

Choice-Point: Fostering Awareness and Choice with Perpetrators in Domestic Violence Interventions

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Figure 1: [Left] Choice-Point in use on the session hosts laptop with three participants [Centre] one participant selecting choices for his Choice-Point character using his personal device [Right] three facilitators partaking in a design critique

ABSTRACT

Learning about alternatives to violence is an essential part of change work with domestic violence perpetrators. This is complex work, seeking to tackle a sensitive issue by involving the development of embodied learning for perpetrators who may lack perspective on their behaviour. Interactive storytelling has been providing users with the opportunity to explore speculative scenarios in a controlled environment. We discuss the design of Choice-Point: a web-based application that allows perpetrators to adopt the role of different fictional characters in an abusive scenario for conveying the essential skill of perspective-taking. We evaluated Choice-Point through trials with three groups of perpetrators, a support group of victim-survivors and an expert critique from support workers. We discuss challenges in using such technologies - such as our system - for engagement; the value of perpetrator agency in supporting non-violent behaviours, and the potential to positively shape perpetrators' journeys to non-violence within social care settings.

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• Human-centered computing~Human computer interaction (HCI) • Human-centered computing~HCI theory, concepts and models • Human-centered computing~Ethnographic studies • Human-centered computing~Empirical studies in HCI

INTRODUCTION

“It is unfair to characterise our collective failure to rein in abusive men as battered women’s failure to act ... Why not ask about the abuser’s willingness and capacity to initiate change and eliminate the danger he has created?”- Jeffrey L. Edleson, Responsible Mothers and Invisible Men [24],

Domestic violence is a global issue recognised internationally as causing high levels of mental and physical ill-health in victim-survivors; social disruption to relationships, families, and communities, and large financial costs for society. While domestic violence is experienced and perpetrated by both women and men, research consistently shows a higher prevalence rate of men’s

violence against women [54]. As part of both national and international agendas, the need for re-educating perpetrators using violence within an intimate relationship has been widely advocated [27, 37]. Interest in the prevention of domestic violence has resulted in the development of a diversity of initiatives, with a wide variation in content, delivery, and duration [2, 6, 23]. Participants who have attended these initiatives describe them as playing an important role in changing their behaviour [41, 64, 65].

Human-Computer Interaction has also seen a wealth of research within the past two decades that seeks to contribute to a reduction in harm caused to vulnerable and marginalised groups [1, 62, 68, 69]. This body of work has also recently started to address the perpetrators of violence through digital interventions, although this work is still very much in its infancy [11, 12, 63]. Inherent within these works is a greater understanding: for steps towards non-violent behaviours to take place, we need to treat violence as a behaviour. Despite the field reporting a range of mostly non-digital interventions within a social care setting [26, 44], the role of digital technology to support efforts to change a perpetrator's abusive behaviours remain underexplored [7]. As of writing this paper, we have yet to discover any such technical interventions for challenging, supporting and enforcing behaviour change in perpetrators: an important endeavour to prevent further violence [28]. This is in comparison to a market scan that produced over 45 different technical interventions for victim-survivors within the UK alone [59]. As such, we explicitly emphasise the importance of designing for and with perpetrators of domestic violence as part of HCI's move towards social justice-orientated and activist approaches contributing to positive social change.

In this paper, we build on previously published work on interactive storytelling and games to investigate what opportunities these digital forms of interaction may offer to change patterns of domestic violence. Prior work has highlighted the importance of agency, immersion, and perspective-taking in the process of building empathetic engagement and emotional understanding among perpetrators [13, 29]. An explicit focus on these qualities, and the agency of the perpetrator to exert control or power over a situation or their actions, directly challenges the position that perpetrators use: violence is inherently inevitable [27]. Indeed perpetrators learning that they can choose non-violent behaviours is an essential cornerstone of almost all interventions for a long-term sustained reduction in incidents of domestic violence [2, 45, 55]. We worked alongside a national charity (NGO) called <Victim Aid> in the UK in their existing behaviour change interventions through co-designing Choice-Point: a web and mobile application designed to engage perpetrators through non-linear, interactive storytelling. The motivation was to (ideally) improve their ability to see violent behaviour from a perspective that enables them to address and reject it (*perspective-taking*). The application assigns players a fictional role within a scenario; prompts them to respond to

key choices in the story that impacts on plot and character actions; vote on the most appropriate response to the story from other players; and, to reflect on the choices made within the story at the end of the exercise.

In this paper, we report on the development and application of Choice-Point through three discrete studies focused on: i) three educational interventions for male, standard-to-medium risk perpetrators ii) a victim-survivor support group, and iii) an expert critique workshop for service facilitators that host interventions for perpetrators of domestic violence. The findings from our studies make three novel contributions to the growing literature in HCI on domestic violence. First, we contribute an in-depth overview of the literature on games, interactive storytelling and individual agency relating to domestic violence. Secondly, we provide an empirical evaluation of how our system Choice-Point helped elicit and inform the attempts to teach perspective-taking and to foster higher levels of emotional intelligence concerning intimate and familial relationships. Thirdly, we outline considerations for the use of non-linear narrative activities in further attempts to reduce violence to vulnerable groups.

BACKGROUND LITERATURE

Within this section we provide an overview of the relationship between individual agency and the cause/s of domestic violence; examine how gameplay and interactive fiction has portrayed this sensitive topic before concluding with the potential opportunities of second-person fiction.

Domestic Violence and Choice

It has been outlined in many studies, that when domestic violence is used within relationships, victim-survivors self-blame about its existence [17, 18], while perpetrators often blame others for their behaviour [35, 36]. This understanding is supported by arguments that position a perpetrator's actions as predetermined by biopsychosocial models [51], being exposed to cycles of abuse at a young age [16, 48], and being embedded within cultures that condone and promote male violence [32]. Many works have sought to examine whether this distribution of responsibility is fair by questioning whether perpetrators could choose otherwise; *did such individuals have realistic alternatives to violence?* Social psychologist Sharon Lamb has identified two primary factors that influence responses to this question: a perpetrators' *history* of being exposed to violence and imitating such behaviours (via Bandura's social learning theory [5]), and that violence occurs as a result of *impulse* or 'heat of the moment' decisions [43]. Firstly, although a history of abuse is an impacting factor on emotional regulation, many victim-survivors do not grow up to be perpetrators themselves: "*There are moments of choice, of opportunity, that potential perpetrators live through, the result of which divides them*"[43]. Secondly, regarding a perpetrator's impulse, Carol Tavris states that moods and emotions are different; while emotions are instantaneous, moods are more permanent and fixed [71]. As such, although an individual might not have fixed control over what innate

emotional responses they might have to external stimuli, there is a wealth of evidence to showcase they do indeed have a choice in how it, or if it does impact on their more persistent mood. As individuals shape their emotions by the ideas and belief systems individuals hold, Tavriss and Lamb both argue that society must hold perpetrators responsible for the ideas that lead to the violence and abuse of others.

