



# The impact of an intervention program on abusive intimate behaviors, self-esteem, and self-concept of male perpetrators of intimate partner violence

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## Abstract

**Objectives** This study examines the effectiveness of a multimodal perpetrator intervention program (PIP) on intimate partner violence (IPV) perpetrators' self-reported abusive behaviors, self-esteem, and self-concept.

**Methods** A sample of 53 male IPV perpetrators, both court- and self-referred to a community-based PIP, were assigned to one of two conditions: intervention condition (IC;  $n=38$ ) and waiting list control condition (WLCC;  $n=15$ ). Data on self-reported intimate violence, self-esteem, and self-concept were collected at baseline, post-test, and 6-month follow-up. The Reliable Change Index (RCI) was also computed.

**Results** A considerable percentage of IC participants end or substantially reduce their abusive behavior (reoffending self-reported rates were 10.7% at post-treatment and 12.5% at follow-up). IC participants increase self-esteem and self-concept. Changes were maintained at follow-up. Significant differences were found between the groups, with IC participants reporting reductions in abusive behaviors, scoring higher on self-esteem and self-concept, and revealing greater clinical changes than WLCC participants.

**Conclusions** These findings suggest that multimodal interventions improve self-esteem and self-concept and reduce IPV perpetration.

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## Introduction

Perpetrator intervention programs<sup>1</sup> (PIPs) are widely widespread and constitute a popular penalty measure for intimate partner violence (IPV) perpetrators (e.g., Cunha & Caridade, 2023; Murphy & Richards, 2022). The development of PIPs is anchored in the high number of IPV perpetrators involved in the justice system and on the argument that punitive strategies per se, such as incarceration, are insufficiently effective with perpetrators of IPV, as the recidivism rate remains high (Murphy & Richards, 2022). Without a specialized intervention, men are likely to repeat abusive behaviors in their current or future relationships (Manita & Matias, 2016). However, results concerning the effectiveness of PIPs remain inconsistent and ambiguous and are mainly focused on recidivism as the primary outcome variable. However, the literature documents the importance of other variables being considered in PIPs, which may also impact recidivism rates. The present study focuses, therefore, on analyzing the impact of attending a PIP on self-esteem, self-concept, and self-reported abusive behaviors in intimacy.

## Abusive behavior and recidivism

Reducing future IPV incidents is the central goal of PIPs, and for that reason, studies have used recidivism and reoffense as outcome variables to assess PIPs' effectiveness (Tutty & Babins-Wagner, 2019; Velonis et al., 2016). Although recidivism can be measured using different methods (i.e., official records, victims' reports, perpetrators' self-reports; Tutty & Babins-Wagner, 2019), quasi-experimental studies and meta-analyses focus almost exclusively on official data and victims' reports, with a small number of studies using perpetrators' self-reports.

Babcock and collaborators (2004) and Feder and Wilson (2005) found that PIPs have a minimal impact on reducing recidivism and further reassault, assessed through official data and/or victims' reports. However, despite the small effect, Babcock and colleagues (2004) concluded that these programs positively impact abusive behavior. Gannon and associates (2019), however, found that individuals who received specialized psychological treatment have a lower recidivism rate (15.5%) than those who had not received treatment (24.2%). Arce and colleagues (2020), Cheng and associates (2019), and Fernández-Fernández and collaborators (2022) noticed that PIPs were, in general, effective in decreasing IPV recidivism and general offense recidivism when reported by the criminal justice system, but not when assessed by the victims. However, there still were no statistically significant effects on recidivism reduction. Similar results were found by Wilson and associates (2021), who concluded a modest benefit for the intervention in experimental studies when official reports were considered and no benefit when the victim reported recidivism.

<sup>1</sup> The more common denomination for intervention programs for individuals who perpetrate intimate partner violence is batterer intervention programs. However, they may carry different names, such as perpetrator intervention programs, offender intervention programs, or programs for men who batter (Cunha & Caridade, 2023).

As previously mentioned, fewer studies have assessed recidivism using perpetrators' self-report based on the argument that self-report measures of violent behavior present different methodological limitations (e.g., social desirability; propensity to minimize the impact of violence; Broady et al., 2014). However, studies that assess reoffense through these measures generally have revealed positive outcomes (e.g., Cunha & Gonçalves, 2015; Cunha et al., 2023; Lila et al., 2018). For example, a systematic review that examined the effectiveness of culturally specific male PIPs found that the two studies that assessed recidivism through self-reports revealed significant reductions in episodes of abuse (Satyen et al., 2022). Cunha and Gonçalves (2015), comparing 26 individuals who attended intervention with 19 individuals who did not, found that those who attended a PIP self-reported significantly less abusive behaviors than the control group. Lila and colleagues (2018), using a sample of 160 men convicted of intimate partner violence, sought to assess the impact of adding an individualized motivational plan (IMP) to a standard PIP (SPIP) on the level of intervention effectiveness compared to the PIP alone. Results indicated that SPIP plus IMP participants were 1.79 times less likely to perpetrate acts of physical violence (assessed by perpetrators' self-reports). More recently, Cunha and associates (2023), in an attempt to assess the impact of the integration of Motivational Interviewing Techniques (MIT) during the intake phase of a standard PIP (SPIP), found that, at post-treatment, participants self-reported significant reductions in IPV perpetration.

