

**RELATIONSHIP BETWEEN THE PERPETRATOR-VICTIM DIFFERENCE IN  
EDUCATIONAL LEVEL AND TYPE OF VIOLENCE EXERTED**

*Abstract*

The objective of this study is to examine the relationship between the victim-perpetrator educational gap and the type of violence exerted within a sample of perpetrators, as well as to explore whether this relationship is mediated by distorted thoughts about women, attitudes toward the use of violence, and empathy. A total of 466 men convicted of an intimate partner violence-related crime were divided into two groups: Group EL<V (perpetrators with a lower educational level than the victim) and Group EL>V (perpetrators with a higher educational level than the victim). Mediation analyses were conducted using distorted thoughts about women, attitudes toward violence, and empathy as mediators. Perpetrators with a lower educational level than their partner exerted greater physical, psychological, and sexual violence compared to those with a higher educational level, but only when mediated by distorted thoughts about women and empathy. These findings have significant implications for both intervention programs and prevention strategies.

*Keywords:* intimate partner violence, perpetrator, educational level difference, empathy, distorted thoughts towards women, distorted thoughts towards violence.

# RELATIONSHIP BETWEEN THE PERPETRATOR-VICTIM DIFFERENCE IN EDUCATIONAL LEVEL AND TYPE OF VIOLENCE EXERTED

## *Background*

Intimate partner violence against women (IPVAW) is a high-scale human right and public health issue with significant consequences on the physical and psychological well-being of its survivors and it is a phenomenon which greatly affects women across all countries (Martín-Fernández et al., 2019). In Spain, during the year 2023, 38.582 women were victims of IPVAW (European Statistical System, 2022). The rate of female victims increased by 12% in 2023, reaching 1.7 per 1.000 women (National Institute of Statistics, 2024). In addition, 37.161 were convicted of an IPVAW offense in the last year. The adoption of the Organic Law 1/2004 of December 28 on Integral Protective Measures Against Intimate Partner Violence was a response to international recommendations for effectively combating and preventing IPVAW. According to this law, IPVAW is defined as “the violence which, as a manifestation of discrimination, inequality, and power relations of men over women, is exerted on them by those who are or have been their partners or who are or have been linked to them by similar affectivity relationships, even without cohabitation”.

In this sense, there is a growing volume of literature focused on understanding the mechanisms of the violence exerted by men on women, including social and personal factors (Bosh-Fiol & Ferrer-Perez, 2019). Among the social factors studied are distorted thoughts about women and the use of violence by IPVAW perpetrators (Guerrero-Molina et al., 2021). On the other hand, regarding personal factors, substance abuse (see Clare et al., 2021), factors such as age, socioeconomic status (Reichel, 2017), the presence of childhood family violence experiences (Teva et al., 2021) and the presence of psychopathological disorders (e.g., borderline and antisocial personality disorder, depression, narcissism or anxiety), or conflict resolution skills, coping skills, communication skills (Spencer et al., 2019) have been studied. However, despite being a relevant personal factor for IPVAW perpetration, educational level has been little studied. Specifically, the educational gap between the IPVAW perpetrator and the victim is a variable that has scarcely been examined in previous studies (see Eggers Del Campo & Steinert, 2022; Franklin & Menaker, 2014). Studying the aforementioned factor would

allow for a more detailed understanding of variables that could be related to IPVAW perpetration and, consequently, guide the design of intervention and prevention strategies.

Therefore, to understand the complexity of IPVAW perpetration, it is necessary to consider a range of factors, including social, personal, and contextual. With this objective, the Pyramid Model (Bosh-Fiol & Ferrer-Perez, 2019) establishes how to connect together the various factors behind the IPVAW perpetration. The model includes five stages (the patriarchal substrate, differential socialization, expectations of control, triggers, and outbreak of violence) and a filtering process.

According to this model, the difference in educational level victim-perpetrators could be considered as a variable that strengthens the perpetrators' expectations of control over the victim and if there are changes in the educational level (e.g., the victim attains a higher academic degree), we hypothesize that it could also be a triggering variable (Bosh-Fiol & Ferrer-Perez, 2019). However, there are only a few studies examining the perpetrator-victim difference in educational level. Thus, if the IPVAW perpetrator has more educational level than the victim, he might feel more "moral" superiority but, conversely, a lower educational level of the IPVAW perpetrator compared to the victim might imply a feeling of inferiority and less power over the victim. Power relations have also been related to the IPVAW perpetrators' distorted thoughts (Senkans et al., 2020) and to the type of violence committed (Minto et al., 2022).

Therefore, the aim of the study is to study whether the difference in educational level is related to the type of violence and whether this relationship is related to other variables such as distorted thoughts or empathy of the perpetrators. Consequently, examining the educational level differences between perpetrators and victims could enhance our understanding of the factors associated with IPVAW perpetration. Most existing studies have linked educational disparities between victims and perpetrators to the risk of women's victimization (e.g., O'Brien, 1971). However, there is a lack of research on whether the educational gap between perpetrator and victim is related to the type of violence exerted (physical, psychological, and/or sexual violence) and whether there are mediating variables in this relationship.

### ***Sociodemographic Variables and Intimate Partner Violence***

In terms of sociodemographic variables, the educational level of male IPVAV perpetrators and female victims, and its relation to IPVAV perpetration has been the research focus of various studies (Memiah et al., 2021). In regards to the educational level of the IPVAV perpetrator, the literature so far suggests that it can be considered a risk factor, with a lower educational level related to a higher probability of committing IPVAV crime (Puente-Martínez et al., 2016; Sutton & Dawson, 2021). Regarding the studies of the educational level of women, there are studies that show that women with a higher educational level could present a lower risk of suffering IPVAV (Stöckl et al., 2021) because they may possess a greater capacity for social negotiation (Conroy, 2014), helping them to get out of potential violent relationships, therefore reducing their vulnerability to physical, sexual and emotional violence (Kreager et al., 2013). However, there are studies that suggest that women with a higher level of education would be more likely to suffer violence from their partner (Tiruye et al., 2020), since a high level of education does not necessarily equate to an ability to counteract traditional gender roles of male superiority. Men may not accept feeling dominated by their partner and may try to preserve their superior status through violence (Heise & Kotsadam, 2015). However, there is limited research focusing on the educational level differences between perpetrators and victims. Previous studies have shown that inconsistencies in power dynamics, such as income, education and employment, especially when the female partner has greater resources, may threaten social norms and increase the risk for stress and dissonance among male (Yick, 2001). Furthermore, certain studies suggest that when men have fewer socioeconomic resources or a lower educational, social or economic status than their partner, the risk of violence against their female partners or ex-partners increases as a means of gaining power and exercising control (Aizpurua et al., 2021; Gage & Thomas, 2017). However, most studies have focused on income level discrepancies, with fewer studies analyzing the effect of educational discrepancies (see Eggers Del Campo & Steinert, 2022; Franklin & Menaker, 2014). In this sense, women with relatively lower educational levels were more likely to be victimized (Claes & Rosenthal, 1990). However other studies have found no significant association between educational discrepancies and IPVAV

perpetration (see Aizpurua et al., 2021; Franklin & Menaker, 2014; Rodríguez-Menés & Safranoff, 2012).

