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Recidivism risk reduction assessment in batterer intervention programs: A key indicator for program efficacy evaluation

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ABSTRACT

The evidence available on the efficacy of batterer intervention programs is still limited. The aim of the present study is twofold: (1) to analyze change in a set of intervention targets and their association with reconviction in a batterer intervention program implemented in Spain, and (2) to analyze pre-treatment participants' characteristics linked with an increased likelihood of change. The research design was a prospective longitudinal study with measures obtained in two points in time (pre-treatment and post-treatment). Self-report measures, trained program staff assessment, and reconviction official records were used. Participants consisted of 212 offenders participating in a court-mandated batterer intervention program. A significant gain in three intervention targets (responsibility assumption, perceived severity of intimate partner violence against women, and recidivism risk reduction) was found. Recidivism risk reduction gain score was the best success indicator. It significantly predicted reconviction with the highest effect size. A structural equation model showed that recidivism risk reduction was significantly predicted by pre-treatment offenders' anger control, impulsivity, social support, alcohol consumption, and offense seriousness. Participants changed in the intervention targets analyzed and risk of recidivism reduction played a central role in the prediction of reconviction.

Evaluación de la disminución del riesgo de recaida en los programas de intervención con maltratadores: Indicador clave en la evaluación de la eficacia del programa

Palabras clave:
Evaluación de programas
Violencia contra la mujer en las relaciones de pareja
Maltratadores
Riesgo de reincidencia

RESUMEN

La evidencia sobre la eficacia de los programas de intervención para maltratadores es limitada. Los objetivos de este estudio son: (1) analizar el cambio en un conjunto de objetivos de intervención y su asociación con la reincidencia en un programa de intervención con maltratadores y (2) analizar características pre-tratamiento vinculadas con una mayor probabilidad de cambio. El diseño fue longitudinal con medidas pre- y post-tratamiento. Se utilizaron auto-informes, evaluaciones profesionales y datos oficiales de reincidencia. Los participantes fueron 212 agresores que acudían por mandato judicial a un programa de intervención. Se encontraron ganancias significativas en tres objetivos de la intervención (asunción de responsabilidad, gravedad percibida y reducción del riesgo de reincidencia). La puntuación en reducción del riesgo de reincidencia fue el mejor indicador de éxito. Este indicador predijo significativamente la reincidencia obteniendo el mayor tamaño del efecto. Un modelo estructural mostró que las puntuaciones de los agresores en control de la ira, impulsividad, apoyo social, consumo de alcohol y gravedad del delito predecían significativamente la reducción del riesgo de reincidencia. Los participantes cambiaron en los objetivos de intervención y la reducción del riesgo de reincidencia desempeñó un papel central en la predicción de la reincidencia.

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The magnitude of intimate partner violence against women (IPVAW) and its effects on the physical and psychological health of women and their children makes it an urgent public health priority (Campbell, 2002; Ellsberg, Jansen, Heise, Watts, & Garcia-Moreno, 2008; World Health Organization, 2013). As Bowen (2011) argues, this should be more than enough to make us reflect on the need of the interventions with perpetrators of IPVAW. However, the implementation of these programs should be carried out with certain guarantees on their effectiveness in generating changes in perpetrators and preventing violence in their future relationships. According to Bennett and Williams (2001), assessing the effectiveness of intervention programs for intimate partner violence offenders is important for, at least, three reasons. Firstly, there has been a steady increase in the number of men transferred from the legal system to these intervention programs. This has brought about a sense of reliance in the effectiveness of such interventions. Secondly, these authors point out to the fact that there are many IPVAW victims who keep a relation with their aggressors (even with a restraining order in force; see Expósito & Ruiz, 2010). Their participation in the program can bring some hope to these women. Thirdly, the professionals who evaluate this type of programs wish to know not only whether these programs work or not, but also why they work, what type of participants are those who benefit more from this interventions, and what program elements and variables are the most important and with the most prominent role in the change process.