Despite the previously mentioned and the proliferation of meta-analyses on PIPs' effectiveness, an extensive debate exists about what "success" means regarding IPV perpetrators' treatment and how to assess it (Velonis et al., 2016). Velonis and associates (2016) assumed that focusing on recidivism or reassault, disregarding the mechanisms underlying change, might be problematic for different reasons. First, they believe that for PIPs to impact recidivism or reoffense, individuals need to achieve more immediate changes in attitudes, motivations, and skills. Besides, even if the proximal outcomes are achieved, other factors unrelated to PIPs may influence recidivism or reoffense, such as the co-occurrence of substance abuse or mental disorders. Finally, another problem related to using recidivism or reoffense as the only outcome is that definitions of these outcomes often differ across studies limiting comparisons (Velonis et al., 2016).

Because of such limitations, a more recent trend emphasizes the need to consider more immediate changes in attitudes, motivation, and skills, as they might impact recidivism/reoffense (e.g., Misso et al., 2019; Murphy & Richards, 2022; Velonis et al., 2016). Responsibility assumption (e.g., Friedman et al., 2022), attitudes toward violence (e.g., Bowen, 2011; Cunha et al., 2023; Cunha & Gonçalves, 2015), and personal and social skills (e.g., Cunha et al., 2023; Cunha & Gonçalves, 2015; Murphy & Richards, 2022) are important indicators of intervention success. Self-esteem and self-concept (e.g., Lila et al., 2012; Papadakaki et al., 2009) have also been identified as risk factors for future violence and should also be included as change indicators.

## Self-esteem

Self-esteem refers to the degree to which the qualities and characteristics contained in one's self-concept are perceived to be positive. Self-esteem reflects a person's physical

self-image, values, and perceived success, as well as how others view and respond to that person (American Psychological Association [APA] 2023a). Different researchers have linked self-esteem and violence perpetration (e.g., Muslu et al., 2020; Papadakaki et al., 2009). However, research on the relationship between self-esteem and IPV is ambiguous, and controversy initiates when investigating which level of self-esteem, either high or low, impacts violent behavior. Literature has confirmed the connection between low self-esteem and increased IPV perpetration (e.g., Echeburúa et al., 2009; Lila et al., 2012; Loinaz et al., 2012; Papadakaki et al., 2009; Walker & Bright, 2009). For example, Lila and colleagues (2012) found that perpetrators with low self-esteem showed higher levels of violence minimization. Echeburúa and associates (2009) suggested that violence tends to occur as a way to gain respect and consideration that they do not achieve otherwise. Walker and Bright (2009) suggested that higher self-esteem increases the risk of IPV, especially if high self-esteem is not supported by any evidence that the individual is successful. Thus, any threat to the self-concept is taken more seriously, and violence is a way to reach superiority. The authors also stated that inflated self-esteem in IPV perpetrators is, in fact, covering low self-esteem. Schmidt (2020) found that individuals scoring high on avoidant and anxious attachment style measures were more likely to experience low self-esteem and perpetrate IPV. Schmidt (2020) also suggested that low self-esteem alone may not be a strong enough variable to stimulate violence. Instead, the interaction between low self-esteem and other negative emotions may elicit violent behavior.

Despite some conflicting results, it is assumed that self-esteem is significantly associated with IPV perpetration, which should be acknowledged and addressed during the intervention (McGinn et al., 2020; Schmidt, 2020). Morrel and associates (2003), when working with men who were receiving therapy for IPV, found that the enhancement of self-esteem caused a reduction in violent behavior. The same pattern was found by Murphy and collaborators (2005). Other studies also found differences in self-esteem between men who attended intervention and those who did not. For example, Cunha and Gonçalves (2015) and Broady and associates (2014) found significant increases in men's self-esteem after treatment. More recently, a study developed by Tutty and Babins-Wagner (2019) examined clinical outcomes in a sample of 382 men and found that participants showed considerable improvements in terms of self-esteem after treatment completion.

Although changes in self-esteem have not been yet established as a valid outcome for treatment effectiveness, the positive results found and the link between low self-esteem and IPV perpetration support the importance of including self-esteem as an outcome measure.

## Self-concept

Self-concept is frequently referred to as one's description and evaluation of oneself, including psychological and physical characteristics, skills, and roles, contributing to the individual's sense of identity (APA, 2023b). The self-concept is affected by the relationship between social identity, the perception of self-efficacy, and self-image (Martens, 2021). Low self-concept is associated with anger problems,

aggressive behaviors (Copeland-Linder et al., 2010), and negative self-perception, which can contribute to IPV. On the contrary, a highly positive self-concept (i.e., feeling valuable, accepted, and worth loving) was related to lower abusive behaviors in intimacy (Genç, 2021).

The literature revealed that IPV perpetrators have unrealistically high expectations of themselves. According to Vecina and colleagues (2016), IPV perpetrators are morally absolutist and highly self-deceived and have a very strong moral self-concept, describing themselves as loyal, faithful, and trustworthy. In this sense, Vecina and collaborators (2016) hypothesized that IPV could be understood, in part, as a behavior associated with absolute moral beliefs (moral absolutism) and self-deception. They suggested that those concepts act together to protect one's moral self-concept and psychological well-being, especially when they feel threatened, as should be the case in the context of men convicted of IPV (Vecina et al., 2016). This mechanism helps individuals maintain an adequate self-concept, preventing them from suffering and opening themselves up to change (Marzana et al., 2016). Empirical studies showed that men convicted of IPV have an absolutist conception of right and wrong, a high moral self-concept, and high levels of self-deception mediating between this extreme moral vision of the world and their high moral self-concept (Vecina et al., 2015). Results reveal that self-deception fully mediates moral absolutism and moral self-concept in IPV perpetrators. Thus, the more they felt right about their moral beliefs, the more they deceived themselves and felt good about themselves (Marzana et al., 2016; Vecina et al., 2015, 2016).