Despite the growing interest in exploring this factor, as far as we know, no studies have been carried out comparing the difference in educational level between the victim and the IPVAV perpetrator and the type of violence (physical, psychological or sexual), nor whether this relationship is mediated by other variables.

### ***Mediating Variables of IPVAV***

In respect to the potential mechanisms mediating the exertion of IPVAV from the perspective of the IPVAV perpetrators, various variables have been proposed as mediators, such as distorted thoughts towards women, distorted thoughts towards the use of violence, and empathy (see Chereji et al., 2012; Godfrey et al., 2020; Huang et al., 2023).

Empathy appears to be one of the most well-studied mediating variables in relation to IPVAV perpetration (Godfrey et al., 2020; Loinaz et al., 2018); various studies have demonstrated that the empathy is negatively associated with aggressive behavior (Moya-Albiol, 2018) and that, therefore, empathy may act as an inhibitor of violence (Preckel et al., 2018). Thus, it has been observed that empathy may play an important mediating role that is negatively associated with the perpetration of physical IPVAV (Godfrey et al., 2020). In the field of IPVAV, studies have shown that perpetrators present deficits in emotional and cognitive factors that contribute to empathy (Marín-Morales et al., 2022), being more pronounced when it comes to their partners or ex-partners (Loinaz et al., 2018). It should also be noted that this close relationship between empathy and violence is supported by recent neuroimaging studies that have revealed that the neural circuits involved in both constructs are partially similar (Moya-Albiol, 2018). That being so, empathy becomes a very critical component to explore within the field of IPVAV (Day et al., 2012). More specifically, studies have shown that lower levels of empathy are associated with higher levels of physical and sexual IPVAV (Godfrey et al., 2020; Ulloa & Hammet, 2016).

Although there are few studies on the topic, some research has found that individuals with higher educational levels tend to have higher scores on cognitive empathy compared to those with lower

educational levels (Gutiérrez-Cobo et al., 2023). Other studies have shown that factors such as age, educational level can influence changes in affective empathy (Yaghoubi Jami et al., 2021). However, as far as is known, no studies have directly examined the relationship between education level of IPVAW perpetrators and their empathic capacity. This gap in research suggests that empathy might play a mediation role between the education gap and IPVAW perpetration.

Another mediating variable of IPVAW is the presence of distorted thoughts towards women (DTW) and towards the use of violence (DTV) by the IPVAW perpetrator. In the area of criminology, these distorted thoughts can be considered behavior-maintaining cognitions whose objective is to alleviate the individual of the responsibility and consequences of socially reprehensible behavior (Loinaz, 2014). The norms, attitudes and beliefs that contribute towards violence against women have important implications for the phenomenon (Guerrero-Molina et al., 2021). In fact, research has found a relationship between IPVAW and the presence of sexism, patriarchal attitudes and perceived appropriacy of violence as a way to resolve conflicts (Puente-Martínez et al., 2016), with the three being common characteristics among IPVAW perpetrators (Bosch & Ferrer, 2013; Guerrero-Molina et al., 2021). In addition, IPVAW perpetrators seem especially prone to minimizing the existence or impact of intimate partner violence, attributing the blame to external factors such as stress, alcohol or characteristics of the victim, among others (Loinaz, 2014). These attitudes may serve as a way to justify and tolerate violence against women, often blaming the victim and in that way contributing to the perpetuation of gender-based violence (Gracia & Tomás, 2014). Moreover, studies have demonstrated positive associations between the influence of patriarchy, traditional gender beliefs, and status inconsistencies and IPVAW perpetration (e.g., Anderson, 1997; Atkinson et al., 2005; Yodanis, 2004). For instance, research found that men who earned less than their wives and endorsed traditional gender role ideologies, increased the likelihood of IPVAW perpetration compared to those with equal earnings (Atkison et al., 2005). However, there are no studies on how distorted thought toward women and the use of violence relate to the victim-perpetrator educational gap and the type of violence exerted. These studies suggest a mediational role of the distorted thoughts between the educational gap and IPVAW perpetration.

### *The Present Study*

Despite all the aforementioned research, as far as we know, there are no studies specifically focused on associating the educational difference between the victim and the IPVAW perpetrator, with the type of violence carried out. There is also no study on whether that relationship is mediated by variables previously studied within the field, such as DTW, DTV and empathy. Studying this relationship could provide useful information for the design of effective intervention programs aimed at IPVAW perpetrators, in addition to constituting important aspects in the prevention of intimate partner violence (Puente-Martínez et al., 2016). Moreover, the study of these variables could reveal variables that could be related to IPVAW perpetrators' expectations of control as well as triggering variables according to the Pyramid Model (Bosh-Fiol & Ferrer-Perez, 2019).

Previous research on IPVAW perpetrators has predominantly utilized cross-sectional studies, (e.g., Grest et al., 2018; Kaufman-Parks et al., 2018; Yu et al., 2019). Furthermore, most of the studies there are studies that use general population samples (see Bhalotra et al., 2021), however, our sample consists of men who have been convicted of IPVAW offenses. Additionally, it is noteworthy that prior studies have employed smaller convicted samples of IPVAW offenses (e.g., Arias et al., 2020), compared to the present study (n=466). Lastly, an important aspect of the present study is its use of mediation analysis, which has demonstrated advantages in psychological and behavioral research by enhancing understanding of complex relationships among variables where multiple factors often interact in intricate ways. Additionally, mediation analysis helps to elucidate the underlying processes or mechanisms through which an independent variable influences a dependent variable. This can provide a deeper understanding of how and why certain effects occur (Fairchild & MacKinnon, 2014; Koschate-Fischer & Schwille, 2021).

Therefore, the aims of the present study are a) to explore whether an educational level difference between the victim and the IPVAW perpetrator may be related to the type of violence practiced; b) to establish whether this relationship may be mediated by variables traditionally linked to

intimate partner violence, such as empathy, DTW and DTV among men convicted of a crime of intimate partner violence. Taking all the above into account, we established the following hypotheses:

Hypothesis 1: Male IPVAW perpetrators who have a lower educational level than their partners will exercise greater physical violence than those who have a higher educational level than their partner or ex-partner (Claes & Rosenthal, 1990; O'Brien, 1971; Yick, 2001).