Since the 80s, numerous studies have been conducted to evaluate the effectiveness of Batterer Intervention Programs (BIPs). There are presently several studies published and, at least, six meta-analyses examining the available evidence base (e.g., Arias, Arce, & Vilariño, 2013; Babcock, Green, & Robie, 2004; Davis & Taylor, 1999; Eckhardt et al., 2013; Feder & Wilson, 2005; Smedslund, Dalsbø, Steiro, Winsvold, & Clench-Aas, 2011). However, the debate on whether this evidence proves or not the effectiveness of these programs is still opened and has become a controversial one (Bowen, 2011; Feder, Wilson, & Austin, 2008). Although there is a widespread use of these intervention programs, reviews and meta-analyses have found that the effect sizes of these interventions are small and, therefore, evidence available on the efficacy of these programs (primarily in terms of reducing the rate of recidivism) is limited (Aldarondo, 2002; Babcock et al., 2004). Moreover, the dropout rate in some intervention programs for IPVAW offenders is between 40% and 60% (e.g., Chang & Saunders, 2002). In general, these studies offer a modest support to the effectiveness of these programs (Scott, King, McGinn, & Hosseini, 2011).

One open question, which is central to the evaluation of effectiveness, is its own definition. In general, program effectiveness has been defined according to its ability to prevent violence by perpetrators against their partners (Scott et al., 2011). The evaluation focus is on fixed behaviors by offenders (i.e., violence) when entering and leaving the program (Lee, Uken, & Sebold, 2007; Tolman & Bennett, 1990). However there is a growing number of researchers who point out the limitations of evaluating the programs only by the recidivism rates. In this regard, rather than basing the program indicators of effectiveness only on the recidivism rates, it is also important to assess in which variables the program can achieve changes (Lee et al., 2007; Scott, 2004).

The aim of the present study is twofold: (1) to analyze change in a set of intervention targets and their association with reconviction in a BIP implemented in Spain and (2) to analyze pre-treatment participants' characteristics linked with an increased likelihood of change.

With regard to the first aim, this paper focuses on change in three intervention targets as success indicators: responsibility assumption, perceived severity of IPVAW, and recidivism risk reduction. Men condemned for IPVAW tend to show a lack of responsibility assumption (Henning & Holdford, 2006; Lila, Oliver, Galiana, Catalá, & Gracia, 2014). These men frequently deny and minimize their violent behavior, blaming the victims for provoking this behavior (Cattlet, Toews, & Walilko, 2010; Gracia, 2014; Gracia & Tomás, 2014). The majority of BIPs acknowledge the importance of making offenders aware of their responsibility for the violent behavior (Lila, Gracia, & Herrero, 2012; Scott & Strauss, 2007). Another BIPs' goal is changing attitudes that encourage or tolerate the occurrence of IPVAW (Eckhardt, Samper, Suhr, & Holtzworth-Munroe, 2012). An indicator of tolerant attitudes is the perceived severity of IPVAW (i.e., to what extent an IPVAW incident is perceived as severe; Gracia, García, & Lila, 2009). The third target selected, the risk of recidivism reduction assessed by trained program staff, is based on risk factors solidly associated with IPVAW and is commonly used in BIPs (Hilton & Harris, 2005). Another indicator of success frequently used in BIPs is the intervention dose. For example, those perpetrators who complete the treatment tend to have a lower probability of re-assaulting their partners (Bennett, Stoops, Call, & Flett, 2007). Similarly, those participants who receive a higher intervention dose are less likely to be re-arrested (Bowen, Gilchrist, & Beech, 2005; Gordon & Moriarty, 2003).

In order to achieve the second aim of the study, we explore the contribution of a set of pre-treatment offenders' characteristics in explaining the change in those success indicators meaningful in predicting reconviction. The offenders' characteristics we take into account are variables traditionally linked to IPVAW, such as alcohol consumption, impulsivity, anger, social support, and offense seriousness.

