

A Blueprint for Domestic and Family Violence Education in Social Work Through Virtual Reality Design

Research Article

Krystal L. Schaffer¹, Joshua Rivory², Neil I. Martin³, Jill E. Lawrence⁴ and India R. Bryce⁵

1 School of Psychology and Wellbeing, University of Southern Queensland, 487-535 West St, Darling Heights QLD 4350

2 Learning and Teaching Futures, University of Southern Queensland, 487-535 West St, Darling Heights QLD 4350

3 Academic Affairs, University of Southern Queensland, 487-535 West St, Darling Heights QLD 4350

4 School of Humanities and Communication, University of Southern Queensland, 487-535 West St, Darling Heights QLD 4350

5 School of Psychology and Wellbeing, University of Southern Queensland, 487-535 West St, Darling Heights QLD 4350

Corresponding author: **Krystal L. Schaffer**

Email: krystal.schaffer@usq.edu.au

Mailing Address: University of Southern Queensland, 487-535 West Street, Darling Heights, QLD, 4350

Abstract

Domestic and family violence (DFV) is a global issue, necessitating a proactive response from social workers. As such, social work graduates must possess the requisite skills and knowledge to respond effectively in practice. To aid social work students' readiness to respond to DFV, an innovative approach involving the use of virtual reality (VR) has been established within the University of Southern Queensland's social work and human services program. VR simulations can be used to support experiential learning by providing immersive experiences that foster formative skill development. Consequently, it presents a distinctive advantage in ensuring all social work students, irrespective of where they engage in placement, are exposed to DFV content in a scaffolded and safe manner. We created four VR simulations that simulate different intersectionalities relevant to individuals affected by DFV. Creating these experiences required a co-design approach, involving extensive collaboration with a community advisory group, to ensure an authentic narrative and effective realisation of the simulation in VR. This study outlines the design-based research process, including stages of development and outcomes, highlighting emergent themes from interviews with the community advisory group. Our findings offer valuable insights for educators and curriculum developers looking to incorporate VR simulations, providing procedural design recommendations and forward-thinking suggestions to advance the field of DFV education in social work. Our outcomes can also be applied in other learning environments that seek to develop DFV professional practice competencies.

Keywords: *Domestic and family violence; Intimate partner violence; Virtual reality simulations; Social work education*

Introduction

Domestic and family violence (DFV) constitutes a significant global challenge, with far-reaching systemic implications (Australian Bureau of Statistics, 2020). Subsequently, social workers must develop graduate attributes to equip them with skills and knowledge to work effectively with DFV (Royal Commission into Family Violence, 2016). Tertiary social work programs play a crucial role in cultivating the preparedness of social work graduates in this context and can benefit from promising immersive simulation-based technologies such as virtual reality (VR) (Harris & Newcomb, 2023; Jenney et al., 2023; Roberson & Baker, 2021). This article contributes to the emerging knowledge base about the development of VR simulation in social work education, specifically in the context of DFV, an area of VR implementation with limited prior research.

Background

Arguably as an issue of social injustices, domestic and family violence is an area of practice that social workers must be equipped to adequately recognise and respond to (Australian Association of Social Work [AASW], 2023; Fedina et al., 2018). It is therefore necessary for social workers to develop this foundational skillset during their tertiary social work training, sentiments supported by the AASW (2023). However, researchers and scholars have continued to argue that social work education does not adequately prepare graduates to work effectively in the domestic and family violence context (Danis & Lockhart, 2003; Fedina et al., 2018; Schaffer et al., 2024;). Noted gaps concern graduate understanding of DFV, problematic attitudes or beliefs, and inadequacies in building context-specific professional self-efficacy (Fedina et al., 2018; Schaffer et al., 2024). Promisingly, recent insights from an exploratory quantitative study conducted in Australia suggest that both personal and professional experiences play a predictive role in enhancing graduate social workers' readiness to respond to DFV (Schaffer et al., 2024). These findings emphasise the importance of acknowledging professional experiences as valuable resources in DFV education (Schaffer et al., 2024), and emerging technologies able to simulate such opportunities are gaining increasing support in social work education and practice (Harris & Newcomb, 2023; Jefferies et al., 2022; Jenney et al., 2023; Roberson & Baker, 2021).

While there are varied methods to build professional practice experiences and graduate competencies about DFV in higher education (including via field education), virtual simulations have become a promising method by leveraging “a computer/software/the internet to teach knowledge and competency-based skills” (Baker & Jenney, 2023, p. 9). VR, for example, technologically replaces real-world sensory information with a virtual environment (Huttar & BrintzenhofeSzoc, 2020; Roberson & Baker, 2021). Defining VR in totality remains outside the scope of this article; however, Abbas et al. (2023, p. 7), define it as “a three-dimensional computer-generated simulated environment, which attempts to replicate real world or imaginary environments and interactions, thereby supporting work, education, recreation, and health”.

These virtual worlds are predominantly administered with head-mounted displays (either with hand tracking or tracked controllers), but many experiences can also be replicated in 2D on standard computer screens as a 3D game or 360-degree video (Abbas et al., 2023).

Current examples of VR simulation being utilised in social work education have demonstrated promising potential as a tool used to build social work graduate outcomes, including promoting critical thinking, knowledge development and establishment of skills and values relevant to practice (Huttar & BrintzenhofeSzoc, 2019; Roberson & Baker, 2021). Interestingly, VR technology is demonstrating that it can be an excellent tool for supporting the development of procedural skill training and knowledge acquisition through applied learning in simulated practice environments (Roberson & Baker, 2021) and can facilitate learning by integrating students' presence (being in the story) and agency (manipulating the story) into educational activities (Petersen et al., 2022). Most importantly, VR technology serves as a tool to immerse users into visually realistic contexts, in a supported and scaffolded teaching environment, prior to doing this in direct practice (where 'real' people are directly affected) (Huttar & BrintzenhofeSzoc, 2019).

There are limited examples of the application of VR simulation specific to DFV in social work education; however, recent studies provide encouraging insights into its efficacy as well as the challenges to overcome. Jenney et al. (2023) designed and developed an experiential learning approach to teach DFV competencies to student nurses, lawyers, and social workers. The team used 2D virtual gaming simulations (VGS) for users to "practice and apply their knowledge, attitudes, and skills to meet specific learner outcomes" (Jenney et al., 2023, p. S77) finding that students were, overall, positive about the application. Shortcomings included limited immersion within the game, a desire for more emotional depth, and realism issues (Jenney et al., 2023). A noteworthy example of leveraging VR technology for DFV training in social work is the Simpson et al. (2023) project, which aimed to immerse users within realistic scenarios to foster genuine emotional responses through VR simulations (Simpson et al., 2023). Interestingly, they utilised virtual 3D environments leveraging animated avatars and digitally constructed assets. Simpson et al. (2023) found that many of their users (social work practitioners) emphasised a desire for more interaction possibilities and more realistic emotional reactions of the virtual characters, "highlighting the importance of communication via body language and emotional intelligence" (p. 9).

Current evidence about VR technology and its applications in social work education suggests that VR simulations can overcome gaps in Australian social work students' graduate readiness to respond to DFV (Baker & Jenney, 2023; Huttar & BrintzenhofeSzoc, 2020; Schaffer et al., 2024). Further, VR enables users to engage in empathic learning, formative learning opportunities and procedural skills training within various practice contexts (Trahan et al., 2019). Leveraging this within DFV contexts can provide professional practice experiences for students, which can enhance graduate readiness to respond to DFV (Schaffer et al., 2024). These findings, which were obtained in the data collated during the stages of design-based research, have influenced our decision to adopt VR as the chosen technology to support social work students' training and education about DFV.

The research team also prioritised overcoming the challenges of realism and authenticity that were highlighted by Simpson et al. (2023) and Jenney et al. (2023) by leveraging 360-degree VR videos.

We aim to provide guidance to those interested in developing virtual simulation-based pedagogies for social work education about DFV using a co-design research-based approach. It is proposed that the use of VR as a learning and teaching tool supports the development of necessary social work graduate capabilities about DFV because social work students can be predisposed to DFV content in an immersive (but also scaffolded and supported) way, prior to potentially experiencing this in direct practice (such as during student placements). Further, it will support students to move from knowing theory to critically applying it. Concomitantly, this work aims to empower educators to optimise the benefits of simulation-based education. The research question presented is: What are the design processes and outcomes in developing VR simulations to educate social workers about DFV?

Framework

The theoretical framework used to inform this study is Kolb's experiential learning theory (ELT) (Kolb, 1984). The framework is widely utilised in simulation pedagogy (Fewster-Thuente & Batteson, 2016; Long & Gummelt, 2020). Drawing on this approach, students move from knowing why something should be done, to acquiring the practical knowledge of how to execute it in practice; this leads to heightened conceptual understanding, improved procedural skills, and the ability to apply their knowledge and skills to novel challenges (Cheung et al., 2019). Learning is a process which students actively engage with through doing (Allison et al., 2023). Kolb (1984) argued that learners are best positioned to attain new knowledge by engaging in four stages of a learning process, which he identifies as: concrete learning; reflective observation; abstract conceptualisation; and active experimentation. In other words, it is imperative that students are given clear instructions, followed by the chance to apply it in practice and critically reflect on those learnings so they can effectively retain new information. This theoretical framework was used to guide the development of our VR simulations, along with the accompanying learning activities used to support training about DFV in social work education.

Following this, a design-based research methodology was used to systematically guide the development of targeted VR simulations. Design-based research is interventionist research, typically used to produce knowledge about the design aspects of learning and education (Hoadley & Campos, 2022). This approach uses a series of iterative phases aimed at unearthing the learning or education problem, understanding the design principles and strategies, and reflecting on the knowledge production process (Koivisto et al., 2018). Hoadley and Campos (2022) described these iterative stages as: grounding; conjecturing; iterating; and reflecting. Mixed-methodological research approaches are often utilised in the attainment of data collated across each iterative stage of the design process, but the benefit remains the same—that changes to the initial design base can be made based on the insights gained across each respective design stage (Hoadley & Campos, 2022; Koivisto et al., 2018).

The phases of data collection that were adopted in the design process of the VR simulations for social work education about DFV are introduced in the following design section.

Design

Our design process commenced with consultations with a community advisory group. This approach was identified as a co-design strategy, also acceptably termed a “bottom-up approach” to development (Fitzpatrick et al., 2023). This was an important design strategy, especially vital for creating an inclusive and true-to-life portrayal of the social work experience in domestic and family violence situations. Community advisory members included social work practitioners, people with lived experiences of DFV, media production experts, screenwriters, actors and academics from social work, health, and creative arts. Through this process, the research team needed to: (1) ascertain the social work problem areas that required further investigation and could potentially benefit from the creation and implementation of real-world interventions afforded through simulations about DFV; (2) identify how to produce realistic, authentic, and emotionally captivating replications of social work practitioner experience simulations; and (3) create, reflect on and describe new hypotheses, design principles, procedures or processes evident through the design process. To support the development of these design insights, Hoadley and Campos’ (2022) iterative stages of design-based research were followed:

Grounding phase

We conducted a survey examining the state of Australian graduate readiness to respond to DFV. This was the *grounding* design-stage conducted to support vision setting and confirmation of the design approach (Hoadley & Campos, 2022). The findings are reported by Schaffer et al. (2024), but are summarised as follows: (1) there are gaps in social workers’ graduate preparedness to recognise risk factors of DFV; (2) there were barriers to social workers’ understanding of the difficulties in leaving relationships characterised by DFV; (3) social workers at times displayed problematic attitudes and beliefs at odds with the social work value base; and (4) there was evidence of a participant-reported need for additional DFV training in social work curriculum. The data from this study were used to inform scenario development such as depicting the more nuanced risk factors of DFV or highlighting the complexities of victim-survivors’ decision-making when in a relationship characterised by DFV. Importantly, the data collated reaffirmed VR simulations as the focus of the design approach. This was because the data revealed that social work students and new graduates were better prepared to respond to DFV when they had previous professional or personal experiences with DFV. This was a significant finding because VR can offer users real-world practice opportunities through the affordances available within the technology (Baker & Jenney, 2023).

Conjecturing phase

The second stage of the design-based research was *conjecturing*, otherwise known as the phase focused on developing solutions. To complete this step, we undertook a scoping review on virtual simulations used to educate social workers about DFV.

The results of the review are forthcoming (Schaffer et al., forthcoming); however, the findings identified: (1) virtual simulations are effective in building emotional insights about DFV; (2) connection to simulated characters is enhanced when *real* people are used (as opposed to avatars); (3) 360-degree simulations are more effective in immersing users into practice contexts; (4) there are gaps in virtual simulations that represent the intersectional DFV experiences of First Nations people and LGBTQIA+ people; and (5) a community approach to simulation design is important. Notably the voices of those with lived experiences of DFV were not described as part of the virtual simulation design process (a noted gap in the study findings). These findings were used to make decisions about ongoing design processes, physical attributes, materials, functionality, and aesthetics of the design concepts.

Iterating and reflecting phases

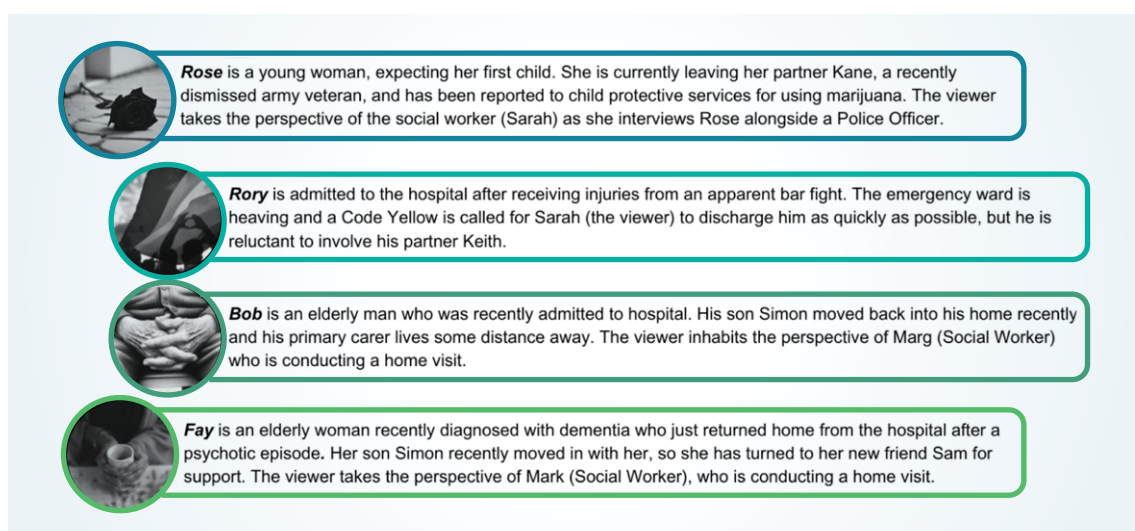
In design-research, iterating is the process of repeating steps to refine and improve the design (Hoadley & Campos, 2022). Throughout this stage, the scenario development underwent multiple refinements. This was informed by the data collated in the grounding and conjecturing stages, consultations with the community advisors, and testing of the VR productions. Additionally, various other design aspects, such script development, audio refinement and production underwent iterative improvements.

This study exemplifies the final stage of design-based research, *reflecting*, by presenting the qualitative data depicted in this study, thus reflecting the procedural knowledge produced through the design process.

Based on the four phases of design-based research, the VR outputs are four 360-degree virtual reality recorded simulations depicting elder abuse, abuse against LGBTQIA+ individuals and DFV against women. The contexts include an emergency department in a hospital environment, a child safety investigation, and a home visit from a hospital social work clinician. Figure 1 provides a synopsis of the developed VR simulations, further outlining the scenario.

Figure 1

Synopses of Developed VR Simulations

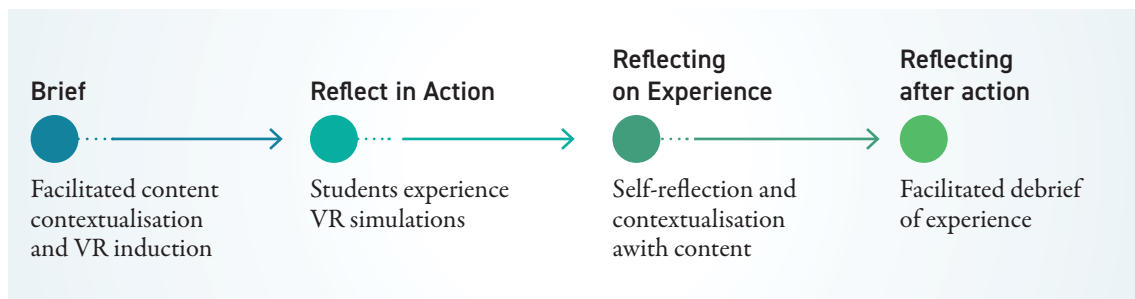


Learning activity development

It is important to note that the design process also included the development of activities that are to be used to support learning and enhance the VR simulation experience. Learning activities utilised a scaffolded approach, which begins by teaching students' simple tasks with little variability and then progressing to more difficult and complicated tasks as they gain expertise. Figure 2 illustrates the intended learning phases experienced by students which comprise: (1) a pre-VR briefing session conducted by the lecturer; (2) VR simulation sessions where students experience the scenario; (3) a post-VR reflection of the experience and how it relates to course content; and (4) debrief sessions conducted by the lecturer.

Figure 2

Learning Phases



Method

Participants

Given the co-design approach to our social work VR design research, it was imperative to adopt a research method that captured the collaborative insights gained about the simulation design process. To achieve this, purposive sampling was employed to recruit members of the community advisory group who were engaged in co-designing the VR simulations. A total of 12 out of the 14 members of the community advisory group voluntarily agreed to participate in interviews for this study. Four members of the community advisory group disclosed having had lived experiences of domestic and family violence, three identified as VR or media production experts, four were social work academics and practitioners, one a screenwriter, three were actors and four interdisciplinary practