"JUST BEFORE". INTIMATE PARTNER VIOLENCE: VIRTUAL REALITY AND A NEW FOCUS FOR PERPETRATORS' MOTIVATION FOR TREATMENT

Stefania Carnevale[*], Marcella Autiero[*], Barbara Agueli[*],
Antonietta Bozzaotra[**], Caterina Arcidiacono[*],
and Immacolata Di Napoli[*]

The Istanbul Convention (art. 16) regulates interventions to prevent and combat male violence against women, stressing the need for intervention to reduce perpetrators' recidivism. In this research the paternal function is a motivating factor for treatment that facilitates men's access to the awareness of their violence on children, especially when they are put into their shoes. In this case virtual immersive reality becomes an efficient tool as it can transfer the user and his emotionality into the world of the victims. To explore the impact on the recognition of responsibility for one's own violent actions on the other and on the motivation for treatment, forty-six men participated in ViDaCS serious game, involving a virtual scene of a couple a moment before the outburst of negative emotions takes over, first in the role of a man, then in that of a child who witnesses the scene. Quanti-qualitative questionnaires and focused interviews were administered to participants. Data were respectively analysed with frequency analysis and thematic analysis. Results allowed the men who have lived the scene to access emotional contents and experiences, demonstrating the effectiveness of VR (Virtual Reality) in creating a trigger in the man's awareness and his internal motivation to change.

Keywords: intimate partner violence, prevention, motivation to change, perpetrator, treatment for authors of violence

1. Introduction

Violence against women is a phenomenon which is both large scale and transversal regardless of culture, religion, socio-economic status and educational level (WHO, 2013). It represents a social problem that violates human rights (Council of Europe-CoE, 2011) and constitutes one of the main risk factors for ill health and premature death for women and girls (WHO, 2002).

Violence against women mainly occurs within domestic borders (Lysova, 2016; Turchik, et al., 2015; Park & Kim, 2017); unfortunately, one woman out of three has experienced this by a current or former partner (WHO, 2020). Intimate Partner Violence (hereinafter IPV) refers to violence perpetrated within romantic relationships. It refers to an intimate partner's or former partner's behaviour that causes physical, sexual or psychological harm, including assault, sexual coercion, psychological abuse and controlling behaviour (WHO, 2013).

[*] University of Naples Federico II, Italy.
[**] Local Health Board, Naples 1, Italy.

Although IPV is common in both heterosexual and homosexual couples (Stewart et al., 2013), national and international statistics show a high prevalence of violence in hetero-sexual couples and male violence against women, often in the presence of children, wit-nesses to the violence (Devries et al., 2013; European Union Agency for Fundamental Rights - FRA, 2014; ISTAT, 2007; 2017).

An ecological approach is widely suggested for understanding, preventing and combat-ing male violence against women. According to the ecological model, individual, relational, organizational, cultural, and collective dimensions are involved in IPV (Di Napoli et al., 2019).

IPV is conceived as the consequence of a patriarchal culture that justifies violence, power, and control (Dobash & Dobash, 1979; Pence & Paymar, 1993). In a patriarchal cul-ture, relationships are dominated by biases that maintain multilevel hierarchies, promote victim blaming, and exonerate the perpetrator (Burt, 1980; Rollero & Piccoli, 2020). Social attitudes and beliefs of male power and control over women may induce men to adopt violence as an instrument to maintain or re-establish control over women (Bourdieu, 2014; Chiurazzi & Arcidiacono, 2017). So, IPV can occur when the male partner fails to maintain a position of dominance in the couple (Misso et al., 2019).

In addition to the cultural dimension, scholars have suggested that perpetrators' poor metacognitive skills are an individual predictor of IPV (Misso et al., 2019). They have a sig-nificant deficit in reflective functioning (Fonagy & Levinson, 2004), which increases the po-tential for violence.

Recently, scholars have examined emotion dysregulation as a risk factor for IPV; men unable to manage, regulate and express their negative emotions become violent towards their partner (Tager et al., 2010; Garofalo et al., 2018; Velotti et al., 2016; Lee et al., 2019; Grigorian et al., 2020; Wegrzyn et al., 2017).

Audet et al. (2022) found physical assault and psychological abuse as a dysfunctional communication channel to externalize their negative emotions and manage their emo-tional turmoil (Birkley & Eckhardt, 2019). Emotion dysregulation is also considered to be an intermediate mechanism that can explain how other risk factors such as adherence to gen-der norms (Berke et al., 2019) and childhood interpersonal trauma (Dugal et al., 2018) are related to IPV perpetration.

2.   Factors hindering and facilitating the perpetrator's treatment

The Istanbul Convention (Council of Europe-CoE, 2011) regulates interventions to prevent and combat male violence against women at the European level, more precisely art. 16 stresses the need for interventions aimed at reducing the risk of perpetrators' recidivism. In Italy, the introduction of Law 69/19, called the "red code", allowed the conditional suspen-sion of the sentence subject to a recovery path for men convicted of domestic violence.

However, before the law came into force, interventions for perpetrators of violence were predominantly voluntary: there was low demand and many perpetrators were never reached (Merzagora Betson, 2009). In recent years, literature has addressed the need to ex-amine the motivating elements for the treatment of perpetrators and improve the effective-ness of recovery programs dedicated to them (Mizen & Morris, 2006; Merzagora Betsos, 2009; Mizen, 2017; 2019; Misso et al., 2019; Rollero et al., 2019).

IPV perpetrators' motivation to treatment is a particularly delicate issue, because they perceive themselves as entitled to use abuse and control; and, for this reason, they often fail to recognize the impact and seriousness of their behavior on their partner and children (Heward- Belle, 2016).

Among the factors hindering the request for help by perpetrators, the literature highlights: denial, minimization, victim blaming, feelings of entitlement to act violently, attributions to external causes of one's behaviour, cognitive distortions about the partner, having acted in self- defence, and being victims of partners (Blacklock, 2001; Henning & Holdford, 2006; Harsey et al., 2017; Heward-Belle, 2016; Meyer, 2018, Harsey & Freyd, 2020).

On the other hand, among the factors facilitating the request for help, the literature highlights the paternal function as a motivating factor for treatment, provided that the authors become aware of the effect that their violence exerts on children (Mandel, 2013; Stover & Spink, 2012; Stover et al., 2013; Strega et al., 2008). Research on the paternity of perpetrators of violence (Stanley et al., 2012) suggests that their desire to care for their children and to rebuild a meaningful relationship with them motivates them to change.

IPV perpetrators express regret for not having been able to live their fatherhood adequately and completely (Meyer, 2018). Therefore, paternity becomes a motivating factor for treatment, facilitating awareness of perpetrators of the effect that their violence has on their children (Rothman et al., 2007; Strega et al., 2008; Stover & Spink, 2012; Stover et al., 2013).

In fact, it has been shown that men involved in child protection programs are much more likely to engage in treatment because they are motivated by the desire to take care of their children and to rebuild a meaningful relationship with them (Stanley et al., 2012).

Encouraging the process of recognizing the emotions felt by those who suffer violence is a further motivating and reinforcing factor in enhancing the IPV perpetrators' adherence to the treatment.

Virtual reality (Sanchez-Vives & Slater, 2005; Kilteni et al., 2012; Banakou et al., 2016) is increasingly recognized as a helpful tool for fostering the experience of awareness of the emotions of those who suffer violence (Seinfeld et al., 2018). The virtual reality allows them to access sensations through virtual experience and emotions that the victim can feel (Barnes et al., 2022). Barnes et al., (2022) support the potential of using virtual reality as it offers users the experience of being present in a virtual scene that stimulates a process of emotional arousal.

A serious game 4.0 ICT namely ViDaCS was developed by the ViDaCS project, founded by the European commission (project grant number 810449); the project aimed to set, experiment and validate an innovative emotional and behavioral self-assessment tool for perpetrators to increase their motivation for the treatment.

