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Unraveling the Layers of Empathy: Self-Compassion as a Partial Mediator in Male and Female Offenders' Personal Distress and Aggression

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ABSTRACT

Violence and offending pose significant public health concerns, and understanding the factors associated with these behaviors is crucial for effective intervention and prevention programs. While extensive research has focused on risk factors, the role of protective factors, such as empathy and self-compassion, has received less attention. This study examines the predictive value of cognitive and affective empathy on aggression and explores the mediating role of self-compassion in the relationship between personal distress and aggression within an offender population. A sample of 120 offenders (90 men and 30 women) completed self-report measures of aggression (*Aggression Questionnaire*), empathy (*Interpersonal Reactivity Index*) and self-compassion (*Self-compassion scale – Short Form*). Additionally, a semi-structured interview was conducted to collect sociodemographic information and criminal history. Results showed a negative association between perspective-taking (a cognitive empathy component) and aggression, while personal distress (an affective empathy component) positively predicted aggression. Self-compassion partially mediated the relationship between personal distress and aggression, indicating its potential role in reducing violent tendencies. These findings highlight the importance of considering empathy and self-compassion in understanding and addressing aggression in offenders. Specifically, a deeper understanding of the affective empathy construct and considering self-compassion as a complementary tool could enhance gender-inclusive prevention and intervention programs, potentially reducing recidivism rates.

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Violence and offending represent a notable concern and a matter of public health significance. Various factors contribute to its occurrence, spanning different domains such as the societal, relationship, and individual levels, affecting health in all its dimensions (World Health Organization World Health Organization, 2020, 2023). To comprehend these issues, researchers

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have identified a wide range of sociological, psychological, and biological risk factors that have been associated with aggression, violence and criminal behavior (Bonta & Andrews, 2016; de Looft et al., 2022; Ortiz & Raine, 2004). However, despite the growing body of literature on protective factors, they have received less emphasis (R. H. Morley, 2015; Ronel & Segev, 2014). Deepening our understanding of protective factors can significantly enhance our ability to effectively complement intervention and prevention programs for offenders, reducing risk outcomes (de Ruigh et al., 2021; O'Shea & Dickens, 2015; Ribeiro da Silva et al., 2021).

Layers of empathy and aggression

Empathy has been widely studied as a protective factor against aggression and violent behaviors (Jolliffe & Farrington, 2004; Á. Romero-Martínez et al., 2019; Vachon et al., 2014). This complex socio-affective function, originated from the German term “Einfühlung” (which described the act of projecting one's body and soul into an art work; Vischer, 1873), describes the process of resonating with others' feelings (regardless of positive or negative valence), while recognizing the origin of the emotion in others (de Vignemont & Singer, 2006; Preckel et al., 2018). Two main components have been described across the literature in this construct: cognitive and affective.

Cognitive empathy refers to the capability to perceive and understand others' feelings or emotional states, using information acquired through observation, verbal communication, and/or prior personal experiences (perspective-taking). It involves the influence of factors such as motivation, memories, and attitudes on the perception of vicarious emotions (Decety & Lamm, 2006). On the other hand, affective empathy stands as an isomorphic representation of someone else's emotional state (Decety & Jackson, 2004; Singer, 2006). In this sense, it has been proposed to act as a precursor to compassion (empathetic concern), enabling individuals to connect with others' suffering and serving as a motivating factor for engaging in prosocial behavior to alleviate their suffering (Bellosta-Batalla et al., 2019; Eisenberg, 2000; Gilbert, 2017). It has also been suggested as a preventive mechanism against causing harm to others (Miller & Eisenberg, 1988; Moya-Albiol, 2018, 2021; Moya-Albiol et al., 2010).

However, when confronted with the suffering of others, experiencing a connection to their pain can lead to personal distress, which is aversive (Chierchia & Singer, 2017; O. M. Klimecki et al., 2013; Lamm et al., 2011). For affective empathy to be healthy, it is crucial to maintain a separation between other people's experiences and one's own (Preckel et al., 2018). If individuals perceive and internalize vicarious emotions as their own (sympathy), it could lead to aversive emotional reactions such as anxiety or sadness (Eisenberg et al., 2015; Jensen et al., 2014). Consequently, the “empathetic response”

could become self-centered, with the aim of alleviating personal distress (Eisenberg & Eggum, 2009; Lamm et al., 2007), potentially leading to aggression (Bloom, 2017; Palumbo & Latzman, 2021).

There is a longstanding trajectory in the literature suggesting that empathy serves as a protective factor against aggression and offending. It is proposed that a lack of ability to comprehend and connect with the emotions of others can lead to impaired social and moral development (Eisenberg, 2000). The most recent meta-analysis on the topic has yielded inconsistent findings, with weak or nonexistent relationships between these two constructs (Vachon et al., 2014). Nonetheless, a different meta-analysis pointed out that cognitive empathy is more closely and negatively associated with offending behavior than affective empathy (Jolliffe & Farrington, 2004). Miller and Eisenberg (1988) found that cognitive and affective empathy were negatively related to aggression and antisocial behaviors in children, adolescents and adults. This relation has been found weaker in adults, compared to younger samples (Jolliffe & Farrington, 2004), indicating the potential relevance of age as a factor. Taking these discrepancies into account, Vachon et al. (2014) proposed the consideration of moderator variables, such as age and sex, measurement issues, and a reconceptualization of empathy, particularly focusing on the affective empathy sphere. They advocated for a “narrow conceptualization of affective empathy” and emphasized the necessity for further exploration of this construct in relation to violent behavior. The present study aims to address this specific issue.

Self-compassion as a tool to cope with negative emotions

It has been suggested that effective emotional management is crucial in order to experience the healthy empathic concern that inhibits personal distress (Decety & Lamm, 2009; O. Klimecki & Singer, 2012), while personal distress has been proposed as indicative of poor emotion regulation (Eisenberg, 2000). The establishment of a secure base and internal equilibrium is fundamental in enabling individuals to sustain their empathic responses without becoming overwhelmed by the suffering of others (Bellosta-Batalla et al., 2019). Along with perspective-taking, which helps us establish boundaries between our own suffering and that of others, self-compassion has been proposed as an ability that promotes distress tolerance while being attentive and sensitive to our own sources of suffering (Gilbert, 2023). Specifically, self-compassion has been suggested as a foundation for the development of adaptive emotion regulation (Inwood & Ferrari, 2018; Paucsik et al., 2022), potentially leading to enhanced processing of negative emotions (Diedrich et al., 2017). Following K. Neff (2003), self-compassion involves the ability to respond to one's own suffering with kindness and understanding, to have a cognitive understanding of one's situation as a part of shared human experience, and to pay attention to suffering

in a conscious and balanced manner (e.g., soothing distressing emotions). Self-compassion has shown a negative relationship with anger (K. D. Neff & Vonk, 2009), a positive correlation with self-control, self-esteem and social connectedness in offenders' samples (R. M. Morley et al., 2016) and has been proposed as a buffer against violent criminality (R. H. Morley, 2015). Similarly, empirical evidence has revealed effectiveness of self-compassion interventions in reducing criminal thinking (Rezapour-Mirsaleh et al., 2021) and criminal impulsivity in delinquents (R. H. Morley, 2018).