Hypothesis 2: Male IPVAW perpetrators who have a lower educational level than their partners will exercise greater psychological violence than those who have a higher educational level than their partner or ex-partner (Claes & Rosenthal, 1990; O'Brien, 1971; Yick, 2001).

Hypothesis 3: Male IPVAW perpetrators who have a lower educational level than their partners will exercise greater sexual violence than those who have a higher educational level than their partner or ex-partner (Claes & Rosenthal, 1990; O'Brien, 1971; Yick, 2001)

Hypothesis 4: The relationship between educational level discrepancies between perpetrator-victim and type of violence will be mediated by the levels of DTW of the IPVAW perpetrator (Anderson, 1997; Atkinson et al., 2005; Yodanis, 2004).

Hypothesis 5: The relationship between educational level discrepancies between perpetrator-victim and type of violence will be mediated by the levels of DTV of the IPVAW perpetrator (Anderson, 1997; Atkinson et al., 2005; Yodanis, 2004).

Hypothesis 6: The relationship between educational level discrepancies between perpetrator-victim and type of violence will be mediated by the levels of empathy of the IPVAW perpetrator (Godfrey et al., 2020).

## ***Methods***

### ***Research design***

The present study is a quasi-experimental, retrospective, and cross-sectional study.

## ***Participants***

The study included 466 male volunteers convicted for an intimate partner violence-related crime, according to the Organic Law 1/2004 (December 28) on Comprehensive Protection Measures against intimate partner violence. The sample was divided into two groups: the first group included 294 IPVAW perpetrators who had a lower educational level than their partner / ex-partner and victim of violence ( $EL < V$ ). The second group consisted of 172 IPVAW perpetrators who had a higher educational level than their partner / ex-partner and victim of violence ( $EL > V$ ). The men of the sample were serving a third degree custodial sentence or were judicially sentenced to attend the Intervention Program for Offenders of intimate partner violence (PRIA-MA) as an alternative penalty to deprivation of liberty in Penitentiary Centres of Andalusia (Spain). The inclusion criteria of the participants were: being a man, being over 18 years old and having been convicted for a crime of intimate partner violence against their partner or ex-partner. Regarding the exclusion criteria, the following were applied: being illiterate / facing serious difficulties in performing the tests. The exclusion criteria were verified through the sociodemographic interview, the clinical variables and history of violence. The main sociodemographic and violence characteristics of the sample can be seen in Table 1.

## ***Measures***

***Sociodemographic and violence variables.*** Risk assessment questionnaire for serious violence in a partner relationship (Echeburúa et al., 2010) was utilized; it is a self-reported interview that contains different questions about the socio demographic data of the IPVAW perpetrator and the victim, the types of violence exerted (physical, psychological, sexual), the IPVAW perpetrator's profile, characteristics of the couple's relationship, vulnerability factors of the victim and the duration of the sentence. The Cronbach's alpha obtained from the total sample of participants (serious and non-serious offenders) was .71.

***Variables related to the violence exerted.*** The Spanish adaptation of the Conflict Tactics Scale (CTS-2; Loinaz, 2012) was used. It is an instrument that measures the frequency and intensity of violence within a relationship and consists of 78 items (39 for each member of the couple) and five subscales (physical aggression, sexual coercion, psychological aggression, damages and negotiation).

From this instrument, we selected the subscales of total psychological aggression, total physical aggression and total sexual coercion, which were obtained from the sum of the subscales of psychological and physical aggression and “minor” and “severe” sexual coercion. It has a Cronbach's alpha that ranges between 0.34 and 0.94.

***Empathy.*** Interpersonal Reactivity Index (IRI; Davis, 1980; Spanish Version Pérez-Albéniz et al., 2003). This scale is composed of four subscales: Perspective Taking (PT), Fantasy (F), Empathic Concern and Personal Distress (PD). Regarding reliability, the alpha values ranged from 0.56 for the PT to 0.70 for the F.

***Distorted thoughts towards women and towards the use of violence.*** The Inventory of Distorted Thoughts on Women and Violence (IDTWV; Echeburúa & Fernández-Montalvo, 1997). This instrument presents 29 dichotomous items (yes/no) that allow the identification of irrational beliefs in the IPVAW perpetrator, which are then related to perceived gender roles and the inferiority of women compared to men (13 items), as well as related to the use of violence as an acceptable form of conflict resolution (16 items).

### ***Procedure***

This study is part of a larger project of the Andalusian Government's Ministry of Economy, Innovation and Science (Project: P2012-SEJ1723). The evaluations were carried out between 2015 and 2018. After the study was approved by the Research Ethics Committee of the University of Granada (Spain), the different prisons and Social Reintegration Centres (CIS) of Andalusian (Spain), were contacted to obtain permission and initiate the research. The standard process was as follows; the staff of the Penitentiary Institution gathered the men who had been convicted of an intimate partner violence crime in a room of the penitentiary center and the group of psychologists who later carried out the evaluations explained in detail the investigation and the voluntariness of the same. Prior to the beginning of the evaluation, the participants were given an information sheet about the objectives of the study, the voluntary nature of participation and the informed consent. The latter included information on data confidentiality following the Spanish data protection law (Organic Law 3/2018, of December 5). Those who agreed to participate stayed in the room and the evaluation began. The study was carried out in a

single session lasting approximately 4 hours, with a break in between. After completing the evaluation, each participant received an economic compensation of 20 euros, without obtaining any penal benefit in terms of their criminal sentence.

### ***Statistical Analysis***

First, the IPVAW perpetrators were classified into two groups: those with a lower educational level than the victim ( $EL < V$ ) and those with a higher educational level ( $EL > V$ ). Educational level was separated into 6 categories: “no studies”, “primary education”, “primary education graduate”, “secondary school”, “high school/ medium vocational training”, “higher vocational training” and “university studies”. Next, a new variable was obtained by subtracting the education of the victim from the education of the IPVAW perpetrator. In this new variable, negative values indicated that the IPVAW perpetrators had lower education than the victim and positive values indicated that the IPVAW perpetrator had higher education than the victim, and 0 indicated that both had the same education. All the IPVAW perpetrators who showed scores equal to or less than -1 (at least 1 difference category) within the new variable were classified into the  $EL < V$  group and the IPVAW perpetrators who showed scores equal to or greater than 1 (at least 1 category difference) into the  $EL > V$  group.

Student's t tests or contingency tables (depending on the type of variable) were carried out in order to verify that there were no significant differences in the main sociodemographic variables between the two groups. To check if there were differences in the main variables related to the type of violence exerted, Student's t-analysis was performed using the group variable ( $EL < V$  vs  $EL > V$ ) as the independent variable and the type of violence (total physical aggression, total psychological aggression and total sexual coercion) as the dependent variables.