It is important to note that our discussion of these arguments does not mean that we aspire to discredit claims that there are impacting factors on a perpetrator's choice as to whether or not to use violence. What we seek to focus on is the *capacity* of those to choose to behave violently to choose differently and form healthier, safer understandings of relationships. Research is optimistic about the potential of social interventions including domestic violence perpetrator programmes to support men to choose to change [41]. This orientation reinforces core findings from the World Health Organisation's (WHO) reports on violence and health, that identify considerable variation in the levels of domestic violence internationally [27]. Within this work, WHO accredits organisational responses, cultural norms and freedom to discuss violence as being more critical influencers than innate, personal characteristics alone. While on many occasions, it is far more complex to understand violence to a matter of choice alone, it is an important and arguably simple starting point to enable individuals to shape safer situations and interactions with others. As changing abusive behaviours is not a straightforward or easy task, there is value in providing perpetrators of domestic violence the tools to shape emotional understanding and intelligence in moving towards relationships of non-violence.

Games, Simulations and Domestic Violence

Salen and Zimmerman define games, and processes with 'gameful' elements within them as: "*a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome*" [61]. The authors argue that interactive storytelling falls within the range of such game systems that allow engaging with artificial conflict, even if such conflict may appear more relevant or close to the lived-reality of anyone using the system. In particular, their conceptualisation of games allow players to operate within Huizinga's concept of a "*magic circle*" [38] - which takes place in a separate time and space - is particularly critical when engaging with sensitive topics [66]. By this, we mean that highlighting a clear separation between virtual and real events is particularly important to reduce traumatising and negative impacts from engagements with potentially upsetting subject material such as violence.

Simulations on sensitive subjects that induce affective or motor learning beyond the entertainment of the user have been a familiar topic to HCI for many decades. Such material has included real-world violence [50, 57, 62, 63], child sexual abuse prevention [62], childhood trauma [50], post-traumatic stress disorder [57] and sexual harassment [46]. James Paul Gee accredits games and interactive fiction as

providing an opportunity to learn about 'ways of being in the world' and from the experience of other players [72]. As it would be unethical and illegal to perform abuse, violence and trauma within reality for training, education and therapeutic purposes, digital tools are consistently identified by many as providing ways to simulate these experiences [3, 12]. In Seinfeld et al.'s exploration, the researchers placed state-convicted perpetrators of domestic violence in the United States into a virtual reality environment, where perpetrators took the place of a life-size, female body of a victim-survivor [63]. Within this scenario, a virtual perpetrator entered the scene, exhibiting abusive speech, gestures and progressively invaded the participant's personal space. Simply changing the perspective of the perpetrator within this environment was associated with an improved ability to identify negative emotions in others.

Second-Person in Interactive Storytelling

Games and interactive storytelling have long been positively accredited with providing players with the ability to replay historical events and engage in 'what-if' analyses of major social decisions [15, 56, 70]. As such, players are engaged in a future-orientated, imaginary act and "*see through and beyond the screen and into the future*" [4]. Some scholarly work has argued that because the player's choices are not performed in reality and instead appear through computer-generated sensory stimuli [21], that they do not have a tangible benefit within reality. This has primarily been argued due to the distance between the locus of control and the individual engaging in play [14]. While it is worth considering how to separate unreal and real events within gameplay, this distance can be too far to bridge between these virtual and physical spaces to be meaningful to the player. While this critique may occur within works that have examined player preference locus of control between first- and third-person perspectives [8, 14], Harrigan and Wardrip-Fruin remark that second-person perspectives (pronoun: 'you') are notably absent from such criticisms [30]. The second-person perspective here explicitly involves placing the player or user as a lived first-person protagonist to make choices that determine the character's actions and the plot's outcomes. Edward Packard's *Choose Your Own Adventure* book series famously exemplifies this, whose format has started to enter into mainstream visual media such as Charlie Brooker's *Bandersnatch* that launched on Netflix in 2018. By use of second-person perspectives, authors can reduce the distance between a passive spectator and an active actor by providing participants with the opportunity to select itineraries at certain moments of the story. This allows users to form their own organisations to form a story, which can generate a sense of personal presence in virtual space [49]. We, therefore, see considerable potential in this duality in attempting to engage perpetrators to acknowledge their choices within their own stories of violence towards others, while also clearly posing the scenarios as fictive but inspired by reality.

<VICTIM AID> AND PERPETRATOR INTERVENTIONS

Voluntary organisations provide a crucial role in building relationships of trust between perpetrators and support workers to motivate them to change their behaviour. The set of qualitative studies within this work took place in the North of England (UK) in close collaboration with a large, national domestic violence charity <Victim Aid> that delivers a range of behaviour change interventions for perpetrators and support for victim-survivors of domestic violence. Our research as such engaged directly with perpetrators of domestic violence (identified by police and social care), victim-survivors, support workers and office administrators.

Steps Towards Change (STC) is an intervention ran by <Victim Aid> that is designed to be the first point of contact for perpetrators to be directly challenged on their behaviour. This short yet intense intervention or ‘course’ (two days of six hours) is delivered as an educational course that includes group discussion-based activities for perpetrators to learn about: the impact of domestic violence in the UK; the health risks of using and experiencing violence; how to form and maintain healthy relationships; and practical strategies to desist from future patterns of violence. Two social care workers conducted STC in local community centres for up to 15 attendees. Police services or children’s social care identified and enrolled all perpetrators on the course. As real stories of domestic abuse were too sensitive to use as material within these sessions, many activities prioritised fictional stories to contextualise the attendees learning.

CHOICE-POINT

The lead author conducted three participant observations on Steps Towards Change (STC), six preliminary unstructured interviews with perpetrator program facilitators in the study’s region, and hosted a design workshop to create a technical aid for STC. We performed an informal qualitative analysis based on this collated data, looking for frequently shared concerns across participants to co-develop a web and mobile system called *Choice-Point* (C-P). We designed a gameful system to accommodate a group of players in the playthrough of a co-designed, fictional scenario where we provided each participant with a set of choices at particular points within a story. These choices could determine what actions a pre-assigned character in the narrative could take, and their impact on the story’s outcome. We obtained full ethical approval from our institutional ethics committee.

Design

The facilitator could begin C-P by using their work laptop, (identifying as the *host*) who could control the flow of the narrative through pausing and progressing the story. Each participant can directly select (if playing a character) or vote (if engaging as the audience) as to how they desired their character to respond, to which the facilitator would confirm and progress the story via their host machine. This design decision of facilitator being responsive to the choices of the group was to ensure that the activity remained collaborative, but that they still possessed the functionality to pause the activity if the material became too emotive for a participant.

Twine is an existing open-source tool for creating interactive fiction [74] where each story divides into multiple passages with conditional text, images and links to other passages. Twine generates web pages that only work for a single user, and so did not directly meet our requirements. In order to benefit from the existing Twine authoring tool, we chose to extend the syntax of the underlying Tweep files to allow individual passages to be associated with a character. We developed our own implementation of a Twine story player that supports this extension and multiple, simultaneous users. The Choice Point software is a web site with a mobile-friendly interface and a server back end that supports multiple concurrent groups and users. The site maintains an active real-time link between the participants within a group, allowing the sharing of the state of the story.