Alcohol consumption has been considered as an important risk factor in IPVAW (Norlander & Eckhardt, 2005; World Health Organization, 2010). A significant percentage of batterers present alcohol abuse or suffer from alcohol dependence (Stuart, O'Farrell, & Temple, 2009; Catalá-Miñana, Lila, & Oliver, 2013; Catalá-Miñana, Lila, Conchell, Romero-Martínez, & Moya-Albiol, 2013). Also, alcohol consumption has been related to a higher probability of treatment attrition (Boira & Jodrá, 2010; Dalton, 2001), and to post-treatment recidivism (Tollefson & Gross, 2006).

Anger has been linked traditionally to IPVAW (Loinaz, Echeburúa, & Torrubia, 2010; Norlander & Eckhardt, 2005). In relation to the intervention with batterers, Eckhardt, Samper, and Murphy (2008) argue that those participants with high scores in anger-related disturbances are less likely to complete intervention program and more likely to be re-arrested. Likewise, impulsivity has been related to IPVAW (Caetano, Vaeth, & Ramisetty-Mikler, 2008). Impulsivity has been regarded as a risk factor because it is characterized by an inability to regulate certain behaviors, such as aggression (Plutchik & Van Praag, 1989). Several authors have pointed out that impulsivity is significantly high in batterers (Howard, 2012) and, like anger, high impulsivity at the beginning of treatment is defined as a predictor of poor therapeutic success and may be related to a high probability of recidivism (Caetano et al., 2008).

On the other hand, some studies have shown that social support may help resolve intimate partner conflicts and act as a buffer against the perpetration of violence (Choi, Cheung, & Cheung, 2012). In this sense, social support may help individuals appraise stressful events in a positive way or may provide partners with the resources they need to better cope with conflicts (Lila, Gracia, & Murgui, 2013). Furthermore, several studies have found social isolation or lacking a social support network to be an important situational risk factor linked to IPVAW (Heise, 1998).

Finally, in this study we have included the offense seriousness, which has been largely neglected in this research area. According to Echeburúa, Fernández-Montalvo and de Corral (2008), most research is conducted with general samples of IPVAW offenders, regardless of the offense seriousness. This variable, therefore, can be considered as relevant predictor of recidivism (Woodin & O'Leary, 2006).

Method

Participants

The sample consisted of 212 men convicted of IPVAW who were court-mandated to a BIP. The program is a community-based intervention program for IPVAW offenders (see Lila, Oliver, Galiana, & Gracia, 2013). The criteria for inclusion in this study were: (a) not to have a serious mental disorder, (b) not to have a serious addiction to alcohol or other substances, and (c) signing an informed consent. The average age was 39.06 years (*SD* = 11.67; range = 18-76 years); 9% of the sample had no schooling, 43.9% had completed elementary studies, 36.3% high school and 10.8% had college degrees; 59.9% were Spanish. At the time of initial assessment more than half of the participants who completed the program had a job (55%). The average length of sentence in the sample was 7.9 months of imprisonment.

The Program

The Program is a community-based intervention program for intimate partner violence offenders, and it is described in Lila, García, and Lorenzo (2010). It is based on the ecological model framework (Heise, 1998), recommended by WHO (Dahlberg & Krug, 2002). The main objective of the program is to reduce risk factors and increase protective factors for violent behavior against women in intimate relationships, taking into account four levels of analysis: individual, interpersonal, situational, and macrosocial (Catalá-Miñana, Walker, Bowen, & Lila, 2014; Gracia, López-Quilez, Marco, Lladosa, & Lila, 2014; Lila, Gracia et al., 2013; Romero-Martínez, González-Bono, Lila, & Moya-Albiol, 2013).

The program begins with an *evaluation phase,* which includes the administration of a battery of standardized tests and self-report measures, and three in-depth interviews. The main objectives in the evaluation phase are: to collect information, to verify compliance with the criteria requirements to participate in the program, and to increase the motivation to participate in the program.

The *intervention phase* consists of seven modules delivered over 30 weekly group sessions lasting 2 hours each. It is a long group intervention, and it complies with the standards recommended in previous meta-analyses (e.g., Babcock et al., 2004). The groups are closed (no new members are enrolled after the program starts) and they consist of 10-12 participants. Two professionals conduct each group. Throughout the seven modules, several intervention techniques are applied, such as group dynamics, introduction of contents and key concepts, group inquiry/debate, monitored exercises, case studies, role-play, videos, homework, and training on psychological strategies and techniques (e.g., cognitive restructuring, emotion management skills). In the first module, the priority is to build a climate of trust within the group work and to set the functioning norms for the group. In this first module, participants express and share the events that caused their conviction with the rest of the group members. In the second module, basic concepts are explained (what is the meaning of partner violence? what types of violence do exist? which are the risk factors? etc.). Legal terms and concepts related to their legal situation are introduced and explained. This module also introduces some activities targeting participants' cognitive distortions and self-justifications for their situation (e.g., denial, minimization, victim-blaming) and the responsibility assumption for their own behavior. From the third module to the sixth, the sessions aim to increase resources and skills, as well as to reduce risk factors at the individual level (third module; e.g., emotional control techniques, self-concept, and self-esteem), interpersonal level (fourth module; e.g., positive communication skills in intimate relationships, awareness of the IPVAW impact on children), situational level (fifth module; e.g., social integration and support), and sociocultural level (sixth module; e.g., gender roles and sexist attitudes, co-domesticity). In the seventh module, sessions target recidivism prevention and consolidating learning and training objectives.

The *follow-up phase* lasts 18 months starting from the end of the program sessions, with six follow-up sessions held every three months.

Measures

Reconviction. These data was obtained from the Ministry of Home Affairs' monitoring system for IPVAW. This system includes information on offenders' further incidents of violence or any breach of the conditions mandated by a judge and informed by any of the institutions involved in victims' protection (Law Enforcement Bodies, Public Prosecutor's Office, Judiciary and Penitentiary Administrations, and Social Services). Reconviction is considered when in this system information appears of offenders' further incidents of violence or any breach of the conditions mandated by a judge after completing the BIP (0 = *lack of reconviction*, 1 = *presence of reconviction*). Reconviction time-span ranges from one month to 25 months, with an average of 13.3 months.

Success indicators

Perceived severity of Intimate Partner Violence Scale (Gracia, García, & Lila, 2008). In this scale, participants had to rate on a 10-point scale (0 = *not severe at all*, 10 = *extremely severe*) the severity of eight hypothetical scenarios of IPVAW (e.g., "A couple has an argument, he hits the woman, and asks later for her forgiveness", "A woman is constantly threatened and insulted by her partner, who sometimes pushes or hits her"). A general index was obtained so that higher scores represent higher perceived severity (α = .715). At Time 1 the mean was 67.95 (*SD* = 16.12) and at Time 2 it was 71.48 (*SD* = 13.3).

Responsibility assumption. Participants were asked, in connection to their own situations of conviction of IPVAW, to which extent they agree with two statements: "The way I am is the reason why I am now in the present situation" and "I am the only one responsible for the events that put me in this situation". A five-point response scale was used (1 = *strongly disagree,* 5 = *strongly agree*). The mean for this sample was 2.05 (*SD* = 1.14) at pretest and 2.55 (*SD* = 1.27) at post-test. The consistency of the measure obtained by Pearson correlation was .28 (p <. 001).

Spousal Assault Risk Assessment (SARA; Kropp, Hart, Webster, & Eaves, 1995; Spanish version by Andrés-Pueyo & López, 2005). It is a 20-item protocol, with clinical checklist format, which includes the main risk factors of partner violence in order to assess the risk of recidivism (e.g., "Violation of no contact order" or "Extreme minimization or denial of spousal assault history"). In this study, the global risk assessment (*low, medium, high*) was assessed by trained program staff after examining all risk factors present in the participant. In our sample, at the beginning of the intervention, 62.6% of the participants presented low levels of recidivism risk, 29.1% medium risk, and only 8.3% (25 cases) were defined as high risk. The means were .46 (*SD* = .64) before the intervention and .30 (*SD* = .48) afterwards.