Finally, mediational analyses were carried out to study the role of the mediating variables; DTW, DTV and empathy (Chereji et al., 2012; Godfrey et al., 2020; Huang et al., 2023). For this, the Haye's Process Macro Interface version 4.0 (of the statistical program SPSS version 25.0 (SPSS; Chicago, IL, USA) was used using the group variable ( $EL < V$  vs  $EL > V$ ) as an independent variable, the variables of the type of violence (physical aggression, psychological aggression and sexual coercion) as dependent variables, and DTW, DTV and empathy as mediating variables. We used Model 4 when

studying the mediating role of a single variable with a 95% confidence interval and 10,000 bootstrap samples and Model 6 when analyzing the mediating role of two variables operating in chain. Model 4 is the standard model for simple mediation analysis. In this model, there is an independent variable (X), a mediator variable (M), and a dependent variable (Y). The model examines whether the effect of the independent variable on the dependent variable is transmitted through the mediator variable. Model 6 is a multiple serial mediation model. In this model, there are multiple mediator variables, and these mediators are in a specific sequence. Thus, with two mediators, the model examines whether the effect of the independent variable (X) on the dependent variable (Y) is transmitted in series through two mediators (M1 and M2). This means X affects M1, which in turn affects M2, and finally M2 affects Y (Hayes & Preacher, 2014).

## **Results**

### ***Educational Difference and Sociodemographic / Violence Variables***

The analysis of sociodemographic and violence variables showed that there were no significant differences between the EL<V and EL>V groups in any of the sociodemographic and violence variables studied (age, duration of sentence, duration of relationship, report of any other violent history towards the victim or other ex-partners and conviction for another crime) (see Table 1).

**Table 1**

*Results of the Statistical Analysis of the Sociodemographic and Violence Variables*

Variable	EL<V (average±TD)/ n(%)	EL>V (average±TD)/ n(%)	t/chi-square	p
Age (in years)	38.94±9.82	40.52±10.17	-1.65	.09
Duration of sentence (in years)	4.35±3.71	4.67±3.98	-.87	.38
Duration of the relationship with ex-partner (in years)	4.23±9.76	4±7.43	.26	.78
Report of IPVAW to Authorities from ex-partner	Yes	225 (87.9%)	.15	.69
	No	31 (12.1%)		

Report of IPVAW to Authorities from other ex - partners	Yes	31 (12.1%)	15 (10.1%)	3.62	.54
	No	225 (87.9%)	133 (89.9%)		
Conviction for another crime	Yes	111 (43.4%)	72 (48.6%)	1.05	.30
	No	145 (56.6%)	76 (51.4%)		

*Note.* EL<V= IPVAW perpetrators with a lower educational level than the victim; EL>V =IPVAW perpetrators with a higher educational level than the victim; TD= Typical Deviation.

**Table 2**

Response frequency in the educational level variable

	IPVAW perpetrators	IPVAW victims
	n (%)	n (%)
No studies	51 (10.9%)	114 (24.5%)
Primary Education	107 (23.0%)	49 (10.5%)
Primary Education Graduate	128 (27.5%)	81 (17.4%)
Secondary School	56 (12.0%)	51 (10.9%)
High school/ Medium Vocational Training	66 (14.2%)	47 (10.0%)
Higher Vocational Training	33 (7.1%)	39 (8.4%)
University studies	25 (5.4%)	85 (18.2%)

*Note.* IPVAW perpetrators=educational level of Intimate Partner Violence perpetrators against women (IPVAW); IPVAW victims= educational level of IPVAW victims.

### ***Group Differences Between EL<V / EL>V and Type of Violence Exerted***

The results showed that there were no significant differences between the two groups in terms of the type of violence (see Table 2). An important factor to consider is that IPVAW perpetrators in both groups had very low scores on the different subscales of the CTS-2, in comparison to the reference scores for assessing IPVAW perpetrators (Loinaz et al., 2012) (see Table 3).

**Table 3***Results of the statistical analysis of the violence variables of the CTS-2 scale*

Variable	EL<V (average±TD)	EL>V (average±TD)	<i>t</i>	<i>p</i>
Total Psychological aggression	2.84±2.18	2.87±2.14	-.10	.91
Total Physical aggression	1.51±2.14	1.59±2.14	-3.57	.72
Total Sexual coercion	.36±1.05	.35±.89	.097	.92

*Note.* EL<V= IPVAV perpetrators with a lower educational level than the victim; EL>V =IPVAW perpetrators with a higher educational level than the victim; TD= Typical Deviation.

**Table 4***Response frequency in the violence variables of CTS-2*

Variable	Scores	Frequency	Percentage (%)	Accumulated percentage (%)
Total Psychological aggression	0	83	17.8	17.8
	1	69	14.8	32.6
	2	69	14.8	47.4
	3	70	15.0	62.4
	4	60	12.9	75.3
	5	55	11.8	87.1
	6	34	7.3	94.4
	7	15	3.2	97.6
Total Physical aggression	8	11	2.4	100
	0	201	43.1	43.1
	1	103	22.1	65.2

	2	72	15.5	80.7
	3	24	5.2	85.8
	4	19	4.1	89.9
	5	13	2.8	92.7
	6	7	1.5	94.2
	7	10	2.1	96.4
	8	10	2.1	98.5
	9	5	1.1	99.6
	10	1	.2	99.8
	11	1	.2	100
	0	377	80.9	80.9
	1	48	10.3	91.2
	2	26	5.6	96.8
Total Sexual coercion	3	8	1.7	98.5
	5	4	.9	99.4
	7	2	.4	99.8
	10	1	.2	100

#### ***Analysis Of the Chain Mediation Effect Of DTW And DTV***

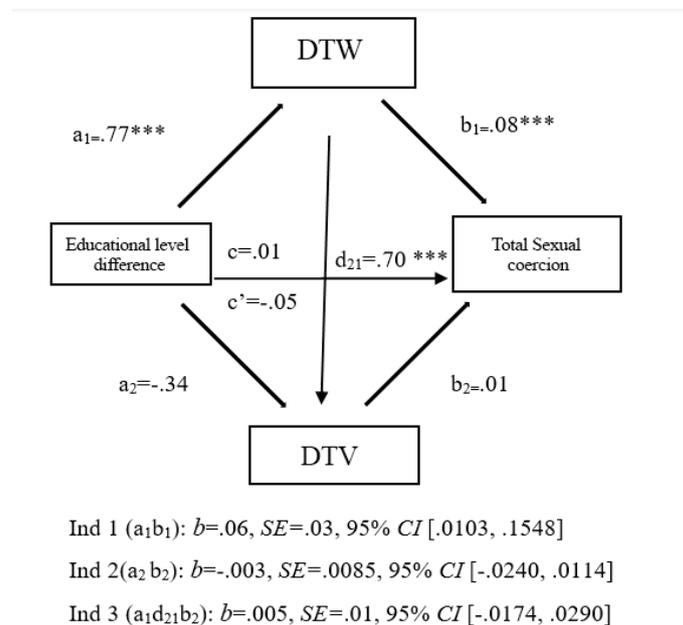
The results demonstrated that having a lower educational level than the victim explained a significant amount of the variance in DTW ( $R^2 = .0279$ ,  $F(1,464) = 13.34$ ,  $p < .001$ ), finding a significant positive relationship between having a lower educational level than the victim and the presence of DTW ( $b = .77$ ;  $SE = .21$ , 95% CI [.3590, 1.1952]), that is, the EL < V group presented more DTW. Regarding

DTV, there was no significant relationship with educational level difference ( $b = -.34$ ;  $SE = .20$ , 95% CI  $[-.7389, .0547]$ ). Therefore, this variable did not act as a mediator between the educational level difference and the type of violence exerted in any context.