Story

In collaboration with <Victim Aid>, we authored a fictional scenario that describes an incident of domestic violence within a family environment. Facilitators noted that although they invented the story, many of the details had been inspired by real (though anonymised) experiences of previous service users of the charitable organisation. As such, the story reflects a synthesis of essential concepts taught across the course, including identifying trigger points, perspective taking and non-violently navigating complicated social situations. Initially, both the research team and facilitators were interested in representing a more diverse range of relationship types, sexualities and genders. However, a core constraint of the <Victim Aid> service contract was that the perpetrators on the course had to be male, have female victim-survivors and either currently or have been previously in a heterosexual relationship to reflect the majority of cases in the UK [54]. As such, we scripted a narrative that presented a male aggressor towards a female victim-survivor to be closer to the lived realities of the men enrolled in the course. Facilitators were also keen on the story within C-P to contain repeated references to prior abuse. This was to acknowledge that patterns of domestic violence frequently formed a “*constellation of abuse*” [22], and should not be treated as a ‘one-off’ – a tactic used to minimise abusive behaviours [58].

The scenario follows the Johnsons, Terry (33, Male), Sharon (31, Female), Tracey (12, Female) and Shawn (8, Male) during a family mealtime together. Tensions have been rising due to economic and psychological pressures on both parents, and Terry starts to verbally degrade Sharon over domestic chores in front of their two children. Depending on the choices of the participants throughout the story, this incident can eventually conclude across a spectrum of different endings.

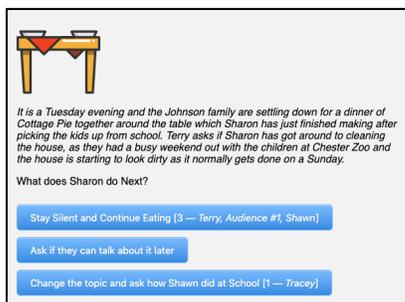


Figure 2: Mobile View of Choice-Point with one of Sharon's 'Choices' displayed. Other characters and audience members have cast their votes for two of the three different options

Character Roles and Voting

Choice-Point facilitates the uploading of any non-linear stories that are stored in the '.twee' file format where the names and number of active characters within the story are pre-assigned by the author. Within this deployment of Choice-Point, we allocated four roles within the story for four participants to play the part of Terry, Sharon, Tracey and Shawn. These roles are selected at the start from a drop-down menu and remain fixed for the duration of the narrative. Particular passages in the story have been designed to prompt for players within the story to decide on their choice of action (e.g. "What does Shawn do?"). To simulate the embodied nature of particular roles within the story, each participant when verbally selecting an option in character had to begin with "I am [Terry/Sharon/Tracey/Shawn] and I would ...".

Facilitators can also invite participants who do not select a role to participate as an anonymous audience member who can vote on their preferred mode of action through their mobile device. The distribution of votes is then revealed by the host machine once the participant responsible for that point in the story has selected an option. The inclusion of the voting functionality in response to facilitators highlighting their concern for disinterest and disengagement for participants who were not allocated a character role. This was also done due to each intervention with perpetrators having to account for a consistently varying number of attendees on the day, so we directly designed for this uncertainty in C-P.

Choices

Each participant can be assigned a character role within the story as one of the family members (Terry, Sharon, Shawn or Tracey) who have the option to choose how the story develops. Changing the path of the story is achieved by selecting one out of three to five choices that are revealed as the story progresses. A particular combination of choices will display discrete pathways through the narrative arriving at one out of seven unique endings which concludes the story. Each choice is allocated a hidden semantic rating, ranging from very positive, including the most socially condoned responses (active listening, apologising) to the very negative, including abusive and behaviours that were discouraged by the intervention (intimidating, physically

abusing). Neutral options that neither demonstrated considerate or inconsiderate options were also available.

The positive-negative nature of the choices had a direct impact on what choices the following character would have in the story. Positive choices permitted other players to have a wider variety of options, while negative options directly restricted this. This reasoning was to reflect coercive and controlling behaviours that can be best identified through the loss of choice, rather than the experience of overt demonstrations of abuse [31]. For example, if Terry was to intimidate and threaten Sharon, the choices his children had for the rest of the evening were inaccessible. Shawn, his son as a result of being scared to leave his mother alone no longer feels confident to leave the house to see his friends. Within our system, we designed critical choice points for the participant playing Terry in particular at choices number 1 and 14 to demonstrate the perpetrator could change the tone of the story. Choice 1 (Figure 2) presented Terry with option to potentially react to frustration about domestic chores or ask his children about school. Similarly, Choice 14 gave Terry the opportunity to motivate and support Sharon, apologise for prior behaviour or continue to intimate or abuse her and lash out at the children.

After the C-P activity, the quantity of positive, neutral and negative choices was totalled up and, one of seven endings were presented. The type of ending ranged from a rewarding one where all characters achieved a state of stability to watch a film together (Very Positive); to one with significant unresolved conflict (Neutral 1-3), for example where a teacher becomes concerned about Tracey's behaviour at school; to a sombre ending resulting in upset and further trauma to the family by Terry's violence (Very Negative).

STUDY DESIGN

In order for us to comprehensively study the potential for the *Choice-Point* application to support learning about perspective-taking, we studied it in three distinct settings within <Victim Aid>. These included an expert critique by support workers with a wealth of experience of facilitating perpetrator programmes; within a perpetrator behaviour change programme, wherein interactions with the system were recorded before, during and after the use of Choice Point; and finally through a focus group from victim-survivors within the <Victim Aid> service. We selected to include different social groups in our evaluation by following Freed et al.'s recommendation of designing technology for an ecosystem of domestic violence service provision, rather than for a single, isolated group [26]. This is to ensure that we adopted an approach to development that did not inadvertently generate more harm through careless design. We describe each of these groups in the following sections.

Expert Critique by Facilitators

Our first study setting was an expert critique from four facilitators and administrators within <Victim Aid> that possessed a wealth of experience in managing behaviour change interventions for male and female perpetrators. To

facilitate this, we ran two workshops that were designed to support the critique of C-P by drawing on facilitators experience of interactions with men teaching perspective-taking. In this workshop, we presented Choice-Point to attendees by a demonstration of the system to showcase the different paths and endings. Participants were invited to trial the story through simulating how it might be used within a group setting with perpetrators. Following these workshops, the facilitators recommended their *Steps Towards Change* (STC) course as being a suitable location for the deployment of C-P. The selection of STC was due to the short-term nature of the project that lasted two days with up to fifteen men, and attendees had first-hand experiences running the intervention.

27 perpetrators of domestic violence (P1 – P27)

Age (years)	21 – 58	Average: 38
Sex	Male: 27	Female: 0
Risk Level	Standard: 19	Medium: 8
Course Number	Group A: P1 – P8 Group B: P9 – P19 Group C: P20 – P27	

6 victim-survivors of domestic violence (V1 – V6)

Age (years)	26 - 48	Average: 35
Sex	Male: 0	Female: 6

4 facilitators (F1 – F4)

Age (years)	26 - 61	Average: 48
Sex	Male: 0	Female: 4
Professional Roles	Social Worker: 1 (F1) Office administrator: 2 (F2, F3) Case Manager / Worker: 1 (F4)	

Table 1: Participant demographic characteristics including age, sex, job role, risk level and course number

Deployment with Perpetrators: Steps Towards Change

Three groups (Group A, B and C) of perpetrators that were enrolled in STC were selected as being suitable participants for this study. Group A consisted of eight men; Group B consisted of eleven men and Group C also consisted of eight men. Two facilitators of each group used C-P within the STC course in the section that covered learning about the impact of domestic violence on partners, children and family members. At the start of each deployment, the session facilitators described: an outline of the branching storyline (excluding the specificities of each ending), the character roles and the format of choice points to participants. After ensuring that each participant had self-selected a role, the following interaction with C-P was unstructured to avoid influencing our participants. Facilitators intervened when a participant was unsure of their character's choices, whereby they would encourage the participant to think-aloud for collaborative sense-making, and after the activity to promote discussion of the resulting ending.

Following the completion of C-P, the lead researcher asked participants a series of the focus group questions for 15 minutes to evaluate its use, including asking about perceived engagement, highlighting potential improvements and what learning had taken place using the tool. The men's interactions with C-P were used to prompt and guide these

independent reflections. Afterwards, each man was provided with a structured evaluation A4 sheet of paper that contained four open-ended questions including "how did your engagement within Choice-Point make you feel?" and "could you describe how what you have learned might influence your future behaviour?". The lead author also approached the facilitators at the end of each course to collect their reflections using C-P in the sessions. While two facilitators (F2, F4) were also present in the Expert Critique, we do not believe this caused them to respond more positively with the system after listening to the frankness of their responses.

Focus Group with Victim-Survivors

Lastly, we also used C-P within a support group setting for victim-survivors of domestic violence. Six participating female service users had experiences of one or multiple abusive relationships that were currently receiving therapy to recover and rebuild their lives after violence had concluded. We specifically sought out the opinions of victim-survivors to ensure first-hand accounts of abuse were included within institutional strategies and settings. None of the victim-survivors that were included within this workshop had ex-/current partners currently receiving an intervention through the STC for safeguarding and personal safety purposes.

The lead author presented a run-through of C-P and an explanation of the STC being provided to male perpetrators within the region. For this study group, we displayed a map of the branching narratives in C-P and invited participants to label different aspects of the story with emotive responses (ranging from 'Love this' to 'Hate this') and discuss their choices for this placement as a group. This was to ensure that our co-designed story with <Victim Aid> reflected the real, lived experiences of victim-survivors and their families in being subjected to patterns of domestic violence.

DATA COLLECTION AND ANALYSIS

For our Choice-Point deployment with perpetrators, we collected audio recordings of two complete run-throughs, with the gameplay lasting around 30 minutes per group with Group A, B and C. This meant we had six audio recordings (total: 216 minutes, average: 36 minutes) and six computerised logs of the men's interactions with the system. We also collected three lots of post-deployment focus group questions (total: 51 minutes, average: 17 minutes) and three lots of post-deployment facilitator reflections (total: 68 minutes, average 23 minutes). Each perpetrator also filled in a reflective, evaluation form (total: 27 forms).

Our workshops with service facilitators lasted 98 and 127 minutes, respectively (total: 225 minutes, average: 113 minutes). This was complemented with paper materials produced by our interaction design activities. Finally, our focus group with victim-survivors lasted 83 minutes which was audio-recorded with the illustrated map activity semantically analysed. Each evaluation involved the use of the lead author taking detailed, hand-written notes to record non-verbal, contextual information regarding our deployments and participants. These were typed up in a

digital format at the end of each session. All of our audio recordings amounted to 524 recorded minutes which were personally transcribed by the lead author for sensitivity and confidentiality.

Our analysis of our transcribed observations, focus groups, and verbal interactions with C-P was performed using a constructive-realist variation of Grounded Theory (GT) [20]. We specifically purposed this type of analysis to support how perpetrators could construct their own interpretation of their abuse alongside care worker perceptions of their support within the same shared reality. Our selection process for our data focused on perspective-taking within C-P, rather than perspectives towards the technology as a whole. This is because we believe the role of technology within domestic violence eco-systems has already been comprehensively covered by Freed et al. in [26] and [25]. The selected themes for our analysis were member-checked and clarified by the facilitators of STC for clarity and accuracy.

FINDINGS

Our constructive-realist GT analysis led to the generation of three themes within our data: 1) *Raising Levels of Awareness*, 2) *Creating a Lack of Control* and 3) *Comfortable and Uncomfortable Realities*. We have provided numbers to our participants (Table 1) and pseudonyms to distinguish their contributions. We shall first report on the quantitative logs, semantic rating and resulting endings for our six run-throughs with Groups A, B and C (Table 2) to give greater context to our qualitative findings.

Narrative Pathways

Groups A and B notably selected very positive (semantic rating of 5) positive (4) or neutral (3) choices for all characters within the narrative in their first run-through. These included choices supporting Sharron on domestic chores and demonstrated constructive fatherly affection for Shawn and Tracey. While Group C attempted to contribute positive responses, a single participant chose negative (2) and very negative (1) responses to family member needs, resulted in a neutral ending. Conversely, all groups then expressed interest in learning what *could* have happened had they behaved abusively on the second run-through.

Raising Levels of Awareness

Victim-survivors and facilitators consistently underlined the importance of fostering techniques that supported a perpetrator considering and being aware of the thoughts, feelings and behaviours of the people around them. Participants discussed that the adoption of different character roles within C-P could contribute to an increased capacity to see domestic violence from the viewpoint of another person. This was discussed in more detail at the workshop by an administrator who identified that viewing something from another perspective might not be easy to some perpetrators:

“Most of the time, the men that we’re seeing, that’s not the way they’re thinking, it’s not the process. So, to make

someone have an activity like that [Choice-Point] is kind of like making them think about somebody else”, Emma, F3.

Emma reflected here that the baseline level of awareness of many perpetrators did not take into consideration how someone else could perceive or interpret their actions or behaviours. As such, she highlights that using C-P as a way of making the men adopt a different perspective, one that they might not have thought of, outside of *‘the way they’re thinking’*, could add to better consideration of others in the future. Indeed, this can be reaffirmed by the perpetrators (Group A, B and C) who engaged with C-P who exclaimed surprise at how differently each character perceived the same event. In particular, many men who acted as audience members would challenge the participants with roles within the story on their choices. This was evidenced in an interaction between two perpetrators Darren (P2) and Michael (P8) in Group B, one of whom was frustrated with Michael’s choice to select a negative option as Terry that negatively impacted on his character as Sharon, the mother:

“You might have thought like that was a good option for Terry but she [Sharon] clearly didn’t think it was a good option for her did she? I mean look at the way everyone voted [laughs] you’re on your own for this one”, Darren, P2

Men within the educational groups frequently questioned other participants on the reasons for their actions to gain a better understanding of why some choices had been chosen over another. In this example, Darren explicitly references C-P’s voting mechanism, that enabled all attendees to vote on their preferred choice of action, to add to his argument that Michael made a poor selection for his character Terry. In this way, C-P was used to raise awareness of other perspectives of characters but perspectives of real men (*‘look at the way everyone voted’*) outside of the story as well.

On the other hand, Erica within the victim-survivor focus group highlighted that she had mixed feelings about the actualities of raising awareness in real rather than fictional scenarios. While she, alongside other victim-survivors and facilitators, saw value in presenting the impact of abuse on family members, she also expressed doubt that this awareness could or would be applied to non-fictional scenarios outside of the session:

“I think with the story’s narrative, it’s powerful to include us, as it shows them it’s not all about them, we exist, we deal with it, we cope ... what kind of story we have ... but I’m concerned that because it’s fictional do they transfer what they’ve learned to real life?”, Erica, V6

The fictional narrative within C-P proved to be a difficult sticking point within the focus group. On the one hand, victim-survivors expressed interest in contributing their stories as material, thereby making it closer to *‘real-life’*. However, facilitators expressed concern that the specificities of real stories to ensure an accurate representation of abuse could inadvertently make vulnerable individuals such as victim-survivors more identifiable.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ending
A1	4	3	5	4	5	5	5	4	3	5	4	4	3	5	4	5	5	5	4	5	Positive
A2	1	2	2	2	2	2	2	3	2	2	1	1	1	3	1	1	2	2	3	2	Negative
B1	5	4	4	5	5	5	5	4	5	4	5	5	3	4	4	5	5	4	5	4	Very Positive
B2	3	3	3	2	3	3	3	3	4	4	2	2	3	4	3	2	4	2	3	2	Neutral 3
C1	4	3	3	1	2	3	3	3	3	2	3	1	2	2	3	3	2	3	2	3	Neutral 1
C2	1	1	1	1	2	1	2	1	1	2	1	1	1	1	2	1	2	1	1	1	Very Negative

■ Terry ■ Sharron ■ Shawn ■ Tracey

Table 2: Data of the semantic rating (1, very negative to 5, very positive) of each choice-point (1-22) within the branching narrative and resulting story ending for the six run-throughs of C-P within the Steps to Change groups A, B and C. Each choice within C-P is highlighted depending on the character role played by the participants shown in the legend at the bottom.

Creating a Lack of Control

Despite the discomfort at being encouraged to state “*I am [character name]*” before the selection of their choice, all perpetrators in Groups A, B and C gradually began to familiarise themselves with how to participate with their fictional C-P role. Within the expert critique, many facilitators appreciated the constraints of the story and the allocation of pre-defined characters, actions and scenarios within the system. The facilitators praised many aspects of the exercise, most notably the linearity of the narrative. When questioned further, all participants within the expert critique explained that the alternative of a free-form scenario could go off-topic and result in disinterest by perpetrators:

“*With not that much choice of a role [in C-P], even if only for a minute, the men can remove themselves from what stories they might spin about violence and how it happens ... not being able to choose otherwise ... it does take them outside of their world*”. Melissa, F2

This quality of C-P allowing participants to be ‘*outside*’ of a particular worldview, particularly without having a choice to not do so, was praised by the focus group with victim-survivors. Many victim-survivors stated that, in line with facilitators, that if left to construct a scenario of their abuse (‘*what stories they might spin to themselves*’), perpetrators would inevitably exclude the perspectives of others and portray themselves as the victim:

“*With this [C-P], you can’t play the victim because you’ve got other viewpoints to think about and the story is already written – you can’t change it to suit you*”, Julie, V4

While many aspects of the narrative were pre-determined, it was notable that the perpetrators in the deployments of C-P with Group A, B and C still had the opportunity to exert some control, choice and influence to shape the course of the story. This was evidenced through the first run-through of Group C whereby one man found it amusing to choose the most detrimental actions for his character Terry, and would continuously snigger as the story took a more sombre tone as it progressed towards a more negative ending. Interestingly, the other perpetrators that partook in this run-through expressed an obvious dislike of this malicious behaviour and publicly sought to select the positive to very positive options to improve the course and outcome of the story. In this way, although many perpetrators acknowledged the limited options for their characters, they still demonstrated agency in

aspiring to change the course of events. In the post-deployment reflection after this incident, facilitators noted the visible and overt efforts by the others to improve the story’s path: “*like they [other group members] were compensating for his behaviour*” (Barbara, F1).

Notably, this design choice of restricting control from the users had a positive impact on how the men understood their orientation towards violence. Rather than feed into the narrative that there was no other option other than to use violence, many perpetrators identified their agency and capacity to control the course of the story and their violence in real life, as this discussion between two perpetrators from Group C demonstrates:

Mark, P20: “*... you could have gone ten or twenty different stories, but ultimately you have the choice to like you know, ... in hindsight, you could think like I wish I’d done that.*”
 Rashid, P27: “*I think that we really underestimate ourselves as to how much control we’ve got of our decisions because it’s what we do that affects the outcome.*”
 Mark, P27: “*Yeah, because it is your choice.*”

These findings highlight the paradoxical relationship that activities that choice and agency have within technical exercises on domestic violence. By removing the free choice of the men to write the narrative of abuse, C-P here supported the mens’ ability to reconsider their violence as their own choice and to recognise how much ‘*control*’, as Rashid identified, they had over their actions.

Comfortable and Uncomfortable Realities

Through the use of C-P and discussions of the narrative within the story, many perpetrators spoke about topics that were more personal and sensitive than in the rest of the intervention. In all deployments, the research team and facilitators recognised C-P as providing a protective cover for the men to share their experiences with violence and how this led them to attend the session, even though this was not a requirement for any discussion. Through participation in C-P perpetrators had to offer their thoughts and feelings by adopting the role of a fictional character (“*I am [Terry/Sharon/Tracey/Shawn] and I would ...*”). However, many men contributed such specific details as to the justification of their choices when asked, even breaking character on occasion to describe events that had not happened within the narrative. This can be seen in an example with Lenny in Group C, who describes an act of physical violence that is not present within the story:

“I am Terry and I feel a terrible sense of guilt, remorse that I hadn’t felt all the other times I hit her, now I’ve got the kids and police involved, and I feel like everyone’s now gonna judge me, I mean Terry as a bad person ...”, Lenny, P24

As Lenny breaks character from Terry to the use of a personal pronoun and describes his own violence, C-P can be seen as providing an environment for sharing uncomfortable disclosures and realities. The pseudo-anonymous capacity for permitting perpetrators to vote using their devices was also acknowledged as a channel to communicate sensitive aspects about the mens’ reason for being at the course. As all groups had participant with assertive personalities, we found that the voting functionality provided more hesitant speakers with the ability to participate as an audience member (a non-allocated role) to relate to the story. As one perpetrator in Group B contributed:

I didn’t feel confident in contributing in front of the other guys, I liked being able to vote without the others knowing it was me and see other votes in the outcome of the story. This story could have been my story, and it’s made me think differently about my actions, particularly to my children. Anonymous, Written Feedback

As such, the man who contributed this anonymous feedback directly appreciated being able to comfortably, and covertly signal their involvement in the story without being put in a position where they were forced to participate. Facilitators and victim-survivors both agreed that to put an individual ‘on the spot’ would directly violate the course teachings of respectful interaction of communication styles that do not involve power and control through peer pressure. One perpetrator, Ian, Group A, contributed to improvements for the story presented within Choice-Point as he directly compared the fictional event of Terry being arrested with his own experience:

“... plus the police in the bad scenario we got, they’ll go in and check and go and talk to all the kids, they have to find out how many children there is in the house, and then speak to them individually and explain why their da’ has been arrested, which is upsetting for the kids ...” Ian, P8

Focusing only on providing an entirely comfortable space for discussion through C-P was problematised by Emma within the structured critique:

“... even if they’re not kind of owning up to it [violence] through C-P, maybe it’s still beneficial? You don’t want them to feel too relaxed though as then that’s not taking their abuse seriously and letting them off easy” Emma, F3

We found this to be an intriguing finding, as it is a direct parallel to the on-going dilemma of sensationalising or minimising the impacts of violence in its representation.

DISCUSSION

Non-linear and interactive storytelling has become a popular means of challenging how sensitive topics are communicated and experienced [40]. How these narratives are authored and

how we design systems to interact with these narratives are particularly important within the context of domestic violence. This is also to provide agency to victim-survivors through supporting alternative and accurate representations of their experiences of harm [19], while disrupting tactics for avoiding responsibility by the perpetrator, such as permitting them to pose as the victim within the scenario [33]. We believe our work adds directly to the growing body of literature that demonstrates games – or playful and gameful applications – are a suitable medium for learning about abuse, violence and perpetration [12, 42, 60]. In this section, we synthesise our findings and identify some design implications for creating non-linear, interactive fiction within social care settings.

Restricting Agency for Realising Agency

Many studies within Human-Computer Interaction have understood that increasing user agency is of value in and of itself for technical communication [67]. In the case of our studies, with our deployments of C-P with perpetrators of domestic violence, our findings contribute toward a distinctively different picture of technical considerations with this group. Understandably, we experienced a strong reluctance to permit this user group with the full capacity for the emancipatory visions inherent within interactive storytelling; to be entirely free to choose and shape a story of their own design [49]. As we have already highlighted, interactive storytelling prides itself on providing greater agency to its users by allowing them an increased involvement in shaping the course of a narrative [4, 29, 40]. However, the only way in which the group facilitators could foresee mitigating the problem of the ‘*stories [the men] might spin about violence*’ was to create pre-designed characters, choices and plot points. Within our work we as such discovered a design paradox; to teach the men about their choice of use of violence within STC, the facilitators had to **actively restrict the choices that perpetrators could perform** through and with C-P. Indeed, in the case of the facilitators authoring the story and options for the perpetrators presents a somewhat unusual and potentially problematic asymmetrical power relationship. The restriction of choice in this setting still opens up interesting avenues for future work where perpetrators may gradually be able to exert more direct control as they continue working to improve their behaviours.

Technologies that may constrain a user’s ability to choose can, and have been shown to produce directly positive effects on the belief of greater agency over one’s own choices and actions [39, 47]. In studies such as Lyngs et al.’s review of tools for digital self-control and resistance from harmful behaviours, the most common feature within technical systems was that of feature minimisation or blocking. By removing potential harmful or distracting material that could lead to negative behaviours, the user believed that they had, in fact, more agency to perform other more positive tasks. We can see that an element of this occurred within our study, where negative behaviours such as perpetrators “*play[ing]*

the victim” by crafting their own narrative were ‘blocked’ through the use of C-P. By removing the ability to avoid taking responsibilities for their choices in violence, many men had no other option than to admit that they did indeed “*have the choice [to do differently]*”. We observed that perpetrators assuming the perspective of another family member, even if fictional, did appear to produce new, pro-social behaviours within a group setting [53].

We believe that ***confining pre-written narratives of abuse and violence but allowing users to partake in the story through the provision of character roles*** may ensure that the tone and narrative are coherent within such a sensitive setting. Indeed, this design consideration may also open up possibilities for challenging harmful behaviours in complex social settings of other particular application areas (e.g. drug and alcohol addiction, harm reduction and probation).

Piercing the Magic Circle

There is a delicate balance in ensuring the topic of domestic violence in interactive storytelling, simulations and games are neither sanitised nor sensationalised [52, 73]. To do so could either abstract the societal problem from the genuine trauma it generates, or transform it into a spectacle of amusement. Still, neither of these concerns should deter designers from a sensitive and respectful conversation about the possibilities of interactive storytelling as a medium for educational engagement on domestic violence [12]. There is a clear benefit in positioning hypotheticals within a “*magical circle*” [38] of possibilities within games that may not be ethical or legal to occur within real life. This is not to mean that simply because the events do not exist in reality that they should be discounted as unrelatable or meaningless. In our use of the circle metaphor within this work, we acknowledge that the concept does not denote that the boundaries between reality and virtual space are fixed or even permanent. Within our study, we witnessed multiple occasions where the perceived distance between the virtual story and actualised events of abuse were reduced. This even involved a participant describing aspects of his history of abuse through the role of a fictional abuser, an action that was not required within the intervention (i.e. “stepping in and out of the circle”). This is in line with, and extends existing HCI work that not only “*involves the receiver ... in the universe of fiction*” [40] but also involves the perpetrators in sharing their own story – arguably a critical way to bridge the distance between perpetrator and support workers. Indeed, there is a strong ethical dimension that we take a perpetrators’ “*abuse seriously*” (Comfortable and Uncomfortable Realities). As such, we call on researchers, designers and policymakers to ***provide physical, virtual and social spaces of negotiation for perpetrators to realise the severity of abuse for themselves***.

A potential limitation of our approach to the intervention was highlighted through our focus group of victim-survivors. They were concerned about whether the men would transfer what has been learned within the virtual space or ‘magic

circle’ in the session to external scenarios. Our evaluation was not designed to measure behaviour change within the men, due to complexities of the field in recording these changes [34] and the short-term nature of <Victim Aid> perpetrator intervention. However, it was reassuring to see genuine engagement with C-P used by men to reflect on both their behaviours and challenge other men on theirs. As such, our study contributes to the growing body of evidence that supports learning and understanding appropriate social behaviours within pro-social contexts [10]. Due to the traumatising nature of domestic violence, and the impact of learning of one’s role in the causation of violence, we would recommend, in line with other work within HCI [9, 26], that the deployment of such digital interactions be performed under the supervision of trained professionals.

CONCLUSION AND FUTURE WORK

In this paper, we presented Choice-Point a web-based application for non-linear storytelling to support efforts to increase perspective-taking and emotional intelligence for male perpetrators of domestic violence. We deployed Choice-Point with three groups of perpetrators, and welcomed an evaluation from a victim-survivor support group and experienced care workers facilitating the sessions. Based on our findings, we present lessons learned and design insights from three different perspectives of the victim-survivor, the perpetrator and the facilitator for creating future systems to support behaviour change interventions.

For future studies, as some of the perpetrators preferred to select positive and negative choices within the narrative, we would be interested in exploring whether these choices matched the perpetrators’ traditional playstyle across other fictional media such as games. With our further engagements with victim-survivors, we are curious as to how authoring a non-linear story could be potentially therapeutic to those impacted by domestic violence as a means of regaining agency over their representation. Alongside this work, it may become apparent to see the benefits and challenges of mobilising user-generated stories within future service delivery, and how authenticity can be balanced against anonymity for vulnerable groups.

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REFERENCES

- [1] Ahmed, N. 2016. Discussing About Sexual Harassment (Breaking Silence): The Role of Technology. *Proceedings of the 2016 CHI Conference*

- Extended Abstracts on Human Factors in Computing Systems* (New York, NY, USA, 2016), 459–472.
- [2] Akoensi, T.D. et al. 2013. Domestic Violence Perpetrator Programs in Europe, Part II: A Systematic Review of the State of Evidence. *International Journal of Offender Therapy and Comparative Criminology*. 57, 10 (Oct. 2013), 1206–1225. DOI:https://doi.org/10.1177/0306624X12468110.
- [3] Almeida, L.R. et al. 2018. The Caixa De Pandora Game: Changing Behaviors and Attitudes Toward Violence Against Women. *Comput. Entertain.* 16, 3 (Sep. 2018), 2:1–2:13. DOI:https://doi.org/10.1145/3236493.
- [4] Atkins, B. 2006. What Are We Really Looking at?: The Future-Oriented of Video Game Play. *Games and Culture*. 1, 2 (Apr. 2006), 127–140. DOI:https://doi.org/10.1177/1555412006286687.
- [5] Bandura, A. 1971. *Social Learning Theory*. General Learning Corporation.
- [6] Bates, E. 2017. Review of domestic violence perpetrator programmes within the UK.
- [7] Bates, E.A. and Taylor, J.C. 2019. *Intimate Partner Violence: New Perspectives in Research and Practice*. Routledge.
- [8] Bayliss, P. 2007. Beings in the Game-world: Characters, Avatars, and Players. *Proceedings of the 4th Australasian Conference on Interactive Entertainment* (Melbourne, Australia, Australia, 2007), 4:1–4:6.
- [9] Bellini, R. et al. 2019. Mapping the Margins: Navigating the Ecologies of Domestic Violence Service Provision. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2019), 122:1–122:13.
- [10] Bellini, R. et al. 2018. “That Really Pushes My Buttons”: Designing Bullying and Harassment Training for the Workplace. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2018), 235:1–235:14.
- [11] Bellini, R. et al. 2019. Vocalising Violence: Using Violent Mens’ Voices for Service Delivery and Feedback. *Proceedings of the 9th International Conference on Communities & Technologies - Transforming Communities* (New York, NY, USA, 2019), 210–217.
- [12] Boduszek, D. et al. 2019. Prosocial video game as an intimate partner violence prevention tool among youth: A randomised controlled trial. *Computers in Human Behavior*. 93, (Apr. 2019), 260–266. DOI:https://doi.org/10.1016/j.chb.2018.12.028.
- [13] Bopp, J.A. et al. 2018. “An Odd Kind of Pleasure”: Differentiating Emotional Challenge in Digital Games. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2018), 41:1–41:12.
- [14] Bradley, C. and Froomkin, A.M. 2004. Virtual Worlds, Real Rules Institute for Information Law and Policy Symposium: State of Play: II. Article. *New York Law School Law Review*. 1 (2005 2004), 103–146.
- [15] Brandt, E. 2006. Designing Exploratory Design Games: A Framework for Participation in Participatory Design? *Proceedings of the Ninth Conference on Participatory Design: Expanding Boundaries in Design - Volume 1* (New York, NY, USA, 2006), 57–66.
- [16] Brown, J. et al. 2010. Caught in the rejection–abuse cycle: are we really treating perpetrators of domestic abuse effectively? *Journal of Family Therapy*. 32, 3 (2010), 280–307. DOI:https://doi.org/10.1111/j.1467-6427.2010.00494.x.
- [17] Cantos, A.L. et al. 1993. Men and women’s attributions of blame for domestic violence. *Journal of Family Violence*. 8, 4 (Dec. 1993), 289–302. DOI:https://doi.org/10.1007/BF00978094.
- [18] Cascardi, M. and O’Leary, K.D. 1992. Depressive symptomatology, self-esteem, and self-blame in battered women. *Journal of Family Violence*. 7, 4 (Dec. 1992), 249–259. DOI:https://doi.org/10.1007/BF00994617.
- [19] Clarke, R. et al. 2013. Digital Portraits: Photo-sharing After Domestic Violence. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2013), 2517–2526.
- [20] Cupchik, G. 2001. Constructivist Realism: An Ontology That Encompasses Positivist and Constructivist Approaches to the Social Sciences. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*. 2, 1 (Feb. 2001). DOI:https://doi.org/10.17169/fqs-2.1.968.
- [21] Davis, L. et al. 2003. Enabling a continuum of virtual environment experiences. *IEEE Computer Graphics and Applications*. 23, 2 (Mar. 2003), 10–12. DOI:https://doi.org/10.1109/MCG.2003.1185574.
- [22] Dobash, R.P. and Dobash, R.E. 2004. Women’s Violence to Men in Intimate Relationships Working on a Puzzle. *The British Journal of Criminology*. 44, 3 (May 2004), 324–349. DOI:https://doi.org/10.1093/bjc/azh026.
- [23] Domestic violence perpetrator programmes: an zhistorical overview.: 2013.

- https://www.dur.ac.uk/resources/criva/anhistoricallove_rviewbriefingnote.pdf. Accessed: 2018-05-25.
- [24] Edleson, J.L. 1998. Responsible Mothers and Invisible Men: Child Protection in the Case of Adult Domestic Violence. *Journal of Interpersonal Violence*. 13, 2 (Apr. 1998), 294–298. DOI:<https://doi.org/10.1177/088626098013002010>.
- [25] Freed, D. et al. 2018. “A Stalker’s Paradise”: How Intimate Partner Abusers Exploit Technology. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2018), 667:1–667:13.
- [26] Freed, D. et al. 2017. Digital Technologies and Intimate Partner Violence: A Qualitative Analysis with Multiple Stakeholders. *Proc. ACM Hum.-Comput. Interact.* 1, CSCW (Dec. 2017), 46:1–46:22. DOI:<https://doi.org/10.1145/3134681>.
- [27] Garcia-Moreno, C. 2013. *Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual violence*. World Health Organization.
- [28] Gottzén, L. 2019. Violent men’s paths to batterer intervention programmes: masculinity, turning points and narrative selves. *Nordic Journal of Criminology*. 20, 1 (Jan. 2019), 20–34. DOI:<https://doi.org/10.1080/2578983X.2019.1586161>.
- [29] Hand, S. and Varan, D. 2009. Interactive Stories and the Audience: Why Empathy is Important. *Comput. Entertain.* 7, 3 (Sep. 2009), 39:1–39:14. DOI:<https://doi.org/10.1145/1594943.1594951>.
- [30] Harrigan, P. and Wardrip-fruin, N. 2010. *Second Person: Role-Playing and Story in Games and Playable Media*. MIT Press.
- [31] Hart, L. and R. 2018. *Operation Lighthouse: Reflections on our Family’s Devastating Story of Coercive Control and Domestic Homicide*. Independently published.
- [32] Hatty, S.E. 2000. *Masculinities, Violence and Culture*. SAGE Publications.
- [33] Hearn, J.R. 1998. *The Violences of Men: How Men Talk about and How Agencies Respond to Men’s Violence to Women*. Sage Publications.
- [34] Hekler, E.B. et al. 2013. Mind the Theoretical Gap: Interpreting, Using, and Developing Behavioral Theory in HCI Research. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2013), 3307–3316.
- [35] Henning, K. et al. 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, 3 (Jun. 2005), 131–139. DOI:<https://doi.org/10.1007/s10896-005-3647-8>.
- [36] Henning, K. and Holdford, R. 2006. Minimization, Denial, and Victim Blaming by Batterers: How Much Does the Truth Matter? *Criminal Justice and Behavior*. 33, 1 (Feb. 2006), 110–130. DOI:<https://doi.org/10.1177/0093854805282322>.
- [37] HM Government: Home Office 2010. *Call to End Violence against Women and Girls: Strategic Vision*. Home Office.
- [38] Huizinga, J. 2016. *Homo Ludens: A Study of the Play-Element in Culture*. Angelico Press.
- [39] Inman, S. and Ribes, D. 2019. “Beautiful Seams”: Strategic Revelations and Concealments. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2019), 278:1–278:14.
- [40] Ivars-Nicolas, B. and Martinez-Cano, F.J. 2019. Interactivity in Fiction Series as Part of Its Transmedia Universe: The Case of Black Mirror: Bandersnatch. *Narrative Transmedia*. (Jun. 2019). DOI:<https://doi.org/10.5772/intechopen.86881>.
- [41] Kelly, L. and Westmarland, N. 2015. *Domestic Violence Perpetrator Programmes: Steps Towards Change. Project Mirabal Final Report*. Durham University.
- [42] Koo, G. and Seider, S. 2010. Video Games for Prosocial Learning. *Ethics and Game Design: Teaching Values through Play*. (2010), 16–33. DOI:<https://doi.org/10.4018/978-1-61520-845-6.ch002>.
- [43] Lamb, S. 1999. *The Trouble with Blame: Victims, Perpetrators, and Responsibility*. Harvard University Press.
- [44] Leitão, R. 2018. Digital Technologies and Their Role in Intimate Partner Violence. *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2018), SRC11:1–SRC11:6.
- [45] Lewis, R. et al. 2001. Law’s Progressive Potential: The Value of Engagement with the Law for Domestic Violence. *Social & Legal Studies*. 10, 1 (Mar. 2001), 105–130. DOI:<https://doi.org/10.1177/a017834>.
- [46] Lieberoth, A. et al. 2015. Game Research Methods. P. Lankoski and S. Björk, eds. ETC Press. 175–192.
- [47] Lyngs, U. et al. 2019. Self-Control in Cyberspace: Applying Dual Systems Theory to a Review of Digital Self-Control Tools. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2019), 131:1–131:18.

