partner	−0.215

Coefficient values are added in brackets. Logistic regression was run with dichotomous dependent variable presence of extreme physical abuse (Y/N) including all impact items as IDVs. Both dependent and independent variables refer to T1.
Significance level of logistic regressions: *$p < 0.1$. **$p < 0.05$. ***$p < 0.01$.

Table B6. Logistic regression results on likelihood of impacts in relation to the presence of extreme to sexual behavior frequency at T1 ($n = 279$).

Impacts independent variables	Extreme sexual violence dependent variable	
Y/N	Yes refused to use contraceptives	Made her have sex
Injuries such as bruises/scratches/minor cuts	1.354**	Often (2.46)***
Injuries needing help from doctor/hospital	0.863 sometimes (1.37)*	
Did not have an impact	0 (empty)	
Lost respect for your partner	−0.0156	
Made you want to leave partner	0.024 sometimes (1.20)**	Sometimes (1.38)** Often (3.70)***
Depression/sleeping problems	1.655*** sometimes (1.80)***	
Stopped trusting partner	0.043 sometimes (1.13)*	Sometimes (1.20)*
Felt unable to cope	0.401	
Felt worthless or lost confidence	0.44	
Felt sadness	−0.066	
Felt anxious/panic/lost concentration	0.404	
Felt isolated/stopped going out	−1.245**	
Felt angry/shocked	−0.174	Often (1.46)*
Self-harmed/felt suicidal	−1.678	
Feared for life	0.107** often (2.07)**	Often (2.18)***
Felt had to watch what you say/do	1.084** sometimes (1.31)**	
Worried partner might leave	−1.579 sometimes (5.34)** Often (4.69)*	
Defended self/children/pets	0.813	
Felt afraid of partner	0.002	Sometimes (0.99)*

Coefficient values are added in brackets. Logistic regression was run with dichotomous dependent variable presence of extreme sexual abuse (Y/N) including all impact items as IDVs. Both dependent and independent variables refer to T1.
Significance level of logistic regressions: *$p < 0.1$. **$p < 0.05$. ***$p < 0.01$.

Table C1. Number of impacts for victims who reported no violence at the end of the program, T3 ($n = 78$).

Number of impacts	Victims' responses	
	Freq.	%
0	13	16.67
1	38	48.72
2	7	8.97
3	8	10.26
4	4	5.13
5	2	2.56
6	1	43.3
7	1	1.28
10	1	1.28
13	2	2.56
17	1	1.28
Total	78	100

Table C2. Number of impacts for victims who experienced at least one form of violence at the end of the program, T3 ($n = 85$).

Number of impacts	Victims' responses	
	Freq.	%
0	3	3.53
1	24	28.24
2	15	17.65
3	7	8.24
4	6	7.06
5	1	1.18
6	8	9.41
7	1	1.18
8	3	3.53
9	14	16.47
10	1	1.18
12	1	1.18
13	1	1.18
Total	85	100