VR (Virtual Reality) has the power to transfer the users, and their emotive personality, into a different world (negative or positive, depending on the themes and scenarios).

It incorporates mainly auditory and visual feedback, and also allows other types of emotional feedback that improve the players' s self-experience. The use of a VR device enables significant emotional processes and clearly presupposes an exclusive interactive mode; in fact, the immersive mode allows the participants to replace their body with the virtual body of the other who interacts in real time and synchronously with the scene projected on the viewer device. This typically leads to a strong illusion that the virtual body is the participant's body.

The innovative tool provides both an immersive emotional experience of IPV in the shoes of the child when the child sees and hears violent domestic scenes. ViDaCS serious game aims to help men to recognize their violent behaviour, to motivate themselves to adhere to perpetrators treatment and to adopt "new" behaviours, avoiding violent ones.

Serious ViDaCS is a virtual reality experience that allows the man to enter a familiar scene of intense couple conflict. The virtual reality consists of two parts: a first part in which the user experiences the scene of the couple's conflict in the role of the man; and a second part in which the user slips into the position of the child witnessing the violent interactions between his/her parents. In this phase of the game the user can choose the gender of the child avatar (male and female) and the age (3-7 age or 7-13 age).

3. Aim of the study

The aim of this study was to explore the experience of the serious game and the impact that the immersive experience has on the recognition of responsibility for one's own violent actions on the other and on the motivation for treatment.

The paper discusses the experiences of men, either sentenced for IPV or in a high conflict couples, of an IPV situation from a child's perspective, through ViDaCS serious game.

4. Method

4.1 Participants

In the ViDaCS serious game experience, forty-six men were involved, aged between 25 and 61 (Mean = 41.78; SD = 10.6). Mainly the participants had a master's degree and they were in non -cohabiting couples with children. The participants are all Italian (See table 1).

The participants were recruited by snowball sampling, a convenience sampling method, among health and social services, and by the services involved in IPV, such as the services for victims and perpetrators. Specifically, 50% were men in treatment (on voluntary request and under judicial process) by a public health service for perpetrators - Oltre la Violenza (OLV) -; the other participants were volunteers recruited by public health and social services where they are in treatment for the management of a conflictual relationship with their partner during marital separation or in moments of crisis in the couple.

The study was approved by the Ethics Committee of Psychological Research, Department of Humanities, University of Naples "Federico II" (CERP 8/2021- 19/2/2021).

4.2 Immersive virtual experience procedure and tools

The game scenes were built starting from two qualitative studies in which the representations and perception of IPV stories of social and health professionals (Autiero et al., 2020) and professionals who deal with the care of children witnessing domestic violence (Carnevale et al., 2020) were collected. Moreover, workshops with children through group interaction, participatory drawing and music therapy were carried out to define the thoughts, emotions and perceptions of children who perceive something bad in their family environment (Manna et al., 2021).

The material collected allowed the setup of the story of the game, its scenes and the main options for the user, who carries them out during the course of the game. The serious game starts with a scene that represents a man who enters his house, but can't find his keys. This event provokes a state of agitation.

Table 1. Participants

	n	**M (SD)**
Age	46	41.79 (10.6)
Educational Level	*n*	**%**
Middle School	13	26%
High School	14	30.4%
Univ. Degree	16	32.6%
Postgraduate Degree	3	6.5%
Civil Status	*n*	**%**
Single	8	17.4%
With partner	4	8.7%
Married	15	32.6%
Cohabitant	14	30.4%
Separated/Divorced	5	10,9%
Off-spring	*n*	**%**
Men with children	34	73.9%
Men with-out children	12	26.1%
Sending Services	*n*	**%**
OLV	23	50%
Other	23	50%

The user can make a choice among different options (greeting his partner or sitting down to watch television), then a verbal conflict with his partner starts. From the scene of the conflict between the partners, the game turns back the clock and re-proposes the scene of the man's arrival at the house experienced by the child who hears the arrival of the father and the beginning of their parents' verbal conflict. It is in this phase of the game that the user experiences the game in the child's shoes. And here the user is presented with some choice options that he can make in the child's shoes, the choices vary in relation to the age of the virtual child (some actions are: draw, hide under the desk, call a friend and run away (See Figure 1 and 2; to see more scenes of Vidacs serious game you can click on the YouTube channel https://www.youtube.com/watch?v=TGi92feszY0).

ViDaCS serious game was tested individually. The testing of ViDaCS serious games was carried out by a team composed of: a technical operator, for any possible technical support in using the serious game, and two psychologists, one of whom was present for the illustration of the serious game's modalities and the other as observer of the behaviour of the men.

MAN'S PERSPECTIVE

Figure 1. Scenes from man's perspective
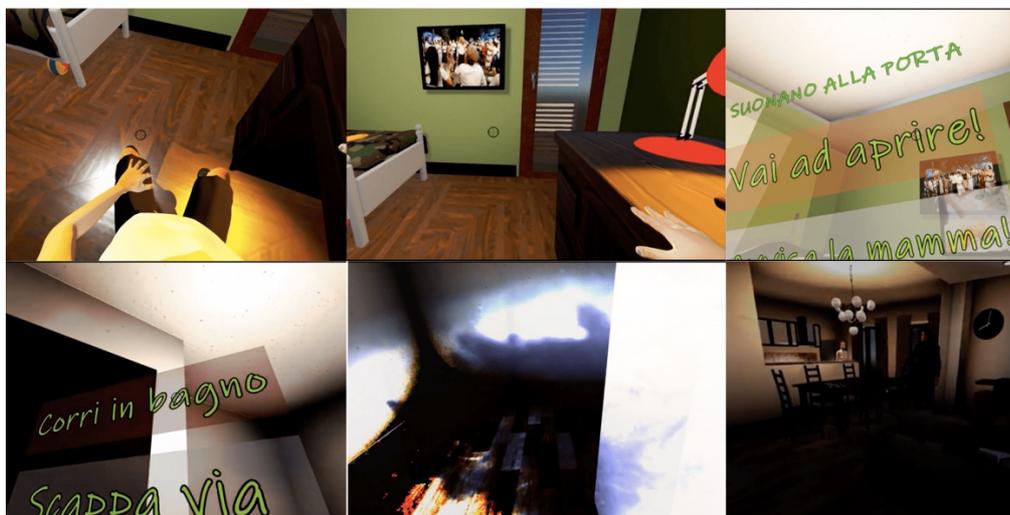
CHILD'S PERSPECTIVE

Figure 2. Scenes from child's perspective

After the experimentation, a self-report questionnaire and a focused-open interview were administrated to collect the men's opinion on the usability of serious gaming as well as their perceptions, thoughts and emotional experience of serious gaming, specifically. These tools were administrated in a different room from the one of the experimentations.

a)   **A self-report questionnaire** was built ad hoc to detect and explore first impressions and emotions regarding the virtual experience.

The questionnaire is composed of:

−   9 items on 5-point Likert scales (from 1 I don't agree at all - to 5 - very much agree) on the degree of satisfaction relating to the structure of the game (for example: "The information received before the game was sufficient"; "The length of the game is just right"; "The interface and interactivity are clear and immediate") and the effectiveness of the game with respect to its usefulness in recognizing the emotions (for example: "Based on the experience you had, do you think this serious game is an effective tool to experience and recognize the emotions felt in highly conflicting situations?" and "Based on the

experience you had, do you think this serious game is an effective tool for promoting behaviour change?);

 − 4 open questions concerning the scene he just experienced and the emotion tied to his feelings during the scene (as the father and then as the son/daughter); his experience with the father-son transference and his thoughts on the whole experience (for example "How did you experience the transition from the father's point of view to that of the child? Which emotions, sensations, thoughts accompanied the different moments of the game?"; "What kind of difficulties did you have while playing the game?"; "Write -if you want- opinions, reflections and personal notes not previously mentioned"). The open questions aimed at deepening the dimensions explored through the Likert scales (emotions during the transfer, possible physical reactions to the game, additional reflections) giving the opportunity to express oneself through one's own words and introduce any other considerations.

b) **A focused open/interview** that provides a dialogical approach (Arcidiacono, 2012; 2016; Schütze, 1983) was used, giving the interviewees enough freedom to share their experience. The grid of focused narrative interview included the following areas to explore: 1) Experiences and reflections about the immersive virtual reality; 2) Representation of the perspectives of the witness; and 3) Evaluating the possible alternatives to the violent action. The interviews were conducted by two psychologists, one interviewer and one observer. The interview lasted an average of 35 minutes, it also aimed at handling men's reflections and emotions related to the immersive virtual experience.