On the other hand, the model that included the DTW and DTV as mediating variables explained a significant amount of the variance in sexual coercion ( $R^2 = .0438$ ,  $F(3,462) = 7.04$ ,  $p < .001$ ), finding a significant positive relationship between the DTW and the sexual coercion subscale ( $b = .8$ ;  $SE = .02$ , 95% CI  $[.0359, .1366]$ ). Thus, there was a significant indirect relationship between having a lower educational level than the victim and exercising sexual coercion, mediated by DTW ( $b = .06$ ;  $SE = .03$ , 95% CI  $[.0103, .1548]$ ). The indirect effects via DTV were not significant ( $b = -.003$ ;  $SE = .0085$ , 95% CI  $[-.0240, .0114]$ );  $b = -.005$ ;  $SE = .01$ , 95% CI  $[-.0174, .0290]$ ) (see Figure 1).

**Figure 1**

*Significant results of the chain mediational effect of distorted thoughts towards women and towards the use of violence*



*Note.*  $a_1$ = effect of X over M1;  $a_2$ = effect of X over M2;  $b_1$ = effect of M1 over Y;  $b_2$ = effect of M2 over Y;  $d_{21}$ = effect of M1 over M2;  $c$ = total effect of X over Y;  $c'$ = direct effect of X over Y; Ind 1,2,3= indirect effect of X over Y; \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

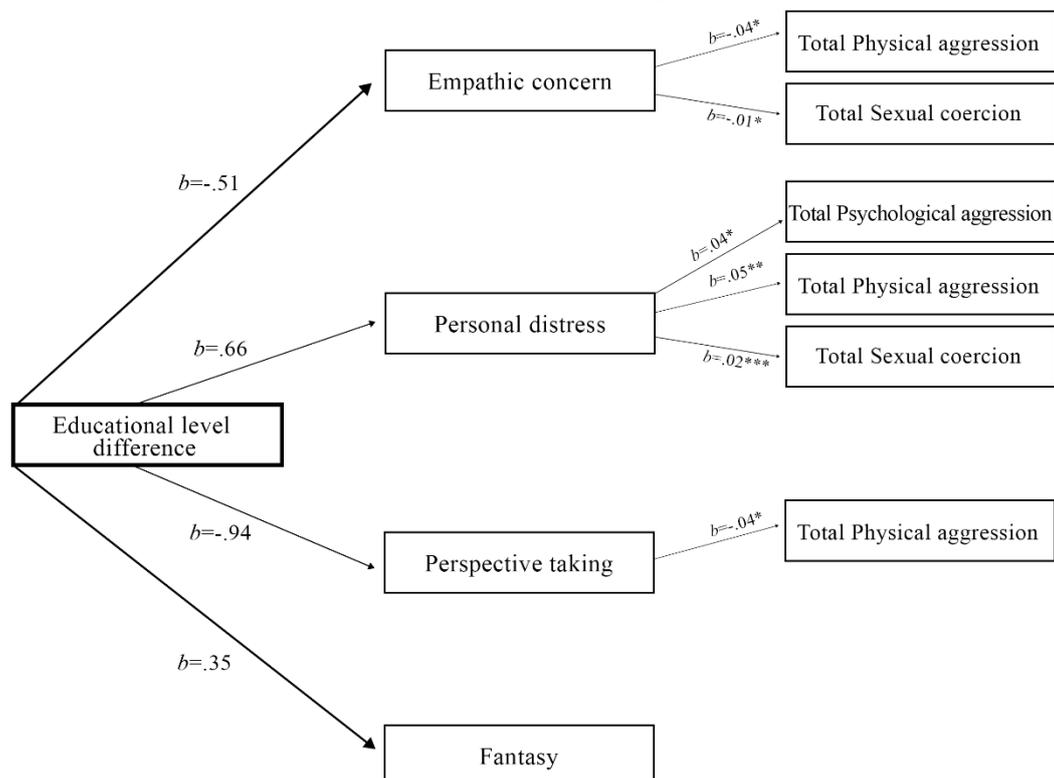
### Mediation Analysis of the Effect of Empathy

The results demonstrated that there were no significant relationships between the subscales of empathy and educational differences and for that reason, empathy did not seem to have any mediational effect in this context. However, it was demonstrated that there were significant relationships between the subscales of Empathic Concern, Personal Distress and Perspective Taking, as well as certain variables of the type of violence (See Figure 2).

Regarding the Empathic Concern subscale, we found significant negative relationships with physical aggression ( $b = -.04$ ;  $SE = .01$ , 95% CI  $[-.0765, -.0042]$ ) and sexual coercion ( $b = -.01$ ,  $SE = .008$ , 95% CI  $[-.0354, -.0018]$ ). In the case of the Personal Distress subscale, significant positive relationships were found with psychological aggression ( $b = .04$ ;  $SE = .01$ , 95% CI  $[.0073, .0759]$ ), physical aggression ( $b = .05$ ;  $SE = .01$ , 95% CI  $[.0222, .0897]$ ), and sexual coercion ( $b = .02$ ;  $SE = .008$ , 95% CI  $[.0129, .0442]$ ). Finally, we found a significant negative relationship between Perspective Taking and physical aggression ( $b = -.04$ ;  $SE = .01$ , 95% CI  $[-.0719, -.0096]$ ). No significant relationships were found between the Fantasy subscale and type of violence exerted (see Figure 2).

**Figure 2**

*Significant results of the mediation analysis of the effect of empathy*



### *Analysis of The Chain Mediation Effect of Distorted Thoughts Towards Women and Empathy*

After obtaining the previous results, we analyzed the mediational effect of DTW and the different subscales of empathy acting in a chain. The results indicated that there was a significant negative relationship between the DTW and the subscales of Empathic Concern ( $b = -.26$ ;  $SE = .11$ , 95% CI  $[-.4858, -.0447]$ ) and Perspective Taking ( $b = -.32$ ;  $SE = .12$ , 95% CI  $[-.5768, -.0664]$ ); and a significant positive relationship with the Personal Distress subscale ( $b = .51$ ;  $SE = .11$ , 95% CI  $[.2789, .7426]$ ).