Lastly, research on offending behavior has traditionally focused on male populations due to their major representation within the criminal population. It is imperative to acknowledge the existence of female offenders and recognize the necessity of their inclusion in studies. Thus, a more comprehensive and accurate understanding of criminal behavior can be achieved (Renzetti, 2013).

The main objective of this study is to analyze the predictive value of cognitive (perspective-taking), and affective empathy (empathetic concern and personal distress) on aggression within an offender population consisting of both men and women. We hypothesized that higher levels of perspective-taking and empathetic concern will negatively predict aggression (Jolliffe & Farrington, 2004; Miller & Eisenberg, 1988), while higher levels of personal distress will positively predict higher aggression scores (Palumbo & Latzman, 2021). This study aims to examine the potential mediating role of self-compassion in the relationship between personal distress and aggression within this specific offender population. Drawing from previous literature that suggests self-compassion as a potential distress regulation tool in non-forensic populations (Diedrich et al., 2017; Inwood & Ferrari, 2018), we expect that self-compassion will attenuate the relationship between personal distress and aggression scores.

Method

Participants

The sample consisted of 120 offenders, including 90 men and 30 women (see Table 1). The offenders were not imprisoned but sentenced, since, within the Spanish Penitentiary System, custodial sentences for less serious crimes (less than two years) can be substituted by community probation or community psychoeducational treatment programs, all while taking into account the personal characteristics of the offender and the offense (see Organic Law 10/1995, of November 23 of the Criminal Code). The offenses include domestic and intimate partner violence, drug trafficking, offenses against road safety (e.g., driving without a license, speeding, driving under the influence of toxic drugs or alcoholic beverages, driving with manifest recklessness) and offenses against property and the socio-economic order (e.g., larceny, burglary,

Table 1. Means (Standard Deviations) and percentages for Demographic Data for the participants.

	Men (n = 90)	Women (n = 30)	Total sample (n = 120)
Age (M, SD)	38.35 (10.62)	37.25 (11.20)	38.09 (10.72)
Marital status (%)			
Married	36	44	38
Single/Divorced/Widowed	64	58	62
Level of education (%)			
No studies	02	04	03
Primary	24	11	21
Secondary/vocational training	57	46	54
University	17	39	22
Nationality (%)			
Spanish	86	79	84
Latin American	09	21	12
Other European countries	04	00	03
Africa	01	00	01
Working status (%)			
Employed	61	36	55
Unemployed	39	64	45
Annual Income (%)			
Low Income	16	15	15
Medium Income	73	85	77
High Income	11	00	08

Note. M: Mean; SD: Standard Deviation.

robbery, fraud). Participants were recruited from different community programs coordinated by the *Service of Management of Penalties and Alternative Measures of Valencia*.

Researchers were given the opportunity to attend various community programs and inform the participants of the research objectives, while also asking for their voluntary participation in the study, ensuring complete anonymity and confidentiality. For the eligibility of the sample, knowledge of writing and speaking Spanish was required, along with the non-presence of neurological disorders.

The study adhered to the principles outlined in the Declaration of Helsinki and received approval from the Ethics Committee of the University of Valencia (Code: 1563895).

Procedure

The procedure was carried out in one experimental session, in the Psychobiology laboratories at the University of Valencia. First, all participants voluntarily signed a consent form before starting the study. Researchers encouraged participants to ask any possible questions concerning the study throughout the session. The self-reported questionnaires were presented and, finally, information on sociodemographic variables and personal information (age, nationality and delinquent history) was collected through a semi-structured interview.

Measures

Aggression questionnaire (BPAQ)

The Aggression Questionnaire (BPAQ; Buss & Perry, 1992) is widely recognized as one of the most frequently used psychometric instruments in research on violent behavior. The rating scale consists of 29 items, organized into four factors: physical aggression (9 items), verbal aggression (5 items), anger (7 items), and hostility (8 items). Each item is scored on a 5-point Likert scale, ranging from 1 (Completely false to me) to 5 (Completely true to me). In our study, we utilized the Spanish version of the questionnaire (García-León et al., 2002), and Cronbach's alpha coefficient was .92 for our sample.

Interpersonal reactivity index (IRI)

The Interpersonal Reactivity Index (IRI; Davis, 1980, 1983) is a commonly utilized tool for assessing empathy-related traits. Comprising 28 items, the ranking of items follows a 5-point Likert scale, ranging from 1 ("doesn't describe me at all") to 5 ("describes me very well"). Spanish adaptation (Mestre, Frías, & Samper, 2004) was used. Cronbach's α was .63 for the total score. It offers a comprehensive evaluation of interpersonal reactivity across four distinct scales: empathic concern, personal distress, perspective-taking and fantasy. In this study, we focused on perspective-taking, empathetic concern and personal distress subscales. Specifically, Perspective-taking focuses on the ability to adopt the psychological point of view of others and see things from their perspective (e.g., "I sometimes try to understand my friends better by imagining how things look from their perspective"). Empathetic concern makes reference to feelings of compassion, concern, and affection toward the suffering of others (e.g., "I often have tender feelings and concern for people less fortunate than me"). Personal distress subscale reflects an individual's tendency to experience personal discomfort, anxiety, or distress when witnessing or being exposed to the emotional suffering of others (e.g., "I get nervous when others around me are feeling stressed or anxious").

Self-compassion scale – short form (SCS-SF)

The Self-Compassion Short Form Scale (SCS-SF; Raes et al., 2011), adapted for the Spanish population (Garcia-Campayo et al., 2014), was utilized. This questionnaire comprises 12 items and utilizes a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always) for ranking the responses. SCS-SF covers three distinct theoretical aspects of self-compassion, each characterized by pairs of opposing subscales (i.e., self-kindness and self-judgment, common humanity and isolation, mindfulness and over-identification). Following K. Neff (2003), the facet of self-kindness offers an alternative to self-criticism and blame. Recognizing our common humanity acknowledges that suffering is a natural part of life and is interconnected with the suffering of others. This

facet is associated with well-being. Furthermore, the facet of mindfulness promotes an attitude of equanimity, rather than over-identification, when confronted with challenging and uncomfortable thoughts and experiences. Cronbach's α was .71 for the total score.