- [48] Manchikanti Gómez, A. 2011. Testing the Cycle of Violence Hypothesis: Child Abuse and Adolescent Dating Violence as Predictors of Intimate Partner Violence in Young Adulthood. *Youth & Society*. 43, 1 (Mar. 2011), 171–192. DOI:<https://doi.org/10.1177/0044118X09358313>.
- [49] Manovich, L. 2001. *The Language of New Media*. MIT Press.
- [50] Mayr, S. and Petta, P. 2013. Towards a Serious Game for Trauma Treatment. *Serious Games Development and Applications* (2013), 64–69.
- [51] McKenry, P.C. et al. 1995. Toward a Biopsychosocial Model of Domestic Violence. *Journal of Marriage and Family*. 57, 2 (1995), 307–320. DOI:<https://doi.org/10.2307/353685>.
- [52] McMullan, T. 2018. The problem with Detroit: Become Human’s handling of domestic abuse. *Alphr*.
- [53] Narvaez, D. Prosocial Video Game Effects. *Media Psychology Review*.
- [54] Nielsen, J. and Molich, R. 1990. Heuristic Evaluation of User Interfaces. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 1990), 249–256.
- [55] Office for National Statistics 2018. Domestic abuse in England and Wales: year ending March 2018. Home Office.
- [56] Phillips, R. et al. 2013. Domestic violence perpetrator programmes : an historical overview. Durham University Press.
- [57] Rice, M. et al. 2012. Co-creating Games Through Intergenerational Design Workshops. *Proceedings of the Designing Interactive Systems Conference* (New York, NY, USA, 2012), 368–377.
- [58] Rizzo, A.S. et al. 2010. Development and early evaluation of the Virtual Iraq/Afghanistan exposure therapy system for combat-related PTSD. *Annals of the New York Academy of Sciences*. 1208, (Oct. 2010), 114–125. DOI:<https://doi.org/10.1111/j.1749-6632.2010.05755.x>.
- [59] Romito, P. 2008. *A deafening silence: Hidden Violence Against Women and Children*. Policy Press.
- [60] SafeLives 2019. *Tech vs Abuse: Research Findings 2019*.
- [61] Saleem, M. et al. 2012. Effects of Prosocial, Neutral, and Violent Video Games on Children’s Helpful and Hurtful Behaviors. *Aggressive Behavior*. 38, 4 (2012), 281–287. DOI:<https://doi.org/10.1002/ab.21428>.
- [62] Salen, K. and Zimmerman, E. 2003. *Rules of Play: Game Design Fundamentals*. MIT Press.
- [63] Scholes, L. et al. 2014. Serious games for learning: Games-based child sexual abuse prevention in schools. *International Journal of Inclusive Education*. 18, (2014), 934–956.
- [64] Seinfeld, S. et al. 2018. Offenders become the victim in virtual reality: impact of changing perspective in domestic violence. *Scientific Reports*. 8, 1 (Feb. 2018), 2692. DOI:<https://doi.org/10.1038/s41598-018-19987-7>.
- [65] Shamai, M. and Buchbinder, E. 2010. Control of the self: Partner-violent men’s experience of therapy. *Journal of Interpersonal Violence*. 25, 7 (2010), 1338–1362. DOI:<https://doi.org/10.1177/0886260509340538>.
- [66] Sheehan, K.A. et al. 2012. Turning points for perpetrators of intimate partner violence. *Trauma, Violence & Abuse*. 13, 1 (Jan. 2012), 30–40. DOI:<https://doi.org/10.1177/1524838011426016>.
- [67] Stenros, J. 2014. In Defence of a Magic Circle: The Social, Mental and Cultural Boundaries of Play. *Transactions of the Digital Games Research Association*. 1, 2 (Feb. 2014). DOI:<https://doi.org/10.26503/todigra.v1i2.10>.
- [68] Stephens, S.H. 2015. Interactive Data Visualization for Risk Assessment: Can There Be Too Much User Agency? *Proceedings of the 33rd Annual International Conference on the Design of Communication* (New York, NY, USA, 2015), 9:1–9:2.
- [69] Strohmayer, A. et al. 2017. Technologies and Social Justice Outcomes in Sex Work Charities: Fighting Stigma, Saving Lives. *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2017), 3352–3364.
- [70] Strohmayer, A. et al. 2019. Technologies for Social Justice: Lessons from Sex Workers on the Front Lines. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA, 2019), 652:1–652:14.
- [71] Tashiro, J.S. and Dunlap, D. 2007. The Impact of Realism on Learning Engagement in Educational Games. *Proceedings of the 2007 Conference on Future Play* (New York, NY, USA, 2007), 113–120.
- [72] Tavis, C. 1989. *Anger: The Misunderstood Emotion*. Touchstone / Simon & Schuster.
- [73] Tekinbas, K.S. et al. 2008. *The Ecology of Games: Connecting Youth, Games, and Learning*. MIT Press.
- [74] Tieryas, P. 2019. I Still Think About Detroit: Become Human’s Tales Of Abuse. *Kotaku*.

- [75] Twine / An open-source tool for telling interactive, nonlinear stories: <https://twinery.org/>. Accessed: 2019-09-20.