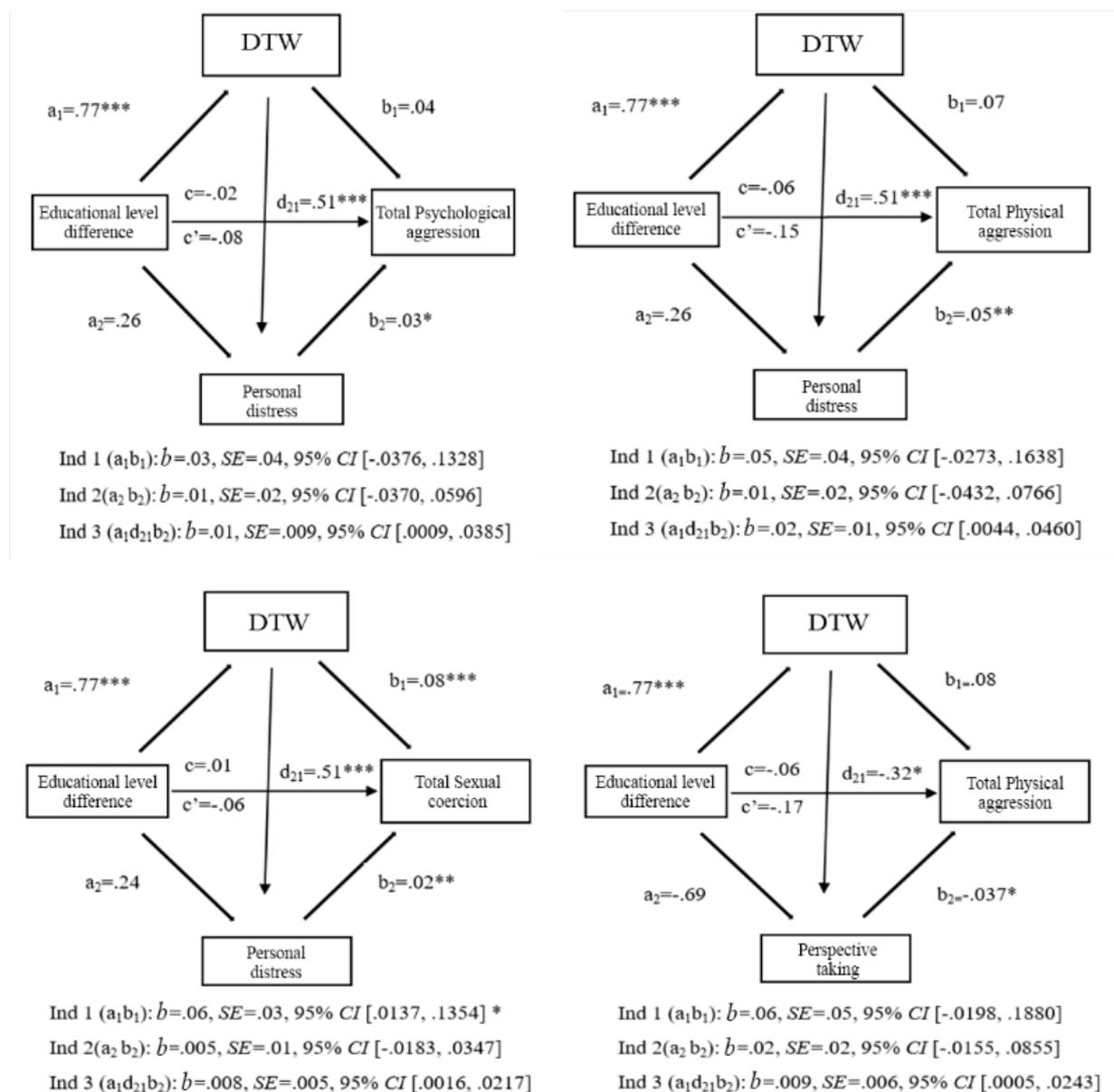
On the other hand, the chain mediation of DTW and the Personal Distress and Perspective Taking subscales mediated the indirect relationship between having a lower educational level and physical aggression. The model that included DTW and Personal Distress ( $b=.02$ ;  $SE=.$ , 95% CI  $[.0044, .0460]$ ) and the one that included DTW and Perspective Taking ( $b=-.009$ ;  $SE=.006$ , 95% CI  $[-.0198, -.0005]$ ) as mediating variables explained a significant amount of the variance for physical aggression ( $R^2 = .028$ ,  $F(3,462) = 4.43$ ,  $p < .01$ ;  $R^2 = .022$ ,  $F(3,462) = 3.46$ ,  $p < .05$ , respectively). Thus, IPVAW perpetrators in the EL < V had more DTW, worse Perspective Taking, and greater Personal Distress, which was in turn related to exerting greater physical aggression.

Together with the above, we can also observe that the chain mediation of DTW and the Personal Distress subscale also produced an indirect relationship between a higher educational level of the victim and psychological aggression. We found that the model that included DTW and Personal Distress as mediating variables explained a significant amount of the variance for psychological aggression ( $R^2 = .041$ ,  $F(3,462) = 2.27$ ,  $p < .05$ ). Thus, we can observe that the IPVAW perpetrators who had more DTW had greater Personal Distress and, in turn, exerted greater psychological violence ( $b=.01$ ;  $SE=.005$ , 95% CI  $[.0009, .0385]$ ).

Although a significant mediational effect was also observed through the chain mediation of DTW and Personal Distress for sexual coercion, the indirect relationship between having a lower educational level than the victim and the use of sexual coercion was stronger with DTW as a mediating

variable acting alone ( $b=.06$ ;  $SE=.03$ , 95% CI [.0137,.1354]). Finally, regarding the fantasy subscale, no significant relationship was found with the PDM ( $b = .13$ ;  $SE = .11$ ,  $p = .25$ , 95% CI [-.0994, .3693]), nor with the variables of violence type. Therefore, the chain mediation of this variable with the DTW did not exert any effect (see Figure 3).

**Figure 3** Significant results of the chain mediational effect of distorted thoughts towards women and empathy



Note.  $a_1$ = effect of X over M1;  $a_2$ = effect of X over M2;  $b_1$ = effect of M1 over Y;  $b_2$ = effect of M2 over Y;  $d_{21}$ = effect of M1 over M2;  $c$ = total effect of X over Y;  $c'$ = direct effect of X over Y; Ind 1,2,3= indirect effect of X over Y; \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

## *Discussion*

The objective of this study was to explore how educational level difference between the IPVAV perpetrator and the victim may be related to the type of violence exerted, as well as to explore the role of possible mediating variables; distorted thoughts towards women (DTW), towards the use of violence (DTV) and empathy of the IPVAV perpetrator. The results of this study indicated that IPVAV perpetrators who have a lower educational level than the victim exert greater violence (physical and psychological violence and sexual coercion) only when mediated by DTW and empathy operating in chain. In this way, the IPVAV perpetrators who have lower educational level than the victim have more distorted thoughts about women and lower perspective taking, empathic concern as well as higher personal distress. In addition, DTV did not act as a mediator in any model.