Data analyses

First, normality of the data was evaluated with the Shapiro-Wilk test ($p < .05$) and the non-normal data, subsequently, was transformed based on a Logarithm base ten (Log10). Second, Pearson's bivariate correlation coefficients were calculated to assess the relationship between aggression, self-compassion, empathy subscale scores (perspective-taking, empathetic concern, personal distress) and age. Spearman's Rho was used for the correlations of sex due to the categorical nature of the variable. We conducted a multiple regression model to assess whether perspective-taking, empathetic concern and personal distress explained aggression. Accordingly, aggression was included as a dependent variable and we controlled the potential effect of "age" and "sex" by introducing them as a covariates in Step 0; independent variables (i. e., perspective-taking, empathetic concern and personal distress) were entered in Step 1. Lastly, model 4 of SPSS PROCESS Macro (Hayes, 2017) was conducted to examine the effects (through self-compassion) of personal distress on aggression. Bootstrapping method (5000 bootstrap resamples) was used to estimate the indirect effect with 95% confidence interval (CI). The corresponding effect was considered statistically significant if the 95% CI did not include zero. All continuous variables were standardized before this procedure. Data analyses were conducted by using IBM SPSS Statistics v28.

Results

The correlation analysis revealed that aggression was negatively related to both self-compassion and perspective-taking, whereas it was positively related to personal distress. All associations were statistically significant ($p < .001$). Table 2 presents the descriptive statistics, including means and standard deviations of psychological variables by sex, and Table 3 lists the correlation coefficients of all variables.

Multiple regression models with three predictors (perspective-taking, empathetic concern and personal distress), controlling for age and sex, showed to be significant ($F(5,115) = 9.198$, $p < .001$, adjusted $R^2 = .26$). Perspective-taking ($\beta = -.360$, $t = -4.403$, $p < .001$; collinearity (tolerance, VIF) = .992, 1.01) was negatively associated with aggression. Empathetic concern also showed a negative relation with aggression, although it was not statistically significant as a predictor ($\beta = -.142$, $t = -1.64$, $p = .105$; collinearity [tolerance, VIF] = .998, 1.01). Conversely, personal distress showed a significant positive

Table 2. Means (Standard Deviations) for Aggression, Self-compassion, perspective-taking, empathetic concern and personal distress.

	Men (<i>n</i> = 90)	Women (<i>n</i> = 30)	Total sample (<i>n</i> = 120)
Aggression (<i>M</i> , <i>SD</i>)	74.64 (21.43)	76.50 (21.85)	75.05 (21.45)
Self-compassion (<i>M</i> , <i>SD</i>)	38.62 (7.63)	35.46 (7.72)	37.88 (7.73)
Perspective-taking (<i>M</i> , <i>SD</i>)	23.90 (4.90)	23.96 (4.75)	23.92 (4.85)
Empathetic concern (<i>M</i> , <i>SD</i>)	25.99 (4.16)	26.11 (5.78)	26.02 (4.56)
Personal Distress (<i>M</i> , <i>SD</i>)	16.51 (4.67)	19.32 (4.56)	17.17 (4.83)

Note. *M*: Mean; *SD*: Standard Deviation.

Table 3. Bivariate correlations between Aggression, self-compassion and perspective-taking, empathetic concern and personal distress.

Aggression	–						
Self-compassion	– .401 (< .001)	–					
Perspective-taking	– .389 (< .001)	.139 (.131)	–				
Empathetic concern	–.105 (0.254)	–.148 (0.106)	.364 (< 0.001)	–			
Personal distress	.316 (< .001)	–.375 (< .001)	–.205 (.025)	–.074 (0.422)	–		
Age	–.331 (< .001)	.260 (.004)	.091 (.323)	–.049 (.594)	–.142 (.123)	–	
Sex (Rho Spearman)	.034 (.716)	–.174 (.057)	.044 (.636)	.035 (.706)	.257 (.005)	–.047 (.614)	

relation with aggression ($\beta = .303$, $t = 3.50$, $p = <.001$; collinearity [tolerance, VIF] = .929, 1.08). In addition, the effect of age was also found to be significant ($\beta = -.271$, $t = -3.78$, $p = <.001$, collinearity [tolerance, VIF] = .998, 1.01).

The Hayes SPSS PROCESS macro (model 4) was adopted to examine the mediating effect of self-compassion on the relationship between personal distress and aggression (Figure 1). First, after controlling for the influence of age and sex, the total effect of personal distress on aggression was found to be positive and significant ($\beta = .301$, $t = 3.44$, $se = .087$, $p = .001$, $CI = [.128, .471]$, adjusted $R^2 = .181$). Second, after controlling for the influence of age and sex, personal distress had a significant negative effect on the mediator, self-compassion ($\beta = -.315$, $t = -3.61$, $se = .087$, $p = <.001$, $CI = [-.487, -.142]$, adjusted $R^2 = .19$). Third, when adding self-compassion into the regression, while self-compassion had a negative significant effect ($\beta = -.301$, $t = -3.36$, $se = .090$, $p = .001$, $CI = [-.479, -.123]$), personal distress had a significant direct effect on aggression ($\beta = .206$, $t = 2.33$, $se = .088$, $p = <.021$, $CI = [.031, .382]$). This model explained 25.4% of the variance (adjusted $R^2 = .254$). Finally, the indirect effect of personal distress on aggression via self-compassion was also significant ($\beta = .095$, boot 95% $CI = [.019, .200]$).

Discussion

The results of our study identified cognitive and affective empathy as predictors of aggression, revealing perspective-taking as a protective factor against aggression and, conversely, personal distress as a precipitator. Age was also shown to have a significant effect for the regression model. Finally, the mediation model showed that self-compassion partially mitigates the

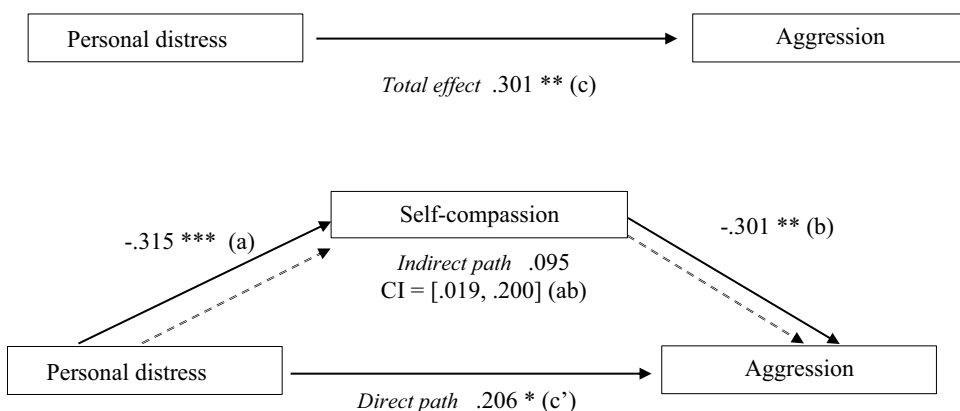


Figure 1. Mediation Model results. *Note.* a: association between Personal distress and self-compassion; b: association between Self-compassion and Aggression; c: total effect between Personal distress and Aggression; c': direct effect between Personal distress and Aggression; ab: indirect effect between Personal distress and Aggression via Self-compassion; CI: Confidence Interval. * $p < .05$, ** $p < .01$ and *** $p < .001$

positive relationship between personal distress and aggression scores, regardless of age and sex.