4.3 Data Analysis

Regarding the self-questionnaire, a descriptive analysis (frequency, mean, standard deviation) of each item (Likert Scale) was carried out.

Regarding the open questions of the self-questionnaire and the focused interview, the textual data were analysed by the thematic analysis method (Braun & Clarke, 2006), using the software ATLAS.ti 8.

Following Braun and Clarke (2006) the analysis was carried out through various steps: a) Familiarization with the data: the texts were read and the data transcribed, reading and re-reading them and taking note of initial ideas; b) Generation of initial codes: interesting aspects of the data were coded systematically across the entire dataset, assembling the relevant ones for each code; c) Definition of themes and their subsequent revision: the codes were assembled into potential themes, collecting all relevant data for each one; d) Definition and labeling of more wider categories: the specifics of each theme and of the entire story produced by the analysis were defined, creating clear definitions and names for each theme; e) Creation of the research report: extracts from the content were selected and highlighted in a clear and defined way. These same extracts were further explored with the senior team for one last time, linking the analysis with the research question and the literature, to create an academic report of the analysis.

The analysis of the texts was carried out within the broader team composed of senior researchers and service professionals, who deal with the fight against gender-based violence. The team identified and discussed the codes and gradually formulated emerging thematic areas, in order to analyse the collected data more fully and precisely.

5. Results

In this section the results obtained by the self-report questionnaires and by the focused narrative interviews are described separately.

5.1 Self-report questionnaires

Participants considered the structure and interactivity of the serious game to be easily playable: the story-board was easily understandable and the Information received before playing was also positive reported.

The *scenarios are* reported as very truthful, while users considered dialogues, texts and sounds to be clear and comprehensible (see Table 2). As for *the length* of the scene, users considered that the length was adequate.

Participants confirmed the *transformative power of the ViDaCS serious game*; they confirmed the impact of the serious game in giving people the experience to recognize the emotions stimulated by conflict situations and stated that this experience could be very useful in activating awareness in men and acting as a trigger to change.

In the shift *from father to child*, the answers showed that the emotions most commonly reported by the users were deep anguish and a profound sense of helplessness and emptiness (80%, N. 40); seeing the world from the child's point of view made them feel small and helpless in the face of a "war" for which they were not even responsible. A user wrote: "*I felt completely helpless during this step*" (single, 29 years old, without children, other service)[1], while another said: "*In this step, I felt like the whole world didn't hear my voice and what happened in the kitchen*" (with partner, 26 years old, without children, OLV)

Some users (61%, N. 28) seemed to have a strong "*emotional contact*" with the child, which led them to feel a strong sense of helplessness, but also of invisibility and abandonment; as for example one man wrote: "*I just felt great pain in seeing a child who was crying and afraid without anyone thinking and giving him peace*" (with partner, 26 years old, without children, OLV).

No specific problems or adverse reactions to virtual reality were reported, but some significant considerations emerged from the question which gave the opportunity to add personal opinions and notes.

Regarding the experience of the game, direct access to aggressive tones was a nuisance for some users (65%, N. 30). An example of a reported open answer was: "*I don't agree on how the scene unfolds [...] I don't recognize myself in these aggressive tones without a valid reason!*" (single, 60 years old, with children, OLV). Many of the participants who expressed a disagreement with the aggressive tone of the scene, for timing and development asked for a more gradual transition to the highly conflicting phase (32%, N. 15).

Moreover, men who said they had experienced domestic violence during their childhood, felt the length of the scene was too long ("*I would have disconnected if it lasted longer*" said a participant (cohabitant, 61 years old, with children, OLV), while those who did not report childhood experiences of witnessing violence sometimes considered the length short; "*It could last even longer!*", said a participant (cohabitant, 34 years old, without children, other service).

---

[1] For each user the following information are reported: type of current relationship, age, employment status, and sending service.

Table 2. Likert scale self-report questionnaires on the playability and transformative power of the ViDACs serious game. Descriptive analysis

	Strongly agree % (N.)	Agree % (N.)	Partially agree % (N.)	Slightly agree % (N.)	Strongly disagree % (N.)	M	DS	Missing
Item 1. The information received before the game was sufficient.	41.30% (19)	39.13% (18)	8.69% (4)	2.17% (1)	2.17% (1)	4.23	0.89	3
Item 2 The information received before the game was clear	50% (23)	32.60% (15)	17.39% (8)	0	0	4.32	0.76	0
Item 3. The interface and inter-activity are clear and immediate.	32.60% (15)	36.95% (17)	21.73% (10)	2.17% (1)	0	4.06	0.82	3
Item 4. The game is easily playable.	41.30% (19)	32.60% (15)	19.56% (9)	0	0	4.23	0.78	3
Item.5. The storyboard is easily understandable.	50% (23)	39.13% (18)	4.34% (2)	0	0	4.48	0.59	3
Item 6. Dialogues, texts and sound are clear and exhaustive.	43.47% (20)	34.78% (16)	8.69% (4)	6.52% (3)	0	4.23	0.89	3
Item 7. The length of the game is just right.	39.13% (18)	36.95% (17)	8.69% (4)	6.52% (3)	2.17% (1)	4.11	1	3
Item 8. Based on the experience you had, do you think this serious game is an effective tool to experience and recognize the emotions felt in highly conflicting situations?	30.43% (14)	50% (23)	6.52% (3)	6.52% (3)	0	4.11	0.82	3
Item 9. Based on the experience you had, do you think this serious game is an effective tool for promoting behaviour change?	32.60% (15)	34.78% (16)	17.39% (8)	8.69% (4)	0	3.97	0.96	3

Some users elaborate on their opinion regarding the *effectiveness of serious game*, considering it as being a valid therapeutic tool in the treatment of abusive fathers because taking the child's perspective leads to experiencing a very strong and deep identification with the victim. Only with pathological cases it could fail to lead to transformative thinking about; in fact, only a few participants said they were skeptical, but not about the validity of the game, but about the perpetrator's ability to change ("*In some cases, nothing can trigger a change*" – single, 29 years old, without children, other service).

Thinking about the *usability of the ViDaCS serious game*, users have often stated that the game should also be tried by women (30.4%, N. 14), in particular their partners, who were often reported as "provocative" or, otherwise, actively participating in quarrels. The game was found to be useful for all parents and/or adults in relationship ("*We should all have this experience. Even mothers who are sometimes very provocative and in the face of an argument never stop. Everyone should do it!*" – cohabitant, 68 years old, with children, OLV).

As some users said, the ViDaCS serious game also had a training value (26%, N. 12), because it can help operators dealing with violence management to enter into the emotional world of the context of the violence. The man mentioned above also stated that "*Even those who work in this area should experience the game in order to better understand violence*".

Moreover, after the game, 71.7 % of men (N. 33) reported feeling anxious, because the man in the virtual scene has no choice. "*Everything you do in the game ends up being violent!*" (single, 37 years old, without children, OLV). Choices turn out to be constrained, and even when choosing non-violent ways, such as "say hello to your wife," the user finds himself doing so aggressively. This 'trap' seems similar to what happens in relationships where

violence is perpetrated: the perpetrator, while choosing violence, may feel he has no other choice then perpetrating it.