Although, as far as we know, no studies assessed the impact of PIPs on perpetrators' self-concept, some recent trends suggest that intervention should build new prosocial self-concepts with perpetrators to build more appropriate self-esteem (McGinn et al., 2020) since self-concept and self-esteem are related constructs.

## The current study

The present study assesses the effectiveness of a cognitive-behavioral intervention program incorporating psychoeducational strategies and Motivational Interviewing Techniques (MIT) in IPV perpetrators' self-esteem and self-concept. This study is of relevance for different motives. First, PIPs effectiveness results remain controversial (e.g., Arce et al., 2020; Babcock et al., 2004; Cheng et al., 2019; Feder & Wilson, 2005; Fernández-Fernández et al., 2022; Wilson et al., 2021). So, the assessment of PIPs that incorporated different techniques and approaches (i.e., multimodal programs) is crucial as research has shown that multimodal programs have a significant impact on perpetrators' change (Bates & Graham-Kevan, 2020; Cunha et al., 2023; Friedman et al., 2022; Murphy & Richards, 2022). Second, although most studies on the effectiveness of PIPs focus on recidivism or reassault reduction as the major outcome, recent literature emphasizes the need to consider more immediate variables as they might impact recidivism/reoffense (e.g., Velonis et al., 2016). Furthermore, as far as we know, no studies in Portugal have assessed the effectiveness of PIPs incorporating cognitive-behavioral techniques, psychoeducational strategies, and MIT on self-esteem and self-concept.

Thus, the present study aims to examine the effectiveness of a multimodal PIP—the Promotion and Intervention Program with Batterers (PPRIAC; Cunha & Gonçalves, 2015; Cunha et al., 2022; Cunha et al., 2023)—on IPV perpetrators' intimate abusive behaviors (self-reported), self-esteem, and self-concept. We also intended to compute the Reliable Change Index (RCI). We hypothesized that PPRIAC could reduce intimate partner violence reported by the perpetrator and increase self-esteem and self-concept. After PPRIAC completion, participants are expected to decrease their (self-reported) intimate violent behavior and see themselves as more worthy, thus increasing self-esteem and self-concept (as these concepts are interrelated). It is also expected that these changes will be maintained at follow-up. The argument behind our hypothesis is that as the individual increases his capacity for self-regulation and coping skills, his self-esteem and self-concept will improve (Murphy et al., 2005). Considering that IPV perpetration may produce negative self-evaluations, individuals might feel better about themselves when they are able to regulate their impulse to abuse.

## Method

### Participants

The sample comprises 53 male perpetrators of IPV, both court- and self-referred to a community-based PIP (Cunha & Gonçalves, 2015; Cunha et al., 2022; Cunha et al., 2023). Inclusion criteria were as follows: (a) being an adult male; (b) having perpetrated any act of violence against a female intimate partner or ex-partner; and (c) being able to read and write. Exclusion criteria were: (a) having a psychotic disorder; (b) having cognitive impairment; (c) having a psychological and/or personality disorder; and (d) having a substance abuse disorder.

All the participants were Caucasians and were, on average, 43.68 years old ( $SD = 11.29$ ), ranging from 23 to 63. Most participants were married or cohabitated with the victim at the time of the intervention ( $n = 27$ , 50.9%), with an average relationship length of 17.25 years ( $SD = 11.96$ ). Most of them completed the 4th grade ( $n = 12$ , 22.6%) or the 6th grade ( $n = 19$ , 35.8%) of education, belonged to a low socioeconomic status (SES;  $n = 24$ , 45.3%), and almost half were employed ( $n = 26$ , 49.1%). Twenty (37.7%) participants were court-referred to the intervention, and most had no previous criminal record ( $n = 49$ , 92.5%). The groups were similar in all the sociodemographic and juridical variables. Table 1 summarizes the main sociodemographic and juridical variables.

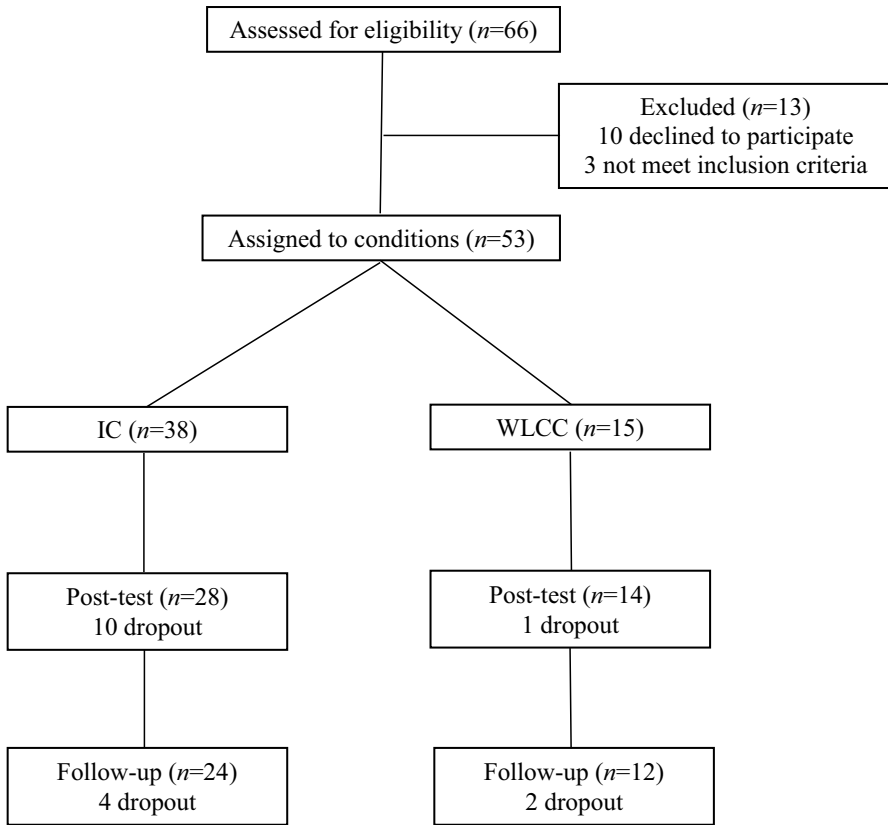
### Procedures

The intervention was delivered at the Psychology Service of University of Minho. Participants were referred to the intervention by the court, child protection services, victim support, family support institutions, or probation services or were self-referred.

**Table 1** Sociodemographic and juridical characteristics

	Total sample		IC ( <i>n</i> =38)		WLCC ( <i>n</i> =15)		<i>U</i>	<i>p</i>	$\eta^2$
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Age	42.47	11.90	44.16	11.17	42.47	11.90	260.500	.628	.004
Relationship length	17.25	11.96	17.61	11.82	16.33	12.67	267.500	.729	.002
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	$\chi^2$	<i>p</i>	Cramer's <i>V</i>
Marital status									
Married/cohabitation	27	50.9	19	50.0	8	53.3	1.288	.525	.156
Single	4	7.5	2	5.3	2	13.3			
Divorced/separated	22	41.5	17	44.7	5	33.3			
Education									
4th grade	12	22.6	9	23.7	3	20.0	3.638	.457	.262
6th grade	19	35.8	12	31.6	7	46.7			
9th grade	6	11.3	6	15.8	0	0.0			
12th grade	11	20.8	7	18.4	4	26.7			
Graduation	5	9.4	4	10.5	1	6.7			
SES									
Low	24	52.2	15	48.4	9	60.0	.604	.739	.115
Medium	19	41.3	14	45.2	5	33.3			
High	3	6.5	2	6.5	1	6.7			
Professional status									
Employed	26	49.1	19	50.0	7	46.7	.049	.976	.030
Unemployed	17	32.1	12	31.6	5	33.3			
Retired	10	18.9	7	18.4	3	20.0			
Referral source									
Court-referred	20	37.7	14	36.8	6	40.0	.046	.831	.029
Self-referred	33	62.3	24	63.2	9	60.0			
Prior convictions									
Yes	4	7.5	4	10.5	0	0.0	1.708	.191	.180
No	49	92.5	34	89.5	15	100			

The potential participants were subjected to a screening interview (see Fig. 1). All the procedures were explained to the participants and their voluntary nature. Those who met the inclusion criteria were invited to participate. Ten individuals declined to participate in the study. Three did not meet the inclusion criteria: two could not read and write, and one met the substance abuse criteria. Those who agreed to participate signed the informed consent and completed a set of psychological measures. No incentives were offered to the participants. Participants were allocated to the intervention condition (CI; *n*=38), that is, a group that receives intervention, and the waiting list control condition (WLCC; *n*=15), that is, a group that is on a waiting list and would have access to the intervention in one year, according to a 2:1 ratio, in order of referral to the program.



**Fig. 1** Flowchart of subjects' participation

Despite the limitations of such a design, the choice for a waiting list design assumed that all illegible participants should benefit from the intervention program while permitting a non-intervention assessment (Cunningham et al., 2013). In addition, we preferred a 2:1 ratio to provide intervention to a higher number of individuals taking into consideration the potential positive impact of such intervention on victims' safety. In both groups, data were collected at three different moments: pre-test (i.e., at the beginning of the intervention), post-test (i.e., at the end of the intervention), and follow-up (i.e., 6 months after the end of the intervention). Each participant completed the instruments individually in a paper-and-pencil format, supervised by a psychologist. In the IC, 10 participants dropped out from the pre- to post-test and four from the post-test to follow-up; in the WLCC, one participant dropped out from the pre- to post-test and two from the post-test to follow-up. Data was collected in 2013 and 2014.

Ethics procedures concerning anonymity and data protection established by the Portuguese legislation and Helsinki Declaration (World Medical Association, 2013)



were followed. The study was approved by the Subcommittee on Ethics of Social and Human Sciences of the University of Minho.

## Measures

The Marital Violence Inventory (IVC; Machado et al., 2007) is a 21 items self-report measure to assess IPV perpetration. IVC assesses physically abusive, emotionally abusive, and coercion/intimidation behaviors. Items are scored on a 3-point scale (0 = never, 1 = once, 2 = more than once) and grouped into two scales: Physical Violence (e.g., pulling hair tight) and Psychological Violence (e.g., preventing contact with others). In the current sample, the internal consistency for the total scale was 0.83 at the pre-test, 0.79 at the post-test, and 0.83 at the follow-up.

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; Portuguese version Santos, 2008) is a 10-item self-report scale to assess global self-esteem. Items are rated on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The total score ranges between 10 and 40, with higher scores meaning higher levels of self-esteem. RSES revealed good psychometric properties (Santos, 2008). The current study's internal consistency was 0.84 on the pre-test, 0.81 on the post-test, and 0.88 on the follow-up.

The Clinical Self-Concept Inventory (ICAC; Serra, 1986) is a 20 items self-report scale to assess individual adjustment and, more specifically, the emotional and social aspects of self-concept. The items are scored on a 5-point Likert scale (from 1—I do not agree to 5—I agree very much), with a total score ranging from 20 to 100. The higher the score, the higher the individual's self-concept. The instrument comprises four factors: Social Acceptance-Rejection; Self-Efficacy; Psychological Maturity; and Impulsivity-Maturity. The original version revealed good psychometric properties (Serra, 1986). The present sample found an internal consistency of 0.85 at the pre-test, 0.75 at the post-test, and 0.91 at the follow-up.

A sociodemographic and juridical questionnaire was used to collect data on the main sociodemographic (e.g., age, educational level, marital status, socioeconomic level) and juridical variables (e.g., recidivism, referral source). This data was collected at the intake and updated in the posterior assessments.

## The intervention program

The Promotion and Intervention Program with Batterers (PPRIAC) was developed in 2010 for self- or court-referred adult heterosexual male perpetrators of IPV (Cunha & Gonçalves, 2015; Cunha et al., 2022; Cunha et al., 2023) (NCT05484440).

PPRIAC adopted a multilevel, consisting of 4 to 6 individual sessions of 60 min each and 18 group sessions (each lasting between 90 and 120 min), and a multimodal approach, using MIT (Miller & Rollnick, 2013), cognitive-behavioral and psychoeducational techniques (Cunha & Gonçalves, 2015). The main goals were (a) to stop the abusive behavior against women, (b) to accept responsibility for abusive behavior, (c) to change irrational beliefs and attitudes toward IPV, (d) to promote respect for women and healthy relationships, (e) to acquire personal and social skills, and (f) to

promote a violence-free approach in problem-solving. A set of therapeutic techniques (e.g., cognitive restructuring, ABC model, self-instructions, assertiveness and communication skills training, problem-solving training) and methods (e.g., role-play, homework, videos, power and control wheel, equality wheel, brainstorming) were used. The weekly sessions occurred and were facilitated by two therapists trained in intervention with IPV perpetrators (for more information on PPRIAC, see Cunha & Gonçalves, 2015).

## Data analysis

Statistical analysis was performed using IBM SPSS version 28. The outcomes for IC and WLCC were compared at baseline using Mann–Whitney tests. Within-group differences in outcome measures at post-treatment and follow-up were tested with Wilcoxon tests, and Mann–Whitney tests were performed to compare the two conditions at post-test and follow-up. Effect sizes were calculated using eta squared ( $\eta^2$ ).

The intra-subject clinical change was assessed using the Reliable Change Index (RCI; Jacobson & Truax, 1991). Individuals with scores greater than 0.84 were placed into the “global improvement” (GI) category, those with scores below  $-0.84$  were placed into the “global deterioration” (GD) group, and those with scores between these values were placed in the “no change” (NC) category (Brazão et al., 2015). To compare the groups in clinical change categories, chi-square tests were performed. Effect sizes were calculated with Cramer’s *V*.

## Results

### Baseline assessment

Results revealed that groups did not differ in any variables assessed (see Table 2).

### Post-test assessment

Results concerning post-test analysis for IC and WLCC are presented in Table 3.

Twenty-eight of the 38 participants of the IC completed the intervention, meaning a success rate of 73.7%. The average number of sessions completed by dropouts was 7.87 ( $SD = 3.76$ ).

Regarding reoffending, measured by participants’ self-report, the results revealed that three individuals from the IC perpetrated violence against the partner or ex-partner, meaning a reoffense rate of 10.7%. In comparison, seven individuals did in the WLCC, corresponding to a reoffense rate of 50%. Participants from IC self-reported a significant reduction in the perpetration of total violence and physical and psychological violence. In the WLCC, a significant decrease in the perpetration of total violence and physical and psychological violence was also observed. Despite both groups showing significant reductions, there were differences between them in

**Table 2** Baseline differences in intimate partner violence, self-esteem, and self-concept

	IC ( <i>n</i> =38)		WLCC ( <i>n</i> =15)		<i>U</i>	<i>p</i>	$\eta^2$
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Total violence	12.74	7.78	10.53	6.09	239.500	.368	.015
Physical violence	6.53	5.94	5.20	4.83	252.500	.519	.008
Psychol. violence	6.71	2.91	5.67	2.29	212.500	.150	.039
Self-esteem	6.71	1.91	5.67	2.29	282.500	.961	.000
Self-concept	77.55	9.64	73.47	9.03	211.500	.146	.040
Social acceptance/rejection	18.47	3.67	17.07	3.35	230.500	.278	.022
Self-efficacy	23.21	3.41	22.73	2.31	249.500	.479	.009
Psychological maturity	15.95	2.29	14.93	2.84	218.000	.179	.033
Impulsivity-maturity	11.63	1.91	10.87	1.51	216.500	.169	.035

the perpetration of psychological and total violence (cf. Table 3). IC participants presented the lowest scores.

IC also showed a significant increase in self-esteem and self-concept. In particular, a significant increase was found in self-efficacy. In WLCC, no significant differences were found. Comparing both conditions, results also showed significant differences in self-esteem and self-concept. Significant differences between IC and WLCC were also found in social acceptance-rejection and self-efficacy (i.e., self-concept factors; cf. Table 3). IC participants revealed the highest scores.

### Follow-up assessment

Results concerning follow-up are presented in Table 4. In general, the results revealed that IC participants maintain the gains achieved after their participation in the program.

Among the 24 IC participants that completed the follow-up assessment, three self-reported abusive behaviors against the partner during the 6-month follow-up period, meaning a reoffense rate of 12.5%. However, in the WLCC, eight individuals perpetrated acts of violence against their partner or ex-partner during the follow-up, corresponding to a reoffense rate of 66.7%. No differences were found between the post-test and follow-up in either IC or WLCC. However, when both groups were compared, participants from IC self-reported significantly lower scores in total violence and psychological violence than participants from WLCC (cf. Table 4).

IC participants revealed a marginal increase in self-esteem, but no differences were found in self-concept between the post-test and follow-up. No differences were found between the two moments in WLCC participants. Comparing the groups, significant differences in self-esteem and self-concept were found, with IC participants revealing higher scores than WLCC participants. Significant differences in all self-concept factors were also found, except for social acceptance-rejection.

**Table 3** Within-group and between-group analyses of change in IC and WLCC at post-test

	IC				WLCC				IC vs. WLCC				
	Pre-test ( <i>n</i> = 38)		Post-test ( <i>n</i> = 28)		Pre-test ( <i>n</i> = 15)		Post-test ( <i>n</i> = 14)						
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>z</i>	<i>p</i>	$\eta^2$	<i>M</i> ( <i>SD</i> )	<i>z</i>	<i>p</i>	$\eta^2$	<i>U</i>	<i>p</i>	$\eta^2$	
Total violence	12.36 (7.68)	.43 (1.57)	-4.543	<.001	.737	10.43 (6.31)	2.00 (3.21)	-3.182	.001	.723	120,000	.043	.098
Physical violence	6.29 (5.69)	.14 (.76)	-4.208	<.001	.632	5.36 (4.97)	.79 (2.08)	-2.908	.004	.604	174,500	.043	.008
Psychol. violence	6.50 (3.04)	.29 (.90)	-4.629	<.001	.765	5.29 (1.82)	1.21 (1.53)	-3.306	<.001	.781	120,500	.043	.097
Self-esteem	31.21 (4.81)	34.14 (3.95)	-3.006	.003	.323	31.29 (4.39)	31.07 (4.07)	-.592	.554	.025	115,500	.030	.110
Self-concept	78.25 (9.34)	82.11 (6.66)	-2.326	.020	.193	73.50 (9.37)	75.86 (6.40)	-1.449	.147	.150	96,000	.007	.170
Social acceptance/ rejection	19.00 (3.58)	19.93 (2.46)	-1.731	.084	.107	17.07 (3.47)	17.64 (2.56)	-.997	.319	.071	106,000	.016	.137
Self-efficacy	23.38 (3.19)	25.00 (2.52)	-2.706	.007	.262	22.86 (2.35)	23.36 (2.71)	-.979	.327	.068	114,500	.028	.113
Psychological maturity	16.11 (2.41)	16.39 (2.22)	-.563	.573	.011	14.79 (2.89)	15.00 (2.80)	-.419	.675	.013	142,500	.155	.049
Impulsivity-maturity	11.54 (1.90)	12.15 (1.65)	-1.601	.109	.092	10.93 (1.54)	11.43 (1.22)	-1.327	.185	.126	137,500	.119	.058

**Table 4** Within-group and between-group analyses of change in IC and WLCC at follow-up

	IC				WLCC				IC vs. WLCC					
	Post-test (n = 28)		Follow-up (n = 24)		Post-test (n = 14)		Follow-up (n = 12)		z	p	$\eta^2$	U	p	$\eta^2$
	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)						
Total violence	.50 (1.69)	.63 (1.84)	-.914	.361	.035	2.17 (3.46)	3.67 (4.42)	-.914	.361	.070	68.500	.010	.178	
Physical violence	.17 (.82)	.21 (.83)	-.447	.655	.008	.92 (2.23)	1.42 (2.84)	-.447	.655	.017	118.000	.398	.021	
Psychol. violence	.33 (.96)	.42 (1.35)	-1.338	.181	.075	1.25 (1.66)	2.25 (2.22)	-1.338	.181	.149	65.500	.007	.193	
Self-esteem	34.50 (4.03)	36.38 (3.81)	-.772	.440	.025	31.42 (4.29)	32.17 (4.37)	-.772	.440	.050	68.500	.011	.178	
Self-concept	82.88 (6.65)	82.79 (8.73)	-1.071	.284	.048	76.42 (6.19)	73.42 (9.12)	-1.071	.284	.096	65.000	.007	.195	
Social acceptance/ rejection	20.00 (2.57)	19.83 (3.20)	-.647	.518	.017	18.25 (2.22)	17.75 (2.83)	-.647	.518	.035	93.000	.090	.081	
Self-efficacy	25.21 (2.55)	25.00 (2.50)	-1.338	.181	.075	23.50 (2.71)	22.42 (3.06)	-1.338	.181	.149	69.000	.011	.176	
Psychological maturity	16.88 (1.92)	17.00 (2.52)	-.763	.445	.024	14.92 (2.84)	14.33 (3.28)	-.763	.445	.049	73.500	.016	.155	
Impulsivity-maturity	12.25 (1.75)	12.13 (1.65)	-1.084	.279	.049	11.33 (1.23)	10.67 (1.37)	-1.084	.279	.098	66.000	.008	.190	

## Clinical change in proximal outcomes after intervention completion and follow-up

Data relating to clinical change at post-treatment and follow-up are displayed in Table 5. Post-test results revealed significant differences between groups in the distribution by clinical change categories for self-esteem. The number of individuals falling into the global improvement category was higher for the IC. In contrast, the number of subjects in the global deterioration category was higher for the WLCC. Similar results were found for self-concept and two subscales, i.e., self-efficacy and psychological maturity. Thus, there was a significantly higher number of subjects from IC in the global improvement category and a higher number of individuals from WLCC in the global deterioration category.

Follow-up results also revealed significant differences between conditions in the distribution by clinical change categories for self-esteem. A higher number of IC participants fall into the global improvement category, while a higher number of WLCC participants fall into the deterioration category. Regarding self-concept, we only found significant differences between the groups in two subscales, i.e., self-efficacy and psychological maturity, with a higher number of IC participants falling in the global improvement category and a higher number of WLCC participants falling in the global deterioration category. No differences between the groups were found for total self-concept and the other subscales.