Intervention dose. It was obtained by calculating the percentage of sessions attended by the participant, in relation to the total number of sessions (range from 0 to 1, 1 being *attendance to all the sessions*). The mean for the intervention dose was .77 (*SD* = .25).

Predictor variables

Alcohol Use Disorders Identification Test (AUDIT; Babor & Grant, 1989; Spanish version by Contel, Gual, & Colom, 1999). AUDIT is 10-item screening test on alcohol consumption to detect harmful and hazardous alcohol consumption (e.g., "How often do you have six

drinks or more in one occasion?"); 3 or 4 response options of frequency are given for each item (e.g., 0 = *never,* 1 = *less than once per month,* 2 = *once per month,* 3 = *once per week,* 4 = *daily or almost daily*). This test focuses on recent consumption and the higher the score, the higher the risk of abusive alcohol consumption (α = .80). The mean for this sample was 5.26 (*SD* = 5.67).

Plutchnik Impulsivity Scale (Plutchik & Van Pragg, 1989; Spanish version by Páez, Jiménez, López, Raull, Ortega, & Nicolini, 1996). It measures impulsivity as an immediate reaction, which disregards any behavioral consequences. It is a Likert-type scale with a 4-point response (1 = *never*; 4 = *almost always*) and it consists of 15 items referred to the participant's tendency to act in an impulsive way (e.g., "Do you plan things ahead?", "Do you normally eat without being hungry?", "Do you find difficult to wait on a queue?"). This scale is scored so that the higher the score the higher the impulsivity (α = .722). The mean for this sample was 27.63 (*SD* = 6.15).

Anger Control Scale (State Trait Anger Expression Inventory subscale, STAXI-2; Spielberger, 1988; Spanish version by Miguel-Tobal, Casado, Cano-Videl, & Spielberg, 2001). This scale includes 12 Likert-type items with a 4-point response (1 = *almost never*, 4 = *almost always*). It measures the extent to which a person is able to control his feelings of anger (internal anger control; e.g., "I do things such as counting up to ten") and the expression of those feelings (external anger control; e.g., "I keep calm"). A high score corresponds to high anger control (α = .75). The mean for this sample was 17.31 (*SD* = 4.25).

Support from Close and Intimate Companions Scale (Lin, Dean, & Ensel, 1986). This is a 3-item scale assessing perceptions of social support from close relationships – intimate partner, relatives or friends – (e.g., "Please, state how often you have been bothered for not having an intimate partner during the last six months"). It is a Likert-type scale with a 5-point response (1 = *most of the time,* 5 = *never*). This scale is scored so that the higher the score the higher the perceived support (α = .60). The mean for this sample was 3.52 (*SD* = 1.05).

Offense seriousness. Based on the length of sentence (see Carrington, Matarazzo, & DeSouza, 2005; Liu, Francis, & Soothill, 2011; Reilly & Witt, 1996), it refers to the court-mandated imprisonment time for each offender. The average length of sentence in the present sample was 7.94 months (*SD* = 5.52, range = 1-24 months).

Control variables

Marlowe-Crowne Social Desirability Scale (M-CSDS-10; Crowne & Marlowe, 1960, reduced version by Strahan & Gerbasi, 1972; Spanish version by Ferrando & Chico, 2000). This 10-item scale examines the tendency to present oneself as socially desirable. These items are related to behaviors and attitudes highly desirable from a social point of view, but hypocritical for most of the people (e.g., "I am always polite, even with people I find disgusting") or with other behaviors rejected socially, but very frequent (e.g., "I remember feigning an illness to avoid some situation"). The response format is true or false. The higher the score, the higher the presence of social desirability in the respondent's self-presentation. Scores range from 0 to 10 (α = .495). The mean for this sample was 7.29 (*SD* = 1.84).

In addition, this study includes also, as control variables, immigrant status (0 = *native*, 1 = *immigrant*), and socio-economic status (categorized by ranges of household income per year: from 1 = *less than 1,800 euros* to 12 = *more than 120,000 euros*).