Predictive value of cognitive and affective empathy towards aggression in offenders

Our primary aim was to examine the prognostic significance of perspective-taking, empathetic concern, and personal distress in relation to aggression in a sample of offenders composed of both men and women. Our hypothesis was partially confirmed, as our findings were consistent with prior research (Day et al., 2012) that indicates a negative association between cognitive empathy and aggression within the offender population. Relatedly, Martinez et al. (2014) revealed a negative association between higher perspective-taking tendencies and reoffending. Additionally, their study found that offenders with higher levels of perspective-taking were more likely to experience empathetic concern. The preliminary correlation analysis conducted in our sample revealed a positive moderated relationship between perspective-taking and empathetic concern ($r = .364$, $p = <.001$), and a negative relation with personal distress ($r = .205$, $p = .025$). Evidence suggests that, in order to experience healthy empathy, it might be necessary to maintain a clear boundary between oneself and others, ensuring that their pain is not mistaken for our own (Bellosta-Batalla et al., 2019; Decety & Lamm, 2009; Singer & Klimecki, 2014). However, it is noteworthy that our study did not find any evidence linking empathetic concern to aggression. This lack of association could potentially be attributed to measurement issues, specifically the presence of

social desirability bias within the self-report measures used (Vachon et al., 2014), particularly among the offender population when responding to items related to “other-oriented” empathy for unfortunate others. To address this issue, an alternative approach could involve analyzing responses to socio-affective tasks that incorporate different correlates, such as psychobiological measures. This approach may provide a broader understanding of the construct (Comes-Fayos et al., 2022; Moreno et al., 2023; Sousa et al., 2023).

Concerning the role of personal distress as a contributing factor to aggression, our findings contrast the conventional ideas generally presented in the literature (Blair & Blair, 2009; Jolliffe & Farrington, 2004; Miller & Eisenberg, 1988). It is worth noting that Palumbo and Latzman (2021) found an association between “self-oriented empathy” and aggression in non-forensic populations. It is important to highlight previous research that has explored the empathy construct in offenders’ samples, and has usually reflected in their results affective empathy as a “unified construct” (Jolliffe & Farrington, 2004; Vachon et al., 2014). However, neurosocial research in non-forensic populations has indicated that empathetic concern and personal distress involve distinct subjective processes that are underpinned by different psychobiological mechanisms, including neural circuits and psychophysiological activity (Chierchia & Singer, 2017; Decety & Lamm, 2009; O. M. Klimecki et al., 2013, 2014 for an in-depth review). For instance, studies examining vagally mediated Heart Rate Variability (vmHRV), which is a reliable biomarker of parasympathetic activity associated to empathy competencies (Yoo & Whang, 2020), and compassion in offender samples (Sousa et al., 2022, 2023), have shown increased activity during empathetic concern but decreased activity during personal distress (DiBello et al., 2021, 2023; Moreno et al., 2023).

It is suggested that empathetic concern (precursor of compassion) is associated with feelings of warmth, concern and care for others, which in turn promotes positive emotions and might serve as a motivation to enhance the well-being of others (Gilbert, 2017). Conversely, individuals who exhibit signs of a lack of perspective-taking, such as difficulties in emotional decoding (A. Romero-Martínez et al., 2019), self-other differentiation, and cognitive appraisal of others’ suffering (Lamm et al., 2007; Preckel et al., 2018), may be prone to experiencing distress and intensifying negative affect (Singer & Klimecki, 2014), leading to aversive and egocentric responses aimed at alleviating their own distress (Bloom, 2017; Singer & Klimecki, 2014). We propose that aggression might be utilized by offenders as a coping strategy, akin to a fight-or-flight mechanism, to protect themselves from overwhelming negative emotions. Several studies have indicated that offenders may exhibit a tendency to avoid connecting with the suffering of others (Moreno et al., 2023; Sousa et al., 2022, 2023). Thus, although victim distress may act as an aversive stimulus inhibiting the violent response (Blair & Blair, 2009), resonating with distressing/aversive emotions could lead offenders to avoid them (Moreno et al., 2023; Sousa et al.,

2022, 2023), and this avoidance might be linked to the use of violent coping strategies (Jordaan & Hesselink, 2022).

Moreover, it is worth mentioning the importance of moderating variables in experiencing empathy and the manifestation of violent behaviors, such as the social environment (Decety & Lamm, 2006; Moya-Albiol et al., 2010), as well as the attachment style (Cicchio et al., 2022; Miyagawa & Kanemasa, 2022). Adverse childhood experiences might lead to insecure attachments, which in turn predispose individuals to difunctional interpersonal behaviors (Miyagawa & Kanemasa, 2022). These experiences have been closely related to increased impulsivity in general offenders (Zhong et al., 2022) and, more specifically, to higher levels of violence in individuals who engage in battering (Holtzworth-Munroe et al., 2000). Wang et al. (2021) also found that offenders who had experienced early relationship trauma exhibited higher levels of personal distress. Consequently, it is of particular importance to incorporate childhood maltreatment in future studies and investigate its relationship with aggression, empathy, and self-compassion.