5.2 Focused interview

From the reading and analysis of the textual material, 20 codes emerged, grouped into 4 thematic areas: Emotions towards the violent scene; Multi-level resistance; An opportunity to think and change; First empathy towards the experiences and emotions of children.

5.2.1. Emotions towards the violent scene

Various emotions experienced during the scene were reported:

Anxiety. The scene reminded some participants of past experiences of witnessing and/or direct violence and, in these cases, provoked rather strong emotions of anguish. Violence is often described as the only possible "forced" way, in the face of the partner's behavior or situations experienced as provocations. Somehow, the serious game seems to have revived that cycle of violence that returns and from which it seems impossible to get out to find alternative ways. At the same time, the possibility of recognizing this condition can prove to be a resource of the gaming experience, as the man could, starting from this condition, begin to wonder about the possible alternatives to build.

Anger. Anger which, as a man perpetrator of violence described, was sometimes felt towards oneself and one's own violent action, above all because it was unfair towards the child; "*I felt anger towards the father because he was unfair to the child*" declared an OLV user (cohabitant, 65 years old, with children, OLV).
"*I experienced these things as a child, I am the son of separated parents. I am very angry about what I saw*" declared an OLV user (single, 29 years old, without children, OLV).

Fear. Fear was witnessed when experiencing the child's emotions: "*I felt fear... fear that the situation could degenerate... I had that inner sensation, that alarm bell that something bad was happening*" (married, 40 years old, with children, OLV). Fear was also declared in regard to the difficulty and "resistance" of having to look at oneself, in the role of the avatar, as a perpetrator.

Shame. Shame was reported as experienced in regard to behavior towards the partner and children. Some men said they felt it because the avatar's actions and attitude reminded them of those of so many men; others, however, have recognized it in relation to their own experience, testifying a certain level of awareness.
A man who shared his experience said:

> "*It's a pretty real game! [...] it opened my conscience, because I often happened to raise my voice and while playing, playing dad's role, I felt ashamed, remorseful for what I was doing! [...] at the base there should be the desire to change [...] I would let couples play, parents*" (separated, 28 years old, with children, other service).

Impotence/ helplessness. Helplessness was witnessed by the participants both in the role of the child ("*it is as if the child cannot choose anyway because the parents don't think so*" – married, 37 years old, with children, other service) and in the role of a man who, clouded by rage, can choose nothing but violent action.

Sadness. Sadness is an emotion that shows the possibility of putting yourself into the child's shoes, of identifying with their emotions and sometimes with the memory of childhood experiences.

There is no clear empirical evidence in the literature stating that the sadness felt by perpetrators of violence increases their empathy for their children. However, some studies assert that when perpetrators of aggressive acts receive feedback regarding their actions based on their recognition of their victims' fear and sadness, these emotional cues are expected to lead them to inhibit their aggression (Feshbach & Feshbach, 1969; Mehrabian & Epstein, 1972). In our study, we found that guilt and sadness felt by witnessing violence children activated more empathy toward them, particularly in men who had family history of witnessed violence.

The scene that appeared to be the most striking was the one in which the child does not know what to do, in which the child's experiences of terror and desperation emerge in the game, by colours chosen, movements and tone of voice that refer to a strong emotional connotation. "*Today, in hindsight, I know that the fact that my daughter didn't leave the room was a show of dislike towards me, whereas before I thought she was just studying!*" (separated, 53 years old, with children, OLV)."*I felt sadness in the child's shoes. I thought of the sorrow all children feel when they witness their parents' quarrels*" (cohabitant, 48 years old, with a child, OLV).

Feeling of strangeness. The feeling of distance from the scene, of being extraneous to the content of the game has often been witnessed. Some users recognized themselves more in the role of the child, as if violence was only recognizable when it is suffered and not acted out. Sometimes there was a feeling that the game could only be completed on the condition of not being reflected in that "monstrosity". One user, for example, during the game, kept repeating to himself: "*He's exaggerating! Ok, calm down, this man is not me*" (cohabitant, 35 years old, without children, OLV).

Another participant said: "*I don't recognize myself in the stories my wife and daughter tell about me! Sometimes I find it hard to remember what they say or, if I remember, I don't understand their tragic experience!*" (separated, 53 years old, with children, OLV).

The sentence that struck the team the most was told by a user who declared, in a moment of almost witnessing suffering and resignation: "*What does it mean to go beyond? Stopping a moment early? (...) I can't justify my attitude, but, unfortunately, I didn't know when to stop!*" (separated, 43 years old, with children, OLV).

Some participants reported some physical ailments such as nausea and dizziness, but these can most likely be attributed to the 3D experience made from a sitting position and in stationary mode.

5.2.2. Multi-level denial

Participants defined violence against women as a merely problem of communicative and relational misunderstandings; for the participants not under judicial sentence, in the

"pathological men" it is different, their violence is "other"; at the same time those who were under judicial sentence "justified" these violent interactions. The latter, in fact, have often spoken of their "bad luck" when the partner fell or suffered serious injuries due to a violent action.

Participants, however, distanced themselves from the violence saying that what happened in the scene did not reflect what happened or had happened to them.

Participants revealed strong denial of violence in their own life. The distinction between "what is plausible and what is not" emerged as an aspect of distortion: some participants, in fact, distancing themselves from the scene, claimed that the reasons for the dispute at stake were trivial compared to their experience, but, at the same time, during the interview, they recounted some of their experiences which were different in content but with the same level of "futility and lightness".

It was possible to trace different positions, in oscillation, on a continuum between denial and acceptance of one's own violent part, both for men who had been perpetrators of violent behavior and for those who, instead, defined themselves as men who were in high conflict couples without judicial sentence.

It was as if the game, capable of facing the evidence, had brought to light a sort of internal split in some men between the "monstrosity" of their violent side and the non-violent part. It seemed that, in some cases, these two parts of the self, had no way of communicating, or of coming into contact with each other, because they were internally rigidly separated.

5.2.3. An opportunity to think and change

The experience of first playing in the role of the man and then in that of the child (the scene was experienced twice and from two different perspectives) gave the participants the opportunity to live "in the shoes of" and to be able, through the interviews, to reformulate their own experiences, narrating and re-narrating their experiences in the light of assuming other angles.

The immersive experience on all occasions moved something, both in terms of experiences and in terms of thought; in a context that has been conceived and structured as much as possible as "container", "neutral" and "welcoming", a place where their thoughts and feelings have not been rejected, attacked or not taken away.

In many cases, in fact, exposing precisely this need to re-tell, many participants stated that they would have preferred to have other choices or, if not, to be able to replay the game to have another chance.

5.2.4. First empathy towards the experiences and emotions of children

Some participants revealed that they felt very uncomfortable in the child's shoes, as if they felt "forced" to see themselves from the eyes of a child in the part of the perpetrator; a part of himself that has never been recognized.

It was especially in the child's perspective that users reported the greatest "helplessness": a child trapped in anger and fear, who doesn't know how to move.

In some users living in the role of the child awakened not only experiences of witnessing violence, but also a strong recognition of the condition that the children are experiencing. "One day my daughter told me 'You are toxic!' And think what it means for a father to be bad for a daughter!", said a man (separated, 53 years old, with children, OLV).

Starting from the literature and the experiences of the work team of experts who collaborated on the ViDaCS project, this dimension was previously envisaged and discussed: it was the principal element that guided the choice of the final transfer from child back to adult.

The scene, in fact, never reaches overt and strong physical violence, shocking or strong images, and, at the end, allows the man to assume, in the light of the experience from the child's point of view, responsibility for what happened in the game, giving him the chance to remedy it too.