Procedure

Anonymity was ensured, and written informed consent was obtained. Participants were required to answer questionnaires at two points in time (pre-treatment and post-treatment). Participants were informed of the nature and purpose of the research, and they were told that neither participation nor refusal would affect their legal situation. The intervention program staff administered the instruments, and items were read out loud to those participants with comprehension or literacy difficulties.

Results

Means and standard deviations are listed in Table 1. Paired *t*-tests (pretest-posttest) to evaluate gains from the program were conducted. *T*-tests were complemented with Cohen´s *d*, as effect size measure. Gain-score results were obtained for risk of recidivism reduction, $t(207) = 2.176$, $p = .0311$, $d = 0.15$; perceived severity of IPVAW, $t(189) = 2.707$, $p = .007$, $d = 0.19$; and assumption of responsibility, $t(180) = 5.401$, $p < .001$, $d = 0.40$. Gain scores are interpreted as success indicators.

Table 1
Variables Descriptives (Means, Standard Deviations, and Minimum and Maximum Values)

Variables	Mean	*SD*	Min	Max
Anger control	17.31	4.25	0	37
Impulsivity	27.63	6.15	1	54
Support	3.52	1.05	1	5
Alcohol use	5.26	5.67	0	32
Offense seriousness	7.94	5.52	1	24
Intervention dose	0.77	0.25	0	1
Gain score in perceived severity of IPVAW	2.91	14.70	-80	60
Gain score in responsibility assumption	0.44	1.4	-3	4
Gain score in recidivism risk reduction	-0.10	0.64	-2	1

Binary logistic regression analyses were used to estimate the effects of the three gain scores and the intervention dose on reconviction (0 = *not reconviction* and 1 = *reconviction*). Effect size (Nagelkerke R^2) for the whole logistic regression ($\chi^2_4 = 59.63$, $p < .001$) showed a 38.2% of reconviction probability with only three significant predictors: intervention dose, gain in perceived severity of IPVAW, and risk of recidivism reduction. Although they significantly predicted correct assignment to the re-convicted group, two of the variables (perceived severity of IPVAW score and the intervention dose) had low effect sizes, otherwise the odds ratio of not reconviction increased by a factor of 16.27 when there was a one-unit change in SARA's score. To sum up, the logistic regression revealed the risk of recidivism reduction as the strongest predictor of reconviction.

The second aim of the study was to explore the contribution of a set of pre-treatment offenders' characteristics (anger, impulsivity, social support, alcohol consumption, and offense seriousness) in explaining change in the success indicators better predicting reconviction (in our case the risk of recidivism reduction). First, an initial model was estimated with control variables as predictors (immigrant status, socioeconomic status and social desirability). None of these control variables showed significant relationships with risk of recidivism reduction; therefore, in a second step, these were removed and a second model was re-estimated. The maximum likelihood estimation method was applied to complete cases imputed with the EM algorithm for missing data, as Mardia's coefficient was 25.56, thus fulfilling requirements for a multivariate normal distribution.

The following fit indexes were used: χ^2, χ^2/df, the comparative fit index (CFI), the incremental fit index (IFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). Since χ^2 is very sensitive to sample size, we also used the ratio between χ^2 and the degrees of freedom (χ^2/df).

Fit indices mainly supported the explicative model of risk of recidivism reduction based on variables related to IPVAW (see Figure 1):

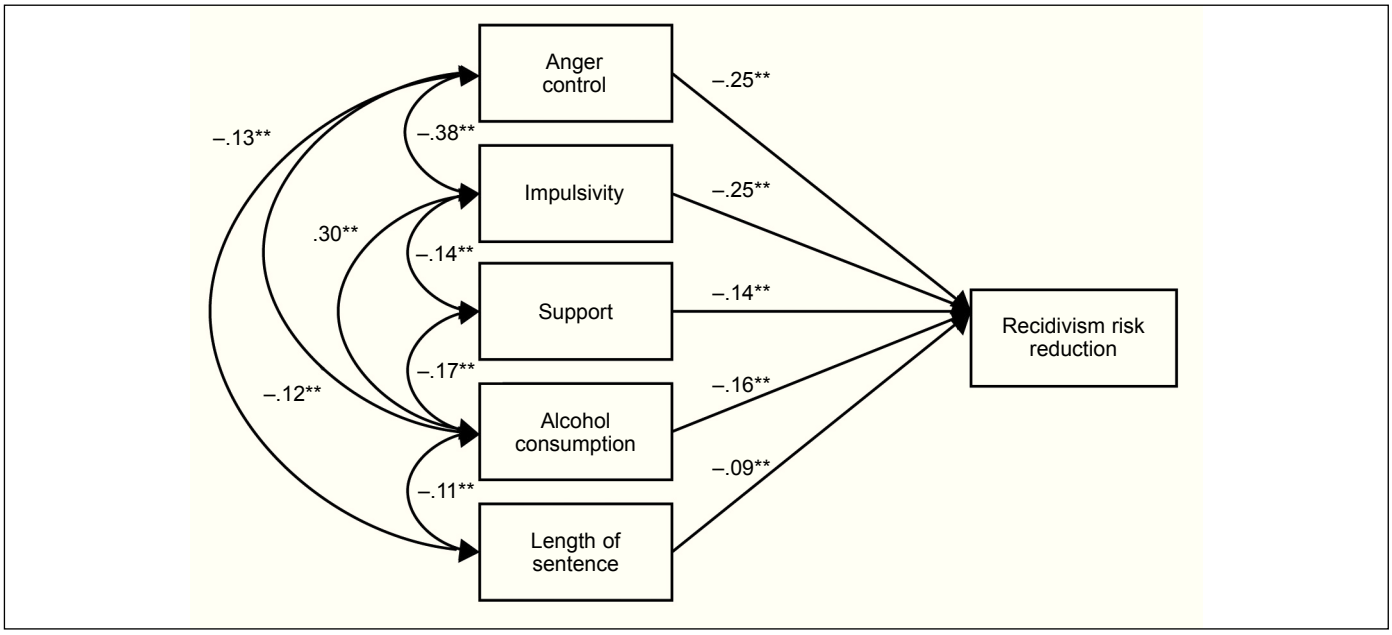

Figure 1. Structural Equation Model predicting recidivism risk reduction
*$p \leq .05$, **$p \leq .01$

the chi-square was 1.998, with 2 degrees of freedom ($p = .368$), the normed chi-square was .999; the NFI was .990, the CFI was .999, the GFI was .998, the SRMR was .015, and the RMSEA was .001. The chi-square was not statistically significant, and the normed chi-square was below the value of 3, which also represents model adequacy. All the fit indexes were above .90, defining the model as an adequate representation of the observed data on model adequacy. Finally, the RMSEA was below the value of .06, which represents a reasonable error of approximation; the SRMR was well below the value of .08, thus indicating adequate fit of the model to the data. The risk of recidivism reduction was accounted for by the model with a $R^2 = .127$, and was explained by the five key variables hypothesized in the literature.

Discussion

The results of our study suggest that BIP's participants change in a number of intervention targets. Statistically significant increases were observed in their responsibility assumption, their perceived severity of IPVAW, and in risk of recidivism reduction. Thus, participants by the end of the intervention increasingly acknowledge being responsible for their own violent behavior. This is important, since it is one of the first steps to effectively change batterers' attitudes and behaviors (Scott & Wolfe, 2003) and a critical element for these offenders not to drop out and to complete all the treatment (Cadsky, Hanson, Crawford, & Lalonde, 1996). A second change identified, although more moderate, is the participants' perceived severity of IPVAW. Awareness of the severity of IPVAW, along with a high level of responsibility assumption, are particularly relevant if we take into account that a large proportion of IPVAW offenders do not consider the behavior which cause their conviction to be a crime and define their own behavior as "normal" or "acceptable" (Cattlet et al., 2010; Lila, Gracia, & García, 2010). A third change identified is in the risk of recidivism reduction. Reducing recidivism is a priority target that is considered as the ultimate criterion of success for BIPs (Lee et al., 2007; Scott et al., 2011).