The mediating role of self-compassion between personal distress and aggression

Secondly, the objective was to explore the mediating role of self-compassion in the relationship between personal distress and aggression among a sample of individuals who have committed offenses. In line with our hypothesis, the mediation model indicated that self-compassion could potentially act as a mitigating factor in the association between personal distress and aggression, regardless of age and sex. The partial mediator, self-compassion, was found to be negatively related to both personal distress and aggression. The literature has proposed self-compassion as an attitude of acknowledging and experiencing painful emotions with kindness, understanding, acceptance and tolerance (K. D. Neff et al., 2007). This approach may serve as a basis for enhancing emotional regulation (Paucsik et al., 2022), enabling individuals to distance themselves from personal distress and facilitating a healthier expression of empathy (K. D. Neff & Pommier, 2013). In this sense, in non-forensic populations, the three opposite factors of self-compassion (i.e., self-judgment, sense of isolation and overidentification) have been associated with mental health problems (Gilbert, 2023; Pandey et al., 2021). From a social mentality perspective, self-compassion could elicit “self-soothing feelings” associated with security and connectedness, thereby inhibiting threatening perceptions evoked by distress and steering individuals away from dysfunctional coping strategies (see Gilbert, 2010, 2023 for an in-depth review). Additionally, self-compassion has been positively linked to self-control in offender populations (R. M. Morley et al., 2016) and negatively related to psychological and neurological traits associated with criminal behavior (Morley, 2018) including

aggression (Murphy et al., 2005). Particularly, since research has shown that self-compassion might function as a buffer against aggressive reactions (Miyagawa & Kanemasa, 2022; Wu et al., 2019), some interventions aimed at different offender profiles have focused on cultivating compassion both toward oneself and others (Browne et al., 1997; Ribeiro da Silva et al., 2021). Training in self-compassion could offer valuable resources to offenders, enabling them to better comprehend and accept themselves (K. Neff, 2003), especially if they have experienced childhood mistreatment (Zhong et al., 2022). Nevertheless, the existing literature is still limited. Conducting further research in this area would contribute to a broader understanding of these constructs.

Contrary to our findings, a study examining the relationship between self-compassion and predictors of criminal behavior in a sample of adolescent offenders revealed no significant association between self-compassion and aggression. However, they found a positive correlation between self-compassion and self-control (Dávila Gómez et al., 2020). In our study, we observed in the preliminary analyses, a positive correlation between age and self-compassion ($r = 0.260$, $p = .004$), as well as a negative correlation between age and aggression ($r = -0.331$, $p < .001$). Age emerged as a significant predictor in the multiple regression model for aggression. However, it did not reach significance in the mediation model examining the relationship between personal distress, self-compassion and aggression. These findings suggest that age may play a moderating role in the association between empathy, self-compassion, and aggression within the offender population. Therefore, further investigation incorporating age as a potential moderating variable might be needed.

Limitations, strengths and future directions

It is important to acknowledge the limitations that impact the generalizability of our findings. Firstly, the sample size was relatively small, which can be attributed to the challenges involved in recruiting participants from this specific population, especially women, who represent approximately 7% of the Spanish offender population (Consejo del Poder Judicial, 2022). It is crucial to take into consideration the heterogeneity of offenders' profiles and motivations when interpreting the results, as our sample encompasses a variety of crimes, including both violent and nonviolent offenses. Moreover, it is important to note that the offenders included in this study were convicted of minor offenses. Therefore, conducting studies with larger samples and conducting in-depth investigations into the different typologies of offenses would significantly contribute to enhancing our understanding of the constructs under investigation (Palumbo & Latzman, 2021). The use of "paper-and-pencil" measures to assess empathy, self-

compassion and aggression in this study may be seen as limited in capturing the complete complexity of these multidimensional constructs. As mentioned previously, incorporating complementary tools, such as psychological markers that mitigate self-report biases in offender populations (Comes-Fayos et al., 2022; Moreno et al., 2023; Pinto et al., 2010), along with implementing empathy and self-compassion interventions (O. M. Klimecki et al., 2013, 2014; R. H. Morley, 2018), could provide a more comprehensive understanding of these constructs. By integrating additional methodologies, we can enhance our understanding of empathy, self-compassion, and aggression in a more holistic manner.

Despite the aforementioned limitations, the present study provides valuable insights into the relationship between aggression, empathy components and self-compassion within the offender population. This investigation offers a more nuanced understanding of the multidimensional nature of affective empathy by examining its subcomponents separately and exploring their associations with the construct of aggression. Moreover, the inclusion of the self-compassion construct in the field of criminology is relatively novel and has shown promising results as a complementary tool for offender intervention (R. H. Morley, 2018; Rezapour-Mirsaleh et al., 2021). It could be particularly useful in prevention and/or intervention programs that include therapeutic modules working on protective factors such as fostering empathy and emotional regulation. Additionally, effective tools for assessing protective factors (both internal and external) in offenders, such as the Structured Assessment of Protective Factors (SAPROF; de Vogel et al., 2012) might prove helpful for evaluating treatment progress and preventing future violent episodes (de Vries Robbé & Willis, 2017). It is of utmost importance, both professionally and scientifically, to include women in research on offending and ensure their adequate representation in such studies (Renzetti, 2013). In this study, Spearman correlations revealed a difference in personal distress between men and women ($r = .257, p = .005$), however in this case sex did not show any significant effect on any regression model. Nonetheless, further research with larger samples may be necessary to delve deeper into this aspect. Additionally, self-compassion has shown promise as a valuable tool for female offenders (Ptacek & Daubman, 2018). Therefore, ensuring gender diversity in the study of these constructs is crucial for creating gender-responsive programs that address the realities of women's lives.

Findings suggest that fostering healthy empathy may act as a protective factor against aggression in the offender population, with self-compassion potentially facilitating this process. By exploring these constructs, this study aims to enhance our understanding and provide valuable insights for the development of gender-inclusive prevention and intervention programs that effectively address aggression tendencies in offenders, thereby reducing recidivism rates.

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Disclosure statement

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Ethical standards and informed consent

The study was conducted in accordance with the Declaration of Helsinki of 1975, as revised in 2000, and followed the ethical standards of the Ethics Committee on human experimentation of the University of Valencia (Code: 1563895). All participants voluntarily agreed to participate, were informed about the nature of the study, and gave their written informed consent before the study began.

References

- Bellosta-Batalla, M., Garrote-Caparrós, E., Pérez-Blasco, J., Moya-Albiol, L., & Cebolla, A. (2019). Mindfulness, empatía y compasión: Evolución de la empatía a la compasión en el ámbito sanitario. *Revista de Investigación y Educación en Ciencias de la Salud (RIECS)*, 4(S1), 47–57. <https://doi.org/10.37536/RIECS.2019.4.S1.125>
- Blair, R. J. R., & Blair, K. S. (2009). Empathy, morality, and social convention: Evidence from the study of psychopathy and other psychiatric disorders. In J. Decety & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 139–152). MIT Press.
- Bloom, P. (2017). Empathy and its discontents. *Trends in Cognitive Sciences*, 21(1), 24–31. <https://doi.org/10.1016/j.tics.2016.11.004>
- Bonta, J., & Andrews, D. A. (2016). *The psychology of criminal conduct*. Taylor & Francis.
- Browne, K. O., Saunders, D. G., & Staeker, K. M. (1997). Process-psychodynamic groups for men who batter: A brief treatment model. *Families in Society*, 78(3), 265–271. <https://doi.org/10.1606/1044-3894.774>
- Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, 63(3), 452–459. <https://doi.org/10.1037/0022-3514.63.3.452>

- Chierchia, G., & Singer, T. (2017). The neuroscience of compassion and empathy and their link to prosocial motivation and behavior. *Decision Neuroscience: An Integrative Perspective*, 247–257. <https://doi.org/10.1016/B978-0-12-805308-9.00020-8>
- Comes-Fayos, J., Blanco-Gandía, M. C., Moreno, I. R., Rodríguez-Arias, M., Lila, M., Sarrate-Costa, C., Romero-Martínez, A., & Moya-Albiol, L. (2022). Reduced salivary oxytocin after an empathic induction task in intimate partner violence perpetrators: Importance of socio-affective functions and its impact on prosocial behavior. *Psychoneuroendocrinology*, 137, 105644. <https://doi.org/10.1016/j.psyneuen.2021.105644>
- Consejo del Poder Judicial. (2022). *Estadística penitenciaria Año 2022*. <https://www.poderjudicial.es/cgpj/es/Temas/Estadistica-Judicial/Estadistica-por-temas/Datos-penales-civiles-y-laborales/Cumplimiento-de-penas/Estadistica-de-la-Poblacion-Reclusa/>
- Cricchio, M. G. L., Musso, P., Coco, A. L., Cassibba, R., & Liga, F. (2022). The relation between empathy and aggression: The role of attachment style. *Europe's Journal of Psychology*, 18(3), 319–336. <https://doi.org/10.5964/ejop.4509>
- Dávila Gómez, M., Dávila Pino, J., & Dávila Pino, R. (2020). Self-compassion and predictors of criminal conduct in adolescent offenders. *Journal of Aggression, Maltreatment & Trauma*, 29(8), 1020–1033. <https://doi.org/10.1080/10926771.2019.1697778>
- Davis, M. H. (1980). *Interpersonal reactivity index (IRI)*. APA PsycTests. <https://doi.org/10.1037/t01093-000>
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113–126. <https://doi.org/10.1037/0022-3514.44.1.113>
- Day, A., Mohr, P., Howells, K., Gerace, A., & Lim, L. (2012). The role of empathy in anger arousal in violent offenders and university students. *International Journal of Offender Therapy and Comparative Criminology*, 56(4), 599–613. <https://doi.org/10.1177/0306624X11431061>
- Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews*, 3(2), 71–100. <https://doi.org/10.1177/1534582304267187>
- Decety, J., & Lamm, C. (2006). Human empathy through the lens of social neuroscience. *Scientific World Journal*, 6, 1146–1163. <https://doi.org/10.1100/tsw.2006.221>
- Decety, J., & Lamm, C. (2009). Empathy versus personal distress. Recent evidence from social neuroscience. In J. Decety & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 199–213). MIT Press.
- de Looft, P. C., Cornet, L. J. M., de Kogel, C. H., Fernández-Castilla, B., Embregts, P. J. C. M., Didden, R., & Nijman, H. L. I. (2022). Heart rate and skin conductance associations with physical aggression, psychopathy, antisocial personality disorder and conduct disorder: An updated meta-analysis. *Neuroscience and Biobehavioral Reviews*, 132, 553–582. <https://doi.org/10.1016/j.neubiorev.2021.11.003>
- de Ruigh, E. L., Kleeven, A. T. H., Jansen, L. M. C., De Vries Robbé, M., Vermeiren, R. R. J. M., Mulder, E. A., De Paauf, B., Van De Ven, P. M., & Popma, A. (2021). Predicting youth reoffending after incarceration: Added value of protective factors and heart rate variability. *The Journal of Forensic Psychiatry & Psychology*, 32(4), 449–480. <https://doi.org/10.1080/14789949.2020.1860250>
- de Vignemont, F., & Singer, T. (2006). The empathic brain: How, when and why? *Trends in Cognitive Sciences*, 10(10), 435–441. <https://doi.org/10.1016/j.tics.2006.08.008>
- de Vogel, V., de Ruiter, C., Bouman, Y., & de Vries Robbé, M. (2012). SAPROF: Guidelines for the assessment of protective factors for violence risk. *English version* (2nd ed.,). Forum Educatief.

- de Vries Robbé, M., & Willis, G. M. (2017). Assessment of protective factors in clinical practice. *Aggression and Violent Behavior*, 32, 55–63. <https://doi.org/10.1016/j.avb.2016.12.006>
- DiBello, M., Giudetti, F., Palani, S., Petrocchi, N., McIntosh, R., & Ottaviani, C. (2023). Modulatory effects of transcranial direct current stimulation of right insula on compassion motivation. *International Journal of Clinical and Health Psychology*, 23(3), 100362. <https://doi.org/10.1016/j.ijchp.2022.100362>
- DiBello, M., Ottaviani, C., & Petrocchi, N. (2021). Compassion is not a benzo: Distinctive associations of heart rate variability with its empathic and action components. *Frontiers in Neuroscience*, 15, 617443. <https://doi.org/10.3389/fnins.2021.617443>
- Diedrich, A., Burger, J., Kirchner, M., & Berking, M. (2017). Adaptive emotion regulation mediates the relationship between self-compassion and depression in individuals with unipolar depression. *Psychology & Psychotherapy: Theory, Research & Practice*, 90, 247–263. <https://doi.org/10.1111/papt.12107>
- Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual Review of Psychology*, 51(1), 665–697. <https://doi.org/10.1146/annurev.psych.51.1.665>
- Eisenberg, N., & Eggum, N. D. (2009). Empathic responding: Sympathy and personal distress. In J. Decety & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 71–84). MIT Press.
- Eisenberg, N., VanSchyndel, S. K., & Hofer, C. (2015). The association of maternal socialization in childhood and adolescence with adult offsprings' sympathy/caring. *Developmental Psychology*, 51(1), 7–16. <https://doi.org/10.1037/a0038137>
- García-Campayo, J., Navarro-Gil, M., Andrés, E., Montero-Marin, J., López-Artal, L., & Demarzo, M. M. P. (2014). Validation of the Spanish versions of the long (26 items) and short (12 items) forms of the Self-Compassion Scale (SCS). *Health and Quality of Life Outcomes*, 12(1), 4. <https://doi.org/10.1186/1477-7525-12-4>
- García-León, A., Reyes, G., Vila, J., Pérez, N., Robles, H., & Ramos, M. (2002). The aggression questionnaire: A validation study in Student samples. *The Spanish Journal of Psychology*, 5(1), 45–53. <https://doi.org/10.1017/S1138741600005825>
- Gilbert, P. (2010). *Compassion focused therapy: Distinctive features*. Routledge.
- Gilbert, P. (2017). *Compassion: Concepts, research and applications*. Taylor & Francis.
- Gilbert, P. (2023). Self-compassion: An evolutionary, Biopsychosocial, and social mentality approach. In A. Finlay-Jones, K. Bluth, & K. Neff (Eds.), *Handbook of self-compassion* (pp. 53–69). Springer International Publishing.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.
- Holtzworth-Munroe, A., Meehan, J. C., Herron, K., Rehman, U., & Stuart, G. L. (2000). Testing the holtzworth-munroe and Stuart (1994) batterer typology. *Journal of Consulting and Clinical Psychology*, 68(6), 1000–1019. <https://doi.org/10.1037/0022-006X.68.6.1000>
- Inwood, E., & Ferrari, M. (2018). Mechanisms of change in the relationship between self-compassion, Emotion Regulation, and mental health: A systematic review. *Applied Psychology*, 10(2), 215–235. <https://doi.org/10.1111/aphw.12127>
- Jensen, K., Vaish, A., & Schmidt, M. F. (2014). The emergence of human prosociality: Aligning with others through feelings, concerns, and norms. *Frontiers in Psychology*, 5, 822. <https://doi.org/10.3389/fpsyg.2014.00822>
- Jolliffe, D., & Farrington, D. P. (2004). Empathy and offending: A systematic review and meta-analysis. *Aggression and Violent Behavior*, 9(5), 441–476. <https://doi.org/10.1016/j.avb.2003.03.001>
- Jordaan, J., & Hesselink, A. (2022). Predictors of aggression among sample-specific young adult offenders: Continuation of violent behavior within South African correctional centers. *International Criminal Justice Review*, 32(1), 68–87. <https://doi.org/10.1177/1057567721998431>

- Klimecki, O. M., Leiberg, S., Lamm, C., & Singer, T. (2013). Functional neural plasticity and associated changes in positive affect after compassion training. *Cerebral Cortex*, 23(7), 1552–1561. <https://doi.org/10.1093/cercor/bhs142>
- Klimecki, O. M., Leiberg, S., Ricard, M., & Singer, T. (2014). Differential pattern of functional brain plasticity after compassion and empathy training. *Social Cognitive and Affective Neuroscience*, 9(6), 873–879. <https://doi.org/10.1093/scan/nst060>
- Klimecki, O., & Singer, T. (2012). Empathic distress fatigue rather than compassion fatigue? Integrating findings from empathy research in psychology and social neuroscience. *Pathological Altruism*, 5, 368–383. <https://doi.org/10.1093/acprof:oso/9780199738571.003.0253>
- Lamm, C., Batson, C. D., & Decety, J. (2007). The neural substrate of human empathy: effects of perspective-taking and cognitive appraisal. *Journal of Cognitive Neuroscience*, 19(1), 42–58. <https://doi.org/10.1162/jocn.2007.19.1.42>
- Lamm, C., Decety, J., & Singer, T. (2011). Meta-analytic evidence for common and distinct neural networks associated with directly experienced pain and empathy for pain. *Neuroimage: Reports*, 54(3), 2492–2502. <https://doi.org/10.1016/j.neuroimage.2010.10.014>
- Martinez, A. G., Stuewig, J., & Tangney, J. P. (2014). Can perspective-taking reduce crime? Examining a pathway through empathic-concern and guilt-proneness. *Personality & Social Psychology Bulletin*, 40(12), 1659–1667. <https://doi.org/10.1177/0146167214554915>
- Mestre, M. V., Samper, P., & Frías, D. (2004). Personalidad y contexto familiar como factores predictores de la disposición prosocial y antisocial de los adolescentes. *Revista Latinoamericana de Psicología*, 36, 445–458.
- Miller, P. A., & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin*, 103(3), 324–344. <https://doi.org/10.1037/0033-2909.103.3.324>
- Miyagawa, Y., & Kanemasa, Y. (2022). Insecure attachment and psychological intimate partner violence perpetration: Low self-compassion and compassionate goals as mediators. *Journal of Family Violence*, 38(7), 1–13. <https://doi.org/10.1007/s10896-022-00436-z>
- Moreno, I. R., Sousa, R., Comes-Fayos, J., Bressanutti, S., Blasco-Ros, C., Rijo, D., Lila, M., Romero-Martinez, A., & Moya-Albiol, L. (2023). Diminished vagally mediated heart rate variability in a compassion-eliciting task in intimate partner violence offenders. *Journal of Criminal Justice*, 87, 102083. <https://doi.org/10.1016/j.jcrimjus.2023.102083>
- Morley, R. H. (2015). Violent criminality and self-compassion. *Aggression and Violent Behavior*, 24, 226–240. <https://doi.org/10.1016/j.avb.2015.05.017>
- Morley, R. H. (2018). The impact of mindfulness meditation and self-compassion on criminal impulsivity in a prisoner sample. *Journal of Police and Criminal Psychology*, 33(2), 118–122. <https://doi.org/10.1007/s11896-017-9239-8>
- Morley, R. M., Terranova, V. A., Cunningham, S. N., & Kraft, G. (2016). Self-compassion and predictors of criminality. *Journal of Aggression, Maltreatment & Trauma*, 25(5), 503–517. <https://doi.org/10.1080/10926771.2015.1107170>
- Moya-Albiol, L. (2018). *La empatía*. Plataforma Editorial.
- Moya-Albiol, L. (2021). *Violencia, una visión actual desde la Psicología*. Prisanoticias Colecciones y EMSE EDAPP, S.L.
- Moya-Albiol, L., Herrero, N., & Bernal, M. C. (2010). The neural bases of empathy. *Revista Neurología*, 50(2), 89–100. <https://doi.org/10.33588/rn.5002.2009111>
- Murphy, C. M., Stosny, S., & Morrel, T. M. (2005). Change in self-esteem and physical aggression during treatment for partner violent men. *Journal of Family Violence*, 20(4), 201–210. <https://doi.org/10.1007/s10896-005-5983-0>
- Neff, K. (2003). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2(2), 85–101. <https://doi.org/10.1080/15298860309032>

- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality*, 41(1), 139–154. <https://doi.org/10.1016/j.jrp.2006.03.004>
- Neff, K. D., & Pommier, E. (2013). The relationship between self-compassion and other-focused concern among college undergraduates, community adults, and practicing meditators. *Self and Identity*, 12(2), 160–176. <https://doi.org/10.1080/15298868.2011.649546>
- Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality*, 77(1), 23–50. <https://doi.org/10.1111/j.1467-6494.2008.00537.x>
- Ortiz, J., & Raine, A. (2004). Heart rate level and antisocial behavior in children and adolescents: A meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(2), 154–162. <https://doi.org/10.1097/00004583-200402000-00010>
- O'Shea, L. E., & Dickens, G. L. (2015). Contribution of protective factors assessment to risk prediction: Systematic review and meta-analysis. *European Psychiatry conference*, 30, 211. [https://doi.org/10.1016/S0924-9338\(15\)30171-1](https://doi.org/10.1016/S0924-9338(15)30171-1)
- Palumbo, I. M., & Latzman, R. D. (2021). Parsing associations between dimensions of empathy and reactive and proactive aggression. *Journal of Personality Disorders*, 35(Supplement C), 56–74. https://doi.org/10.1521/pedi_2021_35_522
- Pandey, R., Tiwari, G. K., Parihar, P., & Rai, P. K. (2021). Positive, not negative, self-compassion mediates the relationship between self-esteem and well-being. *Psychology & Psychotherapy: Theory, Research & Practice*, 94(1), 1–15. <https://doi.org/10.1111/papt.12259>
- Paucsik, M., Nardelli, C., Bortolon, C., Shankland, R., Leys, C., & Baeyens, C. (2022). Self-compassion and emotion regulation: testing a mediation model. *Cognition and Emotion*, 37(1), 1–13. <https://doi.org/10.1080/02699931.2022.2143328>
- Pinto, L. A., Sullivan, E. L., Rosenbaum, A., Wyngarden, N., Umhau, J. C., Miller, M. W., & Taft, C. T. (2010). Biological correlates of intimate partner violence perpetration. *Aggression and Violent Behavior*, 15(5), 387–398. <https://doi.org/10.1016/j.avb.2010.07.001>
- Preckel, K., Kanske, P., & Singer, T. (2018). On the interaction of social affect and cognition: Empathy, compassion and theory of mind. *Current Opinion in Behavioral Sciences*, 19, 1–6. <https://doi.org/10.1016/j.cobeha.2017.07.010>
- Ptacek, J. T., & Daubman, K. A. (2018). An exploration of self-compassion in incarcerated women. *Journal of Police and Criminal Psychology*, 35(2), 182–190. <https://doi.org/10.1007/s11896-018-9304-y>
- Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology and Psychotherapy*, 18(3), 250–255. <https://doi.org/10.1002/cpp.702>
- Renzetti, C. (2013). *Feminist criminology*. Routledge. <https://doi.org/10.4324/9780203930311>
- Rezapour-Mirsaleh, Y., Shafizadeh, R., Shomali, M., & Sedaghat, R. (2021). Effectiveness of Self-Compassion Intervention on criminal thinking in male prisoners. *International Journal of Offender Therapy and Comparative Criminology*, 65(1), 100–116. <https://doi.org/10.1177/0306624X20936192>
- Ribeiro da Silva, D., Rijo, D., Brazão, N., Paulo, M., Miguel, R., Castilho, P., Vagos, P., Gilbert, P., & Salekin, R. T. (2021). The efficacy of the PSYCHOPATHY.COMP program in reducing psychopathic traits: A controlled trial with male detained youth. *Journal of Consulting and Clinical Psychology*, 89(6), 499–513. <https://doi.org/10.1037/ccp0000659>
- Romero-Martínez, A., Lila, M., Gracia, E., Rodríguez, C. M., & Moya-Albiol, L. (2019). Acceptability of intimate partner violence among male offenders: The role of set-shifting and emotion decoding dysfunctions as cognitive risk factors. *International Journal of*

- Environmental Research and Public Health*, 16(9), 1537. <https://doi.org/10.3390/ijerph16091537>
- Romero-Martínez, Á., Lila, M., & Moya-Albiol, L. (2019). Alexithymic traits are closely related to impulsivity and cognitive and empathic dysfunctions in intimate partner violence perpetrators: New targets for intervention. *Applied Neuropsychology: Adult*, 28(1), 71–79. <https://doi.org/10.1080/23279095.2019.1594233>
- Ronel, N., & Segev, D. (2014). Positive criminology in practice. *International Journal of Offender Therapy and Comparative Criminology*, 58(11), 1389–1407. <https://doi.org/10.1177/0306624X13491933>
- Singer, T. (2006). The neuronal basis and ontogeny of empathy and mind reading: Review of literature and implications for future research. *Neuroscience and Biobehavioral Reviews*, 30(6), 855–863. <https://doi.org/10.1016/j.neubiorev.2006.06.011>
- Singer, T., & Klimecki, O. M. (2014). Empathy and compassion. *Current Biology*, 24(18), R875–R878. <https://doi.org/10.1016/j.cub.2014.06.054>
- Sousa, R., Petrocchi, N., Gilbert, P., & Rijo, D. (2022). Unveiling the heart of young offenders: Testing the tripartite model of affect regulation in community and forensic male adolescents. *Journal of Criminal Justice*, 82, Article 101970. <https://doi.org/10.1016/j.jcrimjus.2022.101970>
- Sousa, R., Ribeiro da Silva, D., Petrocchi, N., Gilbert, P., & Rijo, D. (2023). At the heart of change: Differences in young offenders' HRV patterns after the delivery of the PSYCHOPATHY.COMP program. *Frontiers in Psychiatry*, 13, 1032011. <https://doi.org/10.3389/fpsyt.2022.1032011>
- Vachon, D. D., Lynam, D. R., & Johnson, J. A. (2014). The (non)relation between empathy and aggression: Surprising results from a meta-analysis. *Psychological Bulletin*, 140(3), 751–773. <https://doi.org/10.1037/a0035236>
- Vischer, R. (1873). On the optical sense of form: A contribution to aesthetics. In H. F. Mallgrave & I. Eleftherios (Eds.), *Empathy, form, and space: Problems in German aesthetics, 1873–1893* (pp. 89–123). Getty Center for the History of Art and the Humanities.
- Wang, S., Wang, X., Chen, Y., Xu, Q., Cai, L., & Zhang, T. (2021). Association between relational trauma and empathy among male offenders in China. *Criminal Behaviour and Mental Health*, 31(4), 248–261. <https://doi.org/10.1002/cbm.2208>
- World Health Organization. (2020). *Violence, health and sustainable development*.
- World Health Organization. (2023). *World health statistics 2023: Monitoring health for the SDGs, sustainable development goals*.
- Wu, Q., Chi, P., Zeng, X., Lin, X., & Du, H. (2019). Roles of anger and rumination in the relationship between self-compassion and forgiveness. *Mindfulness*, 10(2), 272–278. <https://doi.org/10.1007/s12671-018-0971-7>
- Yoo, S., & Whang, M. (2020). Vagal tone differences in empathy level elicited by different emotions and a co-viewer. *Sensors*, 20(11), 3136. <https://doi.org/10.3390/s20113136>
- Zhong, H., Li, H., Zhang, X., Zhang, X., Zhang, Y., & Zhao, J. (2022). Childhood maltreatment and impulsivity in offenders: Examining the mediating roles of self-compassion and cognitive reappraisal. *Child Abuse & Neglect*, 133, 105847. <https://doi.org/10.1016/j.chiabu.2022.105847>