## Discussion

The present study analyzes the effects of an intervention on self-reported abusive behaviors, self-esteem, and self-concept of perpetrators of IPV attending a multimodal intervention program that incorporates MIT, cognitive-behavioral, and psychoeducational techniques. This study aims to fill some gaps in the IPV perpetrators' intervention research and practices, namely: the importance of considering multimodal programs, which promote positive changes in behavior among IPV perpetrators (Bates & Graham-Kevan, 2020; Cunha et al., 2023; Friedman et al., 2022; Murphy & Richards, 2022); the inclusion of self-concept and self-esteem in psychological treatments of IPV perpetrators (Tutty & Babins-Wagner, 2019; Vecina, 2017); the reductionist view of recidivism as the main outcome in assessing PIPs (Velonis et al., 2016); and also the analysis of clinical change (clinical significance) as an important contribution in studies of perpetrators (Hollin et al., 2013).

Regarding the conclusion rate, although a considerable number of IC participants completed the intervention, consistent with previous studies (e.g., Cunha & Gonçalves, 2015), the dropout rate is still high; almost 27% of IPV perpetrators abandon the intervention. This result, however, follows previous research that consistently found high dropout rates among IPV perpetrators (e.g., Cunha et al., 2022; Mach et al., 2020). A possible explanation for the considerable dropout rate is that PPRIAC is free-of-charge (Cunha et al., 2022), and the literature mentions that when individuals pay for treatment, dropout rates tend to be lower (Timko et al.,

**Table 5** Reliable Change Index (RCI) for self-esteem and self-concept at pos-test and follow-up

		IC		WLCC		$\chi^2$	<i>p</i>	Cramer's <i>V</i>
		<i>n</i>	%	<i>n</i>	%			
Post-test								
Self-esteem	GI	19	67.9	4	28.6	13.375	.001	.564
	NC	8	28.6	3	21.4			
	GD	1	3.6	7	50.0			
Self-concept	GI	15	53.6	2	14.3	8.859	.012	.459
	NC	12	42.9	8	57.1			
	GD	1	3.6	4	28.6			
Social acceptance/rejection	GI	14	50.0	2	14.3	5.582	.061	.365
	NC	12	42.9	9	64.3			
	GD	2	7.1	3	21.4			
Self-efficacy	GI	15	53.6	0	0.0	15.188	<.001	.601
	NC	13	46.4	11	78.6			
	GD	0	0.0	3	21.4			
Psychological maturity	GI	12	42.9	1	7.1	8.371	.015	.446
	NC	13	46.4	7	50.0			
	GD	3	33.3	6	42.9			
Impulsivity-maturity	GI	15	53.6	3	21.4	4.607	.100	.331
	NC	12	42.9	9	64.3			
	GD	1	3.6	2	14.3			
Follow-up								
Self-esteem	GI	14	58.3	1	8.3	9.675	.008	.518
	NC	7	29.2	5	41.7			
	GD	3	12.5	6	50.0			
Self-concept	GI	7	29.2	0	0.0	5.308	.070	.384
	NC	16	66.7	10	83.3			
	GD	1	4.2	2	16.7			
Social acceptance/rejection	GI	8	33.3	0	0.0	5.250	.072	.382
	NC	14	58.3	10	83.3			
	GD	2	8.3	2	16.7			
Self-efficacy	GI	13	54.2	1	8.3	8.103	.017	.474
	NC	9	37.5	7	58.3			
	GD	2	8.3	4	33.3			
Psychological maturity	GI	12	50.0	1	8.3	7.317	.026	.451
	NC	10	41.7	7	58.3			
	GD	2	8.3	4	33.3			
Impulsivity-maturity	GI	8	33.3	1	8.3	5.147	.076	.378
	NC	15	62.5	8	66.7			
	GD	1	4.2	3	25.0			

Note: *GI*, global improvement; *NC*, no change; *GD*, global deterioration

2015). Nonetheless, it is important to stress that dropout occurred mainly at the beginning of the intervention when the therapeutic relationship and group cohesion were not completely developed (e.g., Hendricks et al., 2006). The therapeutic alliance is important in patients' motivation (Ilgen et al., 2006) and in predicting positive clinical outcomes (Ardito & Rabellino, 2011). Thus, participants' lack of motivation and/or engagement in the process of change may lead them to abandon the intervention. Although PPRIAC includes MIT, perhaps some individuals need more sessions to promote their motivation to change and engagement with the intervention process.

This study showed that reoffense rates, assessed through perpetrators' self-reports, for IC were 10.7% at post-treatment and 12.5% at follow-up, meaning that a considerable percentage of IPV perpetrators who attend intervention programs end or substantially reduce their abusive behavior (e.g., Cunha & Gonçalves, 2015; Cunha et al., 2023). Besides, when comparing IC and WLCC, although WLCC reported a significant decrease in the perpetration of IPV, IC showed stronger effect sizes and reported considerably lower reoffense rates, both at post-test and 6-month follow-up, following previous literature (e.g., Cunha & Gonçalves, 2015; Cunha et al., 2023; Lila et al., 2018; Satyen et al., 2022). These results are even more interesting since, at post-test and follow-up, a considerable higher number of participants were in an intimate relationship (70.8% vs. 29.2%).