First, the results showed that there were no differences between the IPVAV perpetrators with a lower educational level than the victim ( $EL < V$ ) and those with a higher educational level than the victim ( $EL > V$ ) in terms of the type of violence used. This could be due to the fact that the relationship between the victim - perpetrator educational gap and the violence exerted is not direct, but may be mediated by other variables that could be key in understanding the relevant mechanisms. These results are consistent with those obtained in previous studies, where discrepancies between the educational level of the victim and the IPVAV perpetrator had no significant impact on IPVAV outcomes (Franklin & Menaker, 2014).

Secondly, the results indicated that distorted thoughts towards women had a mediational effect between the educational differences and sexual coercion, generating a significant indirect relationship between both variables. Despite the lack of previous similar studies on IPVAV perpetrators, these results are consistent with previous literature. Studies carried out with other samples show that cognitive distortions play a crucial role in sexual offenders, suggesting that they present a large number of distorted thoughts towards women (D'Urso et al., 2019). Regarding sexual coercion within romantic relationships, it has been suggested that the presence of attitudes that support manipulation, dominance and hostile attitudes towards women has been associated with the sexual coercion within the relationship (Delaney, 2021). Various researchers have hypothesized that this sexual coercion could be

motivated by the IPVAW perpetrators' attempts to dominate and exert control over their partners (Goetz & Shackelford, 2009). Feminist theories collect these ideas arguing that sexual coercion may appear when there is a loss of power for the man within the relationship, using it as a means to maintain his dominance (Clark & Lewis, 1977). Similar findings have appeared in recent studies in which the husband's desire for more power within the relationship was positively associated with sexual coercion (Cheung & Chiu, 2021). Thus, our results support the above, taking into consideration that men who have lower educational level compared to their partners could interpret this situation as a loss of power and status within the relationship, to violence as a means of regaining power within the relationship.

On the other hand, distorted thoughts towards violence did not exert a mediational effect in any context, despite the fact that previous studies have shown that IPVAW perpetrators with a lower educational level had more distorted thoughts both towards women and towards the use of violence (Guerrero-Molina et al., 2021). Our data indicate that a lower educational level than the victim was significantly related to the presence of distorted thoughts towards women, but not to the presence of distorted thoughts towards violence.

Additionally, our results show that there was no significant mediational effect of empathy between the difference in educational level and the type of violence exerted. However, there was a significant negative relationship between the subscales of Empathic Concern and Perspective Taking and the use of physical violence. These results agree with previous studies in IPVAW perpetrators that found a negative correlation between Perspective Taking and physical aggression (Gantiva et al., 2021), as well as between Empathic Concern and the use of violence (Grady & Rose, 2011). Based on the above, it appears that when IPVAW perpetrators are less able to adopt the perspective of other people and to experience feelings of compassion and concern, they resort to physical aggression to a greater extent (Murphy et al., 2014). The Personal Distress subscale was also found to show a significant positive relationship with physical and psychological aggression, as well as sexual coercion. This may suggest that IPVAW perpetrators who experienced greater feelings of distress and anxiety when witnessing the negative experiences of others, exerted greater violence (physical, psychological and sexual).

Regarding the chain mediation of distorted thoughts towards women and Personal Distress, IPVAW perpetrators in the lower educational group presented more distorted thoughts towards women and greater anxiety or distress about the feelings of others, which could in turn explain the exertion of greater physical and psychological violence. This may be due to the fact that by having more distorted thoughts towards women, the IPVAW perpetrators may present difficulties in understanding women's perspectives and, therefore, may also present greater distress in the face of their adverse experiences and more probabilities of violent responses. This explanation goes in line with previous literature that suggests that Personal Distress may be a self-centered aversive reaction in response to the others' emotions, associated with the desire to alleviate one's own anguish and problems in social interaction (Thomas, 2013). In addition, it has been shown that Personal Distress may also be related to difficulties in self-regulation, which can lead to overwhelm and an inability to attend to the needs of others (Eisenberg et al., 2006). Therefore, experiencing high levels of Personal Distress may contribute to the overflow of negative emotions, which may then increase the probability of carrying out some type of reactive aggression (Eisenberg et al., 2010), and may reduce prosocial behavior (Winter et al., 2017).

Concerning the chain mediation of distorted thoughts towards women and Perspective Taking, we can observe an indirect relationship between having less educational level than the victim and the use of physical violence. According to literature, the presence of these distorted thoughts leads male IPVAW perpetrators to deny or justify the exerted violence in order to avoid responsibility and blame the female partner. This process directly influences the ability of IPVAW perpetrators to feel remorse or empathize with the victim (Dobash & Dobash, 2011). In this way, when IPVAW perpetrators with greater distorted thoughts toward women perceive that their partner is in a dominant social position, they may show more difficulties in empathizing with her. This difficulty could cause problems when it comes to negotiating and solving conflicts (Moya-Albiol, 2018), leading in certain interpersonal situations to behave in a violent way to express their frustration.

Over the last few years, there has been a growing interest in the study of sociodemographic factors of intimate partner violence and, specifically, in the educational level of both the IPVAW perpetrator and the victim as a risk factor of violence (Gage & Thomas, 2017). However, as mentioned

before, there are no studies that have explored how the difference in educational level between the victim and the IPVAW perpetrator may influence the exact type of violence exerted. Despite the scarcity of literature, our results go in line with relevant studies that suggest that when women have a higher educational level, they are more likely to suffer violence (Tiruye et al., 2020). These results also go in line with three important explanatory theories of intimate partner violence: the theory of resources (Goode, 1971), the theory of status inconsistency (Hornung et al., 1981) and the interactionist theory of gender (Anderson, 2005). These theories hold, respectively, that violence is used as a means to: increase power within the relationship (Goode, 1971); to restore the status quo and regain control of decision-making and resources, especially when there are social, professional and educational differences that do not correspond to social expectations (Hornung et al., 1981); and finally, to recover one's sense of masculinity or authority when it is questioned or does not respond to social expectations (Anderson, 2005). Along with the above, our results are supported by the Pyramid Model (Bosh-Fiol & Ferrer-Perez, 2019). Thus, the educational gap between the IPVAW perpetrator and the victim could constitute a static type of trigger that this model does not yet consider, and that constantly interacts with the IPVAW perpetrators' expectations of control. Thus, on the basis of the 1) patriarchal substratum; 2) the socialization process, in which stereotypes are assumed and, therefore, certain roles are "expected" of women (women are expected to devote themselves to care, not to studies); 3) expectations of control, they feel that they can control their partners at all levels; 4) triggering event: this educational gap unleashes the IPVAW perpetrators' fear of losing control over the women.