Only two of the three success indicators used in this study, along with the intervention dose, contribute to the prediction of reconviction. Firstly, the gains in the risk of recidivism reduction play a central role in the prediction of reconviction. This finding is in line with previous research showing the predictive accuracy of trained staff's global risk assessment (Kroop & Hart, 2000). This type of prediction is based on risk factors solidly associated with IPVAW, mainly aggressors' risk factors (Andrés-Pueyo & Echeburúa, 2010; Dutton & Kropp, 2000). Accordingly, risk assessment and management should be one of the main objectives in BIPs (Bowen, 2011). Secondly, the intervention dose is also a significant predictor of reconviction. In line with previous research (e.g., Bowen et al., 2005; Gordon & Moriarty, 2003), the higher the intervention dose, the lower the probability of reconviction. Although in a more modest way, perceived severity of IPVAW cases also contributes to predict reconviction (i.e., the higher the perceived severity, the lower the probability of reconviction), thus supporting the importance of promoting change on this type of attitudes in BIPs. Interestingly, assumption of responsibility does not contribute to predict reconviction. Somewhat surprisingly, one of the intervention targets most frequently included in the BIPs has no relation with the prediction of reconviction (for similar results see also Henning & Holdford, 2006). More research is needed in order to ascertain the role played by the responsibility assumption in the BIPs, as well as in reconviction.

The second aim of this study was to analyze whether IPVAW related variables were predictive of the success indicator that better predicted reconviction: risk of recidivism reduction. We found that the recidivism risk decrease for those participants with the lowest pre-treatment levels of alcohol consumption, impulsivity, and offense seriousness. These results are consistent with previous research finding that high impulsivity, abusive alcohol consumption, and longer sentences predict poor therapeutic success and high probability of recidivism (Caetano et al., 2008; Tollefson & Gross, 2006). Additionally, these results show that BIPs must pay more attention to participants with these characteristics and implement alternative strategies for especially resistant offenders to help improve outcomes (Carbajosa & Boira, 2013).

On the other hand, we find that those participants with less pre-treatment control when expressing their anger are those with higher risk of recidivism reduction. This result suggests that intervention produces especially positive outcomes by increasing the participants' anger control. Although this cannot be the only target in an intervention with batterers, it is indeed an important variable

(Norlander & Eckhardt, 2005). Also, risk of recidivism reduction is high in participants with pre-treatment low levels of support. Socially isolated participants with low levels of social support may benefit from the intervention group as a resource of support (Gracia, García, & Musitu, 1995). The social bonds among BIPs' participants could lead to a stronger commitment with the intervention group's targets and, consequently, a lower probability of recidivism. Another possible explanation, which does not contradict the previous one, could be related to the fact that certain social networks can have a negative effect by modeling and reinforcing the use of violence (Agoff, Herrera, & Castro, 2007; Heise, Ellsberg, & Gottemoeller, 1999). The intimate support network of some batterers may hold attitudes of tolerance and acceptance towards violence, reinforcing their attitudes (Gracia et al., 2009; Gracia & Tomás, 2014). Thus, social support should not be the only element to take into account; attitudes towards IPVAW held by the batterers' social network should also be examined. Future research is needed to further explore this issue.

Finally, it is important to underline some strengths and limitations of this study. Among the strengths, it is important to emphasize that several information sources have been used, thus increasing the external validity of the results. In this regard, along with the participants' self-reports, objective data have been employed in relation to criminal behavior, such as length of sentence and reconviction data, obtained from official records, as well as the recidivism risk assessments conducted by the program staff. Also, the study controls for social desirability, as this response bias is very frequent in this type of samples (Scott & Strauss, 2007). Among the limitations of this study, the most critical one is the absence of a control group, which would help to confirm that the observed changes are caused by the intervention and not by uncontrolled variables. Moreover, not having access to victims has prevented obtaining more accurate recidivism measures. Despite these limitations, this study contributes to the analysis of the efficacy of BIPs in a context (Spain) where the evidence base is still very limited (Lila, 2013).

Conflict of Interest

The authors of this article declare no conflict of interest.

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