Post-treatment scores showed that IC participants significantly increased self-esteem and self-concept, including the self-efficacy subscale. These results were maintained at a 6-month follow-up. Significant differences were found between the groups, with IC participants revealing higher scores both on self-esteem and self-concept. Thus, the multimodal intervention program seems promising in improving IPV perpetrators' self-esteem and self-concept. These results are of particular interest for different reasons. First, low self-esteem has been linked to increased IPV perpetration (e.g., Echeburúa et al., 2009; Lila et al., 2012; Loinaz et al., 2012; Muslu et al., 2020; Papadakaki et al., 2009) and self-esteem enhancement has been associated with reductions in violent behavior (Morrel et al., 2003; Murphy et al., 2005). Second, IPV perpetrators tend to have unrealistically high expectations of themselves, and IPV perpetration seems to be associated with absolute moral beliefs and self-deception (Vecina et al., 2016). Thus, improvements in self-esteem and self-concept might affect IPV perpetration. Some explanations for this link could be advanced. First, enhancing self-esteem and self-concept might make the individual less sensitive to perceived conflict as threatening self-esteem, limiting the intensity of negative emotions when self-esteem attacks are perceived (Murphy et al., 2005). A reverse effect of violence on self-esteem is also possible (Murphy et al., 2005). As the individual increases his capacity for self-regulation and ability to cope adaptively and healthily with conflicts and problems, his self-esteem and self-concept directly enhance (Murphy et al., 2005). Since violent behavior may produce negative self-evaluations, IPV perpetrators might feel better about themselves when they successfully regulate the impulse to abuse. However, further studies are needed to better understand the mechanisms underlying the relationship between self-esteem, self-concept, and IPV.



Results also pointed to significant clinical changes in IC, with a higher number of individuals falling in the global improvement category at post-test and follow-up. In contrast, a similar number of individuals from WLCC fell into the global deterioration or no change categories. This pattern was observed for self-esteem and self-concept at the post-test and for self-esteem, self-efficacy, and psychological maturity (i.e., self-concept factors) at the post-test and follow-up. Concerning self-concept at follow-up and social acceptance/rejection and impulsivity-maturity, at post-test and follow-up, the effect size was not strong enough to distinguish both groups in terms of clinical change, but the same distribution tendency was observed. The considerable number of individuals from WLCC falling into the deterioration category led us to question the ability of the traditional justice system to rehabilitate or bolster psychological and emotional processes related to IPV perpetration. Thus, the outcomes found in individuals who completed PPRIAC may suggest that such a program can be useful in buffering this tendency to get worse over time. However, it is also important to stress that the absence of change and deterioration observed in WLCC might be an artifact of the design used. Literature mentions that waiting list designs may overestimate interventions' effects because participants assigned to WLCC appear to improve less (or not at all) than would be expected (Cunningham et al., 2013).

Although PPRIAC does not comprise a module on self-esteem and self-concept, the increase in self-esteem and self-concept observed in IC participants may be attributed to the fact that PPRIAC promotes emotional (e.g., self-control), communication (e.g., communicational styles), and social skills (e.g., decision-making, problem-solving), which, in turn, may impact individual's self-esteem and self-concept. Literature has revealed that social skills training significantly increases self-esteem, personal adequacy, and adjustment and reduces inappropriate behaviors (e.g., Chien et al., 2003; Seema & Kumar, 2018).

## Limitations and future implications

Although the present study presents important contributions, some limitations should be mentioned. First, the present study uses a waiting list design. Although WLCC has ethical advantages because it allows for the provision of care to participants who are seeking help, this type of design may overestimate the intervention effects (Cunningham et al., 2013). Thus, our results should be interpreted with caution, considering the design used. A second limitation is the lack of randomization in allocating participants to each condition. Further studies should privilege randomized control trial designs to better evaluate the effectiveness of the intervention. Third, our sample is small, which may have influenced the statistical power of the results, and the results obtained, which should be interpreted cautiously. Thus, a larger sample is recommended for future studies. Fourth, this study was based on the perpetrators' self-report to assess the different variables which may have affected the results. Since social desirability is frequent in perpetrators' reports (Dutton & Hemphill, 1992), future studies should include victims' reports, official data, social desirability measures, or lie scales. In addition, as the follow-up period was small, a longer follow-up should be considered to assess the

long-term effect of the intervention program. Finally, the need for more data on officially reported recidivism also makes it impossible to carry out a more contextualized analysis of the results of this variable.

The development, implementation, and effectiveness assessment of strategies to reduce IPV are crucial, and interventions targeting the perpetrator are among the most popular. The present study revealed that individuals who attended a multimodal intervention showed significant reductions in the self-reporting of violence against the intimate partner and significant improvements in self-esteem and self-concept, both at post-test and follow-up. Comparing IC and WLCC participants, the results showed significantly more positive changes in perpetrators who attended intervention than in perpetrators from WLCC.

In short, results from this study seem to support that PIPs focused on dimensions identified as mechanisms underlying IPV perpetration and recidivism, such as self-esteem and self-concept, may produce better outcomes (Cunha & Gonçalves, 2015). Besides, multilevel (i.e., including both individual and group modalities) and multimodal (i.e., MIT, cognitive-behavioral, and psychoeducational techniques) PIPs appear to be effective at reducing self-reported abusive behavior and increasing self-esteem and self-concept.

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**Data availability** Not available.

**Code availability** Not applicable.

## Declarations

**Ethics approval** The present research was approved by the University of Minho Ethics Commission. All procedures were in accordance with the ethical standards of the institutional ethics commission and with the 1964 Helsinki declarations and its later amendments. The trial is registered at ClinicalTrials.gov with the reference NCT05484440.

**Consent to participate** All participants were informed about the content and aims of the study and were informed about their anonymity and voluntary participation. All participants signed an informed consent.

**Competing interests** The authors declare no competing interests.

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