This passage can also allow the man to potentially move to a dimension of "protection" of that child who can represent both a son or a daughter, as well as the child he was in his childhood.

In reality, there is no remedy in the final scene, as the man is faced with the impossibility of escaping the consequences of his own actions and the need to think "a moment before".

Many men have also expressed the will and desire to protect those children in the game.

However, there have also been users who reported being victims of witnessed violence; they seem to recognize the violence suffered by the child more easily than the violence acted. Also, because the story of the same violence suffered is socially more "acceptable".

6. Discussion

ViDaCS serious game is an innovative self-assessment tool, which offers, through virtual reality, the opportunity for the IPV perpetrator to hear with his own ears and to see with his own eyes a familiar scene of the escalation of violence from a child's perspective. Therefore, Vidacs serious game can be considered a tool that activates an experience capable of triggering a process of recognition, awareness, and motivation for change (Strega et al., 2008; Rothman et al., 2007; Stover et al., 2013; Stanley et al., 2012; Meyer, 2018). The immersive reality allows the participant to replace their body with a virtual body that interacts in real time and synchronously with the scene projected on the viewing device. This typically leads to a strong illusion that the virtual body is the participant's body. It has been widely used in programs to reduce implicit racial prejudice, explored both from a behavioral point of view (Banakou et al., 2016), and from a cognitive neuroscience point of view (Bender, 2019).

Recent studies on IPV (Seinfeld et al., 2018; De Borst et al., 2020; Gonzalez-Liencres et al., 2020) have found how the use of virtual reality increases the recognition of emotions in perpetrators of violence; in particular these studies detect the recognition of the emotional dimensions of fear when the perpetrators shift into a woman's body in virtual reality. Instead, more recently Seinfeld et al., (2023) have found that in VR when perpetrators assume a child's perspective, the main emotion that they reported is anger about a violent conflict between man and woman. Men who experienced ViDaCS serious game reported different emotions of anger, sadness, fear when they assumed the child's role. Our data are in line with previous research, showing an identification of perpetrators with the child in which they see themselves in regard to violence and conflict in their own set of parents (Labarre et al., 2016; Maliken & Katz, 2013; Stover & Spink, 2012).

In particular, our data show that this identification with the child, victim of witnessed violence, is greater in men who receive treatment for perpetrators of violence, whether voluntary or under legal sentences. Therefore, virtual reality is configured as a useful tool to facilitate access to the negative effects of witnessed violence or rather the perception of

threat they have experienced toward the parental conflict between their parents (Seinfeld et al., 2023; Voith et al., 2020).

It is to underline that in the interview at the end of the experiment the men in treatment at the service dedicated to the perpetrators of violence, therefore with IPV stories, described their childhood experiences of conflict between parents. Moreover, for these men the difficulty of getting in touch and of recognizing the experiences and emotions of their partner and their child has been mainly noted (Labarre et al., 2016; Maliken & Katz, 2013; Stover & Spink, 2012). This could be understood, considering that their history as victims of witnessed violence has determined the difficulty of managing one's emotions and the difficulty of assuming the position of the other.

This research highlights the potential of ViDaCS serious game as a tool which is applicable not only to IPV perpetrators who have children, but to all men who act violently whether they are fathers or not; it allows both, to take into consideration through another person who observes, in the specific case of a child, the deleterious effects of violence. But it is also a tool for revealing the witnessed violence to which they have been victims themselves and which becomes one of the predictors of their violent actions. Indeed, childless men had an easier time recognizing themselves in the child and, in some cases, reliving the emotions of anguish and helplessness felt during family conflicts. A user spoke about his experience of witnessing violence. All the non-fathers expressed a thought regarding their future and possible parenthood, stating that the experience of the game certainly triggered a greater propensity to pay attention to the young children.

Another element that we want to highlight is that men in treatment under judicial sentence experience difficulty in approaching the child avatar, in particular, even as fathers of daughters, they chose to position themselves in the male child avatar. This might be due, in addition to the process of identification of the man with the child, to the need to want to distance themselves from the girls who are recognized as accomplices of their mothers and attribute hostile beliefs to them because they are female (Henning et al., 2005; Holtzworth-Munroe, 2000, Parrott & Zeichner, 2003; Pornari et al., 2013). This data seems to communicate the significant impact that the gender component has in the processes of identification and in the crystallization and generalization of culturally connoted gender roles. In fathers' narratives, daughters are often described as accomplices of their mothers, or deceived by them. The ViDaCS team, together with the OLV team, is investigating in depth this data in groups with men in the charge of OLV and subjected to the Red Code (Italian law n. 69/2019) (Di Napoli et al., in press).

Speaking of the immersive experience, users have often stated that the game should also be tried by women, in particular by their partners, who have often been reported as "provocative" or, in any case, active participants in the quarrels. The game has been declared to be useful for all parents and/or adults in relationship. Those who have been able to grasp the essence of the message conveyed by the game (on how to manage conflicts), i.e. volunteer men, not those in the charge of the services, have been able to recognize episodes of their own family life in the game, often recognizing their mistakes and activating reflective thinking about what can be done to avoid experiences like those of the child.

The results obtained also show a minimization of responsibility for violent actions by attributing the role of instigator of the couple's conflict to their partner (Ubillos-Landa et al., 2020). The minimization and denial of responsibility for violent actions is widely evidenced in studies on perpetrators of violence (Cauffman et al., 2000; Henning et al., 2005; Stith et al., 2004; Gilchrist, 2009; Pornari et al., 2013; Senkans et al., 2020).

According to Deriu (2012), there are several levels of denial depending on its severity: perpetrators absolve, minimise, normalise and deny violence acted, its seriousness and its consequences (Cauffman et al., 2000; Henning et al., 2005, Stith et al., 2004; Gilchrist, 2009; Pornari et al., 2013; Martín-Fernández et al., 2018; Senkans et al., 2020), as well as blaming the victims (Ubillos-Landa et al., 2020).

So, dealing with IPV perpetrators, minimization and denial are the most significant attitudes to be addressed (Morrison et al., 2021; Vlais et al., 2019; Cunha & Caridade, 2023).

Therefore, ViDaCS serious game become a useful tool to assess violence denial toward the partner and the children's, according to Deriu's different levels (Deriu, 2012), and how to deal with it (Blacklock, 2001; Henning & Holdford, 2006; Harsey et al.,2017; Heward-Belle, 2016; Meyer, 2018; Harsey & Freyd, 2020).

Finally, the innovative aspect of ViDaCS serious game is to have introduced the perspective of the child who is perceived as a silent figure, not affected by the violence.

Entering in the children's perspective allows men to reconnect to their history of witnessing and suffering violence. The disclosure of one's experience of witnessed violence represents a further trigger for their motivation for treatment because it helps men to choose life paths that are different from their family histories.

For the implementation of ViDaCS serious game it is very important to train the professionals to the management of immersive experiences, both for the guide of the game and for the thinking behind the containing context that the experience itself requires.

This study is not without limitation in the generality of its results: The group of participants was not recruited through probabilistic sampling so the results are attributable to specific geographical locations and to a convenience sample. This makes it necessary to check whether the results are useful for other research contexts.

A future development will be to verify how the immersive use of serious games can be a prevention tool and, at the same time, can be used in the context of taking charge of perpetrators of domestic violence, including its use in treatment protocols.

Another future issue will be to develop a user-friendly app which can reach a wider male audience to activate a greater awareness of their violent actions, as well as a broader awareness of the community in supporting the treatment and care of perpetrators, not only as the monster but as a person who needs a space of care. Therefore, there is the need to work on the construction of an app through which to help men to activate awareness and to be used in a large-scale dissemination campaign that can deploy the opportunities of the game and a process of consciousness-raising to act as an activator of change.

7. Conclusion

From a global and community perspective, strengths and protective factors must be traced and strengthened, such as the potentiality of the paternal function to effect social change. At the same time, it is necessary to identify innovative intervention measures and tools to reduce emotional intemperance in the relationship between men and women.