The difference in educational level could be proposed as a static trigger of an indirect type, because it is not a triggering variable itself (there are differences in educational level between the victim and IPVAW perpetrator and violence emerges), but rather it leads women to engage in certain behaviors (e.g., better qualified jobs), based on this difference in educational level, which unleashes this fear in the IPVAW perpetrators.

Recent research has also obtained results that support the above, demonstrating that intimate partner violence appears to be a tool used by the IPVAW perpetrator to overcome his frustration and achieve a level of self-esteem otherwise unattainable (Echeburúa & Amor, 2016). Additionally, it has

been found that the IPVAW perpetrators' goal of obtaining power within the relationship mediates the relationship between the socioeconomic status of the man and the use of physical violence against his partner (Cheung & Choi, 2013). In this way, it seems that when men who have fewer socioeconomic resources or a lower educational, social or economic status than their partner, the higher the risk of perpetrating violence against their intimate partners, turning it into a tool to gain power and exercise control (Gage & Thomas, 2017).

### ***Limitations***

The present study has certain limitations. The implementation of instruments that do not need to be completed by the IPVAW perpetrators themselves could have been useful, since the responses of the IPVAW perpetrators may be influenced by social desirability, therefore affecting their validity. However, the evaluation conditions (evaluations carried out within the prison context) did not allow for other types of tests beyond the application of self-reported questionnaires. Additionally, a control group of male IPVAW perpetrators with no differences in educational level with respect to the victim could have been helpful to deeper understand the relation between the variables.

### ***Future Research Directions***

Future research could replicate the results of the present study in different geographic contexts. Differences in other aspects of socioeconomic status between the IPVAW perpetrator and the victim could also be studied, to evaluate whether similar results to those obtained with educational level may appear. In addition, the use of evaluation instruments that measure the IPVAW perpetrators' levels of empathy specifically towards their partner could provide very valuable information. However, since there are currently no instruments specific to this variable, future research could focus on developing relevant instruments. In line with the above, one limitation identified in research involving men convicted of IPVAW is the influence of social desirability. It will be crucial to control this bias by adopting a multi-level approach incorporating both adequate self-reported tools (e.g; The balanced inventory of desirable responding short form [BIDR-16]) (Hart et al., 2015) and neuroscientific methods, such as neuroimaging (Marín-Morales et al., 2022), to provide a more comprehensive understanding of the psychological characteristics of male perpetrators of IPVAW. Furthermore, future

research should include a control group where the perpetrator and victim have similar educational levels. This would enable more accurate comparisons and a better understanding of the specific impact of educational discrepancies on IPVAW perpetration. Finally, given that cognitive distortions and empathy played a key mediating role in this study, future research could investigate other psychological and emotional variables that might mediate the relationship between educational level differences and IPVAW perpetration. For instance, emotional regulation, jealousy, and self-esteem could be relevant variables, as they might influence the perception of power within romantic relationships (Berke et al., 2019; Cunha et al., 2023; Pichon et al., 2020).

### ***Implications***

The results have theoretical implications. This study contributes to the theoretical understanding of IPVAW perpetration by elucidating the complex interplay between educational disparities between perpetrators and victims and various psychological mediators. It extends existing theories by highlighting how educational level discrepancies can influence the type of violence perpetrated through mediating variables such as distorted thoughts towards women (DTW) and empathy. The findings align with feminist and social theories of IPVAW, particularly the Theory of Resources (Goode, 1971), the Theory of Status Inconsistency (Hornung et al., 1981), and the Interactionist Theory of Gender (Anderson, 2005). The study's results suggest that educational disparities may exacerbate feelings of power loss and threat to masculinity, leading to increased violence as a means of reasserting control.

Secondly, the findings also carry important practical implications. The results highlight the need to consider all possible components of empathy in IPVAW in terms of both prevention and intervention efforts, as well as exploring the more specific aspects of empathy, since it has been shown that cognitive and emotional empathy are associated with different cognitive processes and brain systems (Martínez, 2017). Along with the above, the importance of working on distorted thoughts towards women should also be noted, as it appears to play a key role in mediating these relationships, together with variables such as conflict resolution and change of attitudes towards gender roles and women. On a larger scale, working on the sexist attitudes of IPVAW perpetrators, and of society in

general, is essential to avoid hindering women and to promote their empowerment through increased access to education and better jobs, without that turning into a risk factor of IPVAW.

For practitioners, the findings highlight the need to incorporate educational level considerations into risk assessments and treatment plans for IPVAW perpetrators. Understanding the influence of educational disparities can help in tailoring interventions to address specific psychological factors, such as distorted perceptions and empathy. Furthermore, policymakers should consider integrating educational and economic support into violence prevention strategies to mitigate the risk factors associated with educational imbalances. Educators and policymakers can leverage these findings by implementing programs aimed at reducing educational inequalities and promoting gender equity from an early age, particularly in vulnerable communities. Educational institutions should foster environments that challenge traditional gender roles and support diverse educational pathways for all individuals.

While this is one of the largest samples to have studied sociodemographic and psychosocial variables in a sample of men convicted of IPVAW, we are aware that it is a specific sample, and the present results cannot be generalized to other populations. The sample's context may influence responses due to the nature of the environment and the social desirability bias inherent in self-reported data (Kirk, 2006). Future research should aim to replicate these findings in different geographical and socio-economic contexts to validate their applicability across diverse settings as intercultural variations may come into play (Bent-Goodley, 2021).

### *Conclusions*

In conclusion, the results of our work show that an educational gap between the IPVAW perpetrator and the victim is an important factor in influencing the type of violence exerted by the IPVAW perpetrator. However, there is no direct relationship between the victim-perpetrator educational gap and the type of violence perpetrated. Thus, this relationship only appears through the mediating role played by the IPVAW perpetrator's empathy and distorted thoughts towards women.

Furthermore, our findings suggest that it is important to continue exploring the variable of educational differences, as well as other variables that may exert a mediational effect, in order to further

unravel the complexity of intimate partner violence. Our results are consistent with previous literature that highlights the importance of distorted thoughts towards women and empathy as mediating variables of intimate partner violence, in addition to being a step towards understanding the role of an educational gap between the IPVAV perpetrator and the victim, a variable that until now had not received the attention necessary. Furthermore, this unexplored variable could be considered a factor related to IPVAV perpetrators' expectations of control as well as a triggering variable according to the Pyramid Model (Bosh-Fiol & Ferrer-Perez, 2019).

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