Virtual reality is presented as a useful aid in the implementation of tools that enhance measures and protocols to combat violence in intimate relationships. In particular, virtual reality is a valid support in prevention and treatment measures for perpetrators of violence. ViDaCs serious game is configured as an innovative self-assessment tool to support the initial phases of treatment based on increasing motivation to treatment which certainly represents

one of the most delicate moments as well as necessary for the adherence to treatments and for reducing recidivism (Lila & Gilchrist, 2023). ViDaCS serious game promotes the internal motivation for treatment through the recognition of the consequences of their behavior on their children and leverage the paternal function as a motivation for change (Meyer, 2018).

Virtual reality has made it possible to amplify the psychological and cultural dimensions that are involved in IPV processes, increasing the awareness of perpetrators of violence as well as a useful tool for guidance and intervention for professionals. It is, therefore, a new challenge to increasingly use the potential of new advanced technologies to be integrated into innovative prevention and awareness programs aimed at reaching the perpetrators of violence to end the IPV phenomenon in an integrated way.

Funding

Acknowledgement

References

Arcidiacono, C. (2012). The focused interview as a tool to overcome closures and misunderstandings in intercultural dynamics. In D. Giovannini e L. Vezzali (Ed.). Immigrazione, Processi interculturali e cittdinanza attiva [*Immigration, Intercultural Processes and Active Citizenship*] (pp. 373–384). Melagrana.

Arcidiacono, C. (2016). Psicologia Per Le Città. Rigenerazione Urbana A Porta Capuana [*Psychology for cities: Urban regeneration at Portacapuana*]. Liguori Editore.

Audet, A., Brassard, A., Dugal, C., Claing, A., Daspe, M., Savard, C., Lafontaine, M., Péloquin, K., & Godbout, N. (2022). Intimate Partner Violence Perpetrated by Men Seeking Help: The Explanatory Roles of Psychological Distress and Affect Dysregulation. *Journal of Interpersonal Violence, 37*(23–24), NP22578–NP22599. https://doi.org/10.1177/08862605211072174

Autiero, M., Procentese, F., Carnevale, S., Arcidiacono, C., & Di Napoli, I. (2020). Combatting Intimate Partner Violence: Representations of Social and Healthcare Personnel Working with Gender-Based Violence Interventions. *International Journal of Environmental Research and Public Health*, *17*(15), 5543. https://doi.org/10.3390/ijerph17155543

Banakou, D., Hanumanthu, P. D., & Slater, M. (2016). Virtual embodiment of white people in a black virtual body leads to a sustained reduction in their implicit racial bias. *Frontiers in Human Neuroscience*, *10*. https://doi.org/10.3389/fnhum.2016.00601

Barnes, N., Sanchez-Vives, M. V., & Johnston, T. (2022). On the practical use of immersive virtual reality for rehabilitation of intimate partner violence perpetrators in prison. *Frontiers in psychology*, *13*, 787483. https://doi.org/10.3389/fpsyg.2022.787483

Bender, S. M. (2019). Headset attentional synchrony: tracking the gaze of viewers watching narrative virtual reality. *Media Practice and Education*, *20*(3), 277–296. https://doi.org/10.1080/25741136.2018.1464743

Berke, D. S., Reidy, D. E., Gentile, B., & Zeichner, A. (2016). Masculine discrepancy stress, Emotion-Regulation difficulties, and intimate partner violence. *Journal of Interpersonal Violence*, *34*(6), 1163–1182. https://doi.org/10.1177/0886260516650967

Birkley, E. L., & Eckhardt, C. I. (2019). Effects of instigation, anger, and emotion regulation on intimate partner aggression: Examination of "perfect storm" theory. *Psychology of Violence*, *9*(2), 186–195. https://doi.org/10.1037/vio0000190

Blacklock, N. (2001). Domestic violence: working with perpetrators, the community and its institutions. *Advances in Psychiatric Treatment*, *7*(1), 65–72. https://doi.org/10.1192/apt.7.1.65

Bourdieu, P. (2014). Il dominio maschile. *Bourdieu, P. (1998). Il Dominio Maschile, (1St edition) Feltrinelli Editore.*

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Burt, M. R. (1980). Cultural myths and supports for rape. *Journal of Personality and Social Psychology*, *38*(2), 217–230. https://doi.org/10.1037/0022-3514.38.2.217

Carnevale, S., Di Napoli, I., Esposito, C., Arcidiacono, C., & Procentese, F. (2020). Children Witnessing Domestic Violence in the Voice of Health and Social Professionals Dealing with Contrasting Gender Violence. *International Journal of Environmental Research and Public Health*, *17*(12), 4463. https://doi.org/10.3390/ijerph17124463

Cauffman, E., Feldman, S. S., Jensen, L. A., & Arnett, J. J. (2000). The (Un)Acceptability of Violence against Peers and Dates. *Journal of Adolescent Research*, *15*(6), 652–673. https://doi.org/10.1177/0743558400156003

Chiurazzi, A., & Arcidiacono, C. (2017). Lavorare con uomini autori di violenza domestica nelle rappresentazioni e nei vissuti di psicologhe e assistenti sociali [Dealing with domestic violence perpetrators in the representations and feelings of psychologists and social workers]. *La Camera Blu. Rivista Di Studi Di Genere*, *16*. https://doi.org/10.6092/1827-9198/5232

Council of Europe (CoE) (2011). *Convention on preventing and combating violence against women and domestic violence* ("Istanbul Convention"). Retrieved May, 30, 2023, from https://rm.coe.int/1680096e46

Cunha, O., Caridade, S. (2023). Batterer Intervention Program (BIP). *Encyclopedia of Domestic Violence*, 1-11. https://doi.org/10.1007/978-3-030-85493-5_88-1

De Borst, A. W., Sanchez-Vives, M. V., Slater, M., & De Gelder, B. (2020). First-Person Virtual Embodiment Modulates the Cortical Network that Encodes the Bodily Self and Its Surrounding Space during the Experience of Domestic Violence. *ENeuro*, *7*(3), ENEURO.0263-19.2019. https://doi.org/10.1523/eneuro.0263-19.2019

Deriu M. (Ed.) (2012). *Il continente sconosciuto. Gli uomini e la violenza maschile [The unkwon continent. Men and masculine violence].* Centro stampa Regione Emilia Romagna.

Devries, K., Mak, J., García-Moreno, C., Petzold, M. B., Child, J., Falder, G., Lim, S. S., Bacchus, L. J., Engell, R. E., Rosenfeld, L. C., Tordrup, D., Vos, T., Abrahams, N., & Watts, C. (2013). The global prevalence of intimate partner violence against women. *Science*, *340*(6140), 1527–1528. https://doi.org/10.1126/science.1240937

Di Napoli, I., Procentese, F., Carnevale, S., Esposito, C., & Arcidiacono, C. (2019). Ending Intimate partner violence (IPV) and locating men at stake: an ecological approach. *International Journal of Environmental Research and Public Health*, *16*(9), 1652. https://doi.org/10.3390/ijerph16091652

Dobash, R. E., & Dobash, R. (1979). *Violence against wives: A case against the patriarchy* (Vol. 15). Free Press.

Dugal, C., Godbout, N., Bélanger, C., Hébert, M., & Goulet, M. (2018). Cumulative Childhood Maltreatment and subsequent psychological violence in Intimate relationships: The role of Emotion Dysregulation. *Partner Abuse*, *9*(1), 18–40. https://doi.org/10.1891/1946-6560.9.1.18

European Union Agency for Fundamental Rights – FRA (2014). *Violence Against Women: An EU-Wide Survey; Technical Report IUB-CS-TR61*. Vienna, Austria: FRA. Retrieved May, 30, 2023, from https://fra.europa.eu/sites/default/files/fra_uploads/fra-2014-vaw-survey-main-results-apr14_en.pdf

Feshbach, N. D., & Feshbach, S. (1969). The relationship between empathy and aggression in two age groups. *Developmental psychology*, 1(2), 102. https://doi.org/10.1037/h0027016

Fonagy, P., & Levinson, A. (2004). Offending and attachment: The relationship between interpersonal awareness and offending in a prison population with psychiatric disorder. *Canadian Journal of Psychoanalysis*, *12*(2), 225-251.

Garofalo, C., Velotti, P., & Zavattini, G. C. (2018). Emotion regulation and aggression: The incremental contribution of alexithymia, impulsivity, and emotion dysregulation facets. *Psychology of Violence*, *8*(4), 470–483. https://doi.org/10.1037/vio0000141

Gilchrist, E. (2009). Implicit thinking about implicit theories in intimate partner violence. *Psychology Crime & Law*, *15*(2–3), 131–145. https://doi.org/10.1080/10683160802190863

Gonzalez-Liencres, C., Zapata, L. E., Iruretagoyena, G., Seinfeld, S., Perez-Mendez, L., Arroyo-Palacios, J., Borland, D., Slater, M., & Sanchez-Vives, M. V. (2020). Being the victim of intimate partner violence in virtual Reality: First- versus Third-Person Perspective. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.00820

Grigorian, H., Brem, M. J., Garner, A. R., Florimbio, A. R., Wolford-Clevenger, C., & Stuart, G. L. (2020). Alcohol use and problems as a potential mediator of the relationship between emotion dysregulation and intimate partner violence perpetration. *Psychology of Violence*, *10*(1), 91–99. https://doi.org/10.1037/vio0000237

Harsey, S. J., & Freyd, J. J. (2020). Deny, attack, and reverse victim and offender (DARVO): What is the influence on perceived perpetrator and victim credibility? *Journal of Aggression, Maltreatment & Trauma*, *29*(8), 897–916. https://doi.org/10.1080/10926771.2020.1774695

Harsey, S. J., Zurbriggen, E. L., & Freyd, J. J. (2017). Perpetrator responses to victim confrontation: DARVO and Victim Self-Blame. *Journal of Aggression, Maltreatment & Trauma*, *26*(6), 644–663. https://doi.org/10.1080/10926771.2017.1320777

Henning, K., & Holdford, R. (2006). Minimization, denial, and victim blaming by batterers. *Criminal Justice and Behavior*, *33*(1), 110–130. https://doi.org/10.1177/0093854805282322

Henning, K., Jones, A. R., & Holdford, R. (2005). "I didn't do it, but if I did I had a good reason": Minimization, denial, and attributions of blame among male and female domestic violence offenders. *Journal of family violence, 20, 131-139.* https://doi.org/10.1007 / 1096-005-1647-8

Heward-Belle, S. (2016). The diverse fathering practices of men who perpetrate domestic violence. *Australian Social Work*, *69*(3), 323–337. https://doi.org/10.1080/0312407x.2015.1057748

Holtzworth-Munroe, A. (2000). A typology of men who are violent toward their female partners: Making sense of the heterogeneity in husband violence. *Current Directions in Psychological Science*, *9*(4), 140-143. https://doi.org/10.1111/1467-8721.00079

ISTAT (2007). *Violence and Maltreatment Against Women Inside and Outside the Family.* Retrieved May, 30, 2023 from https://www.istat.it/it/files//2011/07/testointegrale.pdf

ISTAT (2017). *Parliamentary Commission of Inquiry into Femicide and all Forms of Gender-based Violence. Hearing of the President of the National Institute of Statistics Giorgio Alleva.* Retrieved May, 30, 2023 from https://www.istat.it/it/files//2017/09/Audizione-femminicidio-11-gennaio-2018.pdf

Kilteni, K., Groten, R., & Slater, M. (2012). The sense of embodiment in virtual reality. *Presence: Teleoperators and Virtual Environments*, *21*(4), 373-387. https://doi.org/10.1162/PRES_a_00124

Labarre, M., Bourassa, C., Holden, G. W., Turcotte, P., & Létourneau, N. (2016). Intervening with fathers in the context of intimate partner violence: An analysis of ten programs and suggestions for a research agenda. *Journal of Child Custody*, *13*(1), 1–29. https://doi.org/10.1080/15379418.2016.1127793

Lee, K. D. M., Rodriguez, L. M., Edwards, K. M., & Neal, A. M. (2020). Emotional dysregulation and intimate partner violence: A dyadic perspective. *Psychology of Violence*, *10*(2), 162–171. https://doi.org/10.1037/vio0000248

Lila, M., & Gilchrist, G. (2023). Treatment Resistant perpetrators of Intimate partner violence: research advances. *Psychosocial Intervention*, *32*(2), 55–58. https://doi.org/10.5093/pi2023a10

Lysova, A. (2016). Victims but also perpetrators: Women's experiences of partner violence. In *Springer eBooks* (pp. 505–537). https://doi.org/10.1007/978-3-319-08398-8_19

Maliken, A. C., & Katz, L. F. (2013). Fathers' emotional awareness and children's empathy and externalizing problems. *Journal of Interpersonal Violence*, *28*(4), 718–734. https://doi.org/10.1177/0886260512455866

Mandel, D. (2013). Safe and together. DVRCV *Advocate*, (2), 8–11. https://search.informit.org/doi/10.3316/informit.78448791146 95

Manna, V., Pisanti, O., Carnevale, S., Di Napoli, I., & Arcidiacono, C. (2021). Sounds and images of witnessed violence: Working with children through group interaction, participatory drawing and music therapy. In Arcidiacono C. & Di Napoli I. (Eds.), *Violent dad in child shoes: A moment before: ViDaCS serious game in a multi-dimensional action research promoting awareness about gender-based violence perpetrators* (pp 93-106). Retrieved May, 30, 2023 from https://books.google.it/books?hl=it&lr=&id=7rYvE-AAAQBAJ&oi=fnd&pg=PA93&dq=Manna+et+al.,+2021+music+therapy&ots=JiUUTM7oyT&sig=eq_2mnl8_xB5lcN1xVXqYuMRXAY&redir_esc= y#v=onepage&q&f=false

Martín-Fernández, M., Gracia, E., & Lila, M. (2018). Assessing victim-blaming attitudes in cases of intimate partner violence against women: Development and validation of the VB-IPVAW scale. *Psychosocial Intervention, 27 (3), pp 133-143*. https://doi.org/10.5093/pi2018a18

Mehrabian, A., & Epstein, N. B. (1972). A measure of emotional empathy1. *Journal of Personality*, *40*(4), 525–543. https://doi.org/10.1111/j.1467-6494.1972.tb00078.x

Merzagora Betsos, I. (2009). *Violent Men*. Milano, IT: Raffaello Cortina Editore.

Meyer, S. (2018). Motivating perpetrators of domestic and family violence to engage in behaviour change: The role of fatherhood. *Child & Family Social Work*, *23*(1), 97–104. https://doi.org/10.1111/cfs.12388

Misso, D., Schweitzer, R., & Dimaggio, G. (2019). Metacognition: A potential mechanism of change in the psychotherapy of perpetrators of domestic violence. *Journal of Psychotherapy Integration*, *29*(3), 248–260. https://doi.org/10.1037/int0000111

Mizen, R. (2017). A tale told by an idiot; the "banality" of violence? *La Camera Blu. Rivista Di Studi Di Genere*, *16*. https://doi.org/10.6092/1827-9198/5234

Mizen, R. (2019). The affective basis of violence. *Infant Mental Health Journal*, *40*(1), 113–128. https://doi.org/10.1002/imhj.21755

Mizen, R., & Morris, M. (2006). *On aggression and violence: An Analytic Perspective*. Bloomsbury Publishing.

Morrison, P. K., Hawker, L., Cluss, P. A., Miller, E., Fleming, R., Bicehouse, T., George, D., Burke, J. G., Wright, K., & Chang, J. C. (2021). The challenges of working with men who perpetrate partner violence: perspectives and observations of experts who work with Batterer intervention programs. *Journal of Interpersonal Violence*, *36*(7–8), NP3524–NP3546. https://doi.org/10.1177/0886260518778258

Park, S., & Kim, S. (2017). Who are the victims and who are the perpetrators in dating violence? Sharing the role of victim and perpetrator. *Trauma, Violence, & Abuse*, *20*(5), 732–741. https://doi.org/10.1177/1524838017730648

Parrott, D. J., & Zeichner, A. (2003). Effects of hypermasculinity oh physical aggression against women. *Psychology of Men and Masculinity*, *4*(1), 70–78. https://doi.org/10.1037/1524-9220.4.1.70

Pence, E., & Paymar, M. (1993). *Education groups for men who batter: The Duluth Model*. Springer Publishing Company.

Pornari, C. D., Dixon, L., & Humphreys, G. W. (2013). Systematically identifying implicit theories in male and female intimate partner violence perpetrators. *Aggression and Violent Behavior*, *18*(5), 496–505. https://doi.org/10.1016/j.avb.2013.07.005

Rollero, C., & De Piccoli, N. (2020). Myths about Intimate Partner Violence and Moral Disengagement: An Analysis of Sociocultural Dimensions Sustaining Violence against Women. *International Journal of Environmental Research and Public Health*, *17*(21), 8139. https://doi.org/10.3390/ijerph17218139

Rollero, C., Daniele, A., & Tartaglia, S. (2019). Do men post and women view? The role of gender, personality and emotions in online social activity. *Cyberpsychology*, *13*(1). https://doi.org/10.5817/cp2019-1-1

Rothman, E. F., Mandel, D., & Silverman, J. G. (2007). Abusers' perceptions of the effect of their intimate partner violence on children. *Violence Against Women*, *13*(11), 1179–1191. https://doi.org/10.1177/1077801207308260

Sanchez-Vives, M. V., & Slater, M. (2005). From presence to consciousness through virtual reality. *Nature reviews neuroscience*, *6*(4), 332-339. https://doi.org/10.1038/nrn1651

Schütze, Fritz (1983): Biographical Research and Narrative Interview. In: *New Practice. Critical Journal for Social Work and Social Pedagogy* 13: 283 – 293.

Seinfeld, S., Arroyo-Palacios, J., Iruretagoyena, G., Hortensius, R., Zapata, L. E., Borland, D., De Gelder, B., Slater, M., & Sanchez-Vives, M. V. (2018). Offenders become the victim in virtual reality: impact of changing perspective in domestic violence. *Scientific Reports*, *8*(1). https://doi.org/10.1038/s41598-018-19987-7

Seinfeld, S., Hortensius, R., Arroyo-Palacios, J., Iruretagoyena, G., Zapata, L. E., de Gelder, B., Slater, M., & Sanchez-Vives, M. V. (2023). Domestic violence from a child perspective: Impact of an immersive virtual reality experience on men with a history of intimate partner violent Behavior. *Journal of Interpersonal Violence*, *38*(3-4), 2654-2682. https://doi.org/10.1177/08862605221106130

Senkans, S., McEwan, T. E., & Ogloff, J. R. P. (2020). Conceptualising intimate partner violence perpetrators' cognition as aggressive relational schemas. *Aggression and Violent Behavior*, *55*, 101456. https://doi.org/10.1016/j.avb.2020.101456

Stanley, N., Graham-Kevan, N., & Borthwick, R. (2012). Fathers and Domestic Violence: Building Motivation for Change through Perpetrator Programmes. *Child Abuse Review*, *21*(4), 264–274. https://doi.org/10.1002/car.2222

Stewart, D. E., MacMillan, H., & Wathen, N. (2013). Intimate partner violence. *The Canadian Journal of Psychiatry*, *58*(6), E1-E15. https://doi.org/10.1177/070674371305800601

Stith, S. M., Smith, D. B., Penn, C. E., Ward, D. B., & Tritt, D. R. (2004). Intimate partner physical abuse perpetration and victimization risk factors: A meta-analytic review. *Aggression and Violent Behavior*, *10*(1), 65–98. https://doi.org/10.1016/j.avb.2003.09.001

Stover, C. S., & Spink, A. N. (2012). Affective awareness in parenting of fathers with co-occurring substance abuse and intimate partner violence. *Advances in Dual Diagnosis*, *5*(2), 74–85. https://doi.org/10.1108/17570971211241903

Stover, C. S., Easton, C. J., & McMahon, T. J. (2013). Parenting of men with Co-Occurring Intimate Partner violence and Substance abuse. *Journal of Interpersonal Violence*, *28*(11), 2290–2314. https://doi.org/10.1177/0886260512475312

Strega, S., Fleet, C., Brown, L., Dominelli, L., Callahan, M., & Walmsley, C. (2008). Connecting father absence and mother blame in child welfare policies and practice. *Children and Youth Services Review*, *30*(7), 705–716. https://doi.org/10.1016/j.childyouth.2007.11.012

Tager, D., Good, G. E., & Brammer, S. (2010). "Walking over 'em": An exploration of relations between emotion dysregulation, masculine norms, and intimate partner abuse in a clinical sample of men. *Psychology of Men and Masculinity*, *11*(3), 233–239. https://doi.org/10.1037/a0017636

Turchik, J. A., Hebenstreit, C. L., & Judson, S. S. (2015). An examination of the gender inclusiveness of current theories of sexual violence in adulthood. *Trauma, Violence, & Abuse*, *17*(2), 133–148. https://doi.org/10.1177/1524838014566721

Ubillos-Landa, S., Puente- Martinez, A., González-Castro, J.L., & Nieto-Gonzalez, S. (2020). You belong to me! Meta-analytic review of the use of male control and dominance against women in intimate partner violence. *Aggression and Violent Behavior*, *52* (2020), ISSN 1359-1789. https://doi.org/10.1016/j.avb.2020.101392

Velotti, P., Garofalo, C., Bottazzi, F., & Caretti, V. (2016). Faces of Shame: Implications for Self-Esteem, emotion regulation, Aggression, and Well-Being. *The Journal of Psychology*, *151*(2), 171–184. https://doi.org/10.1080/00223980.2016.1248809

Vlais, R., Campbell, E., & Green, D. (2019). Foundations for family and domestic violence perpetrator interventions systems. *Melbourne: Centre for Innovative Justice, RMIT University*.

Voith, L. A., Anderson, R. E., & Cahill, S. P. (2020). Extending the ACES framework: examining the relations between childhood abuse and later victimization and perpetration with college men. *Journal of Interpersonal Violence*, *35*(17–18), 3487–3512. https://doi.org/10.1177/0886260517708406

Wegrzyn, M., Herbert, C., Ethofer, T., Flaisch, T., & Kißler, J. (2017). Auditory attention enhances processing of positive and negative words in inferior and superior prefrontal cortex. *Cortex*, *96*, 31–45. https://doi.org/10.1016/j.cortex.2017.08.018

World Health Organization (2002). *The world health report 2002: reducing risks, promoting healthy life*. Retrieved May, 30, 2023, from https://iris.who.int/bitstream/handle/10665/42510/WHR_2002.pdf?sequence=1

World Health Organization (2013). *Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence*. Retrieved May, 30, 2023, from https://iris.who.int/bitstream/handle/10665/85239/9789241564625_eng.pdf?sequence=1

World Health Organization (2020). *COVID-19 and violence against women: what the health sector/system can do.* Retrieved May, 30, 2023, from https://iris.who.int/bitstream/handle/10665/331699/WHO-SRH-20.04-eng.pdf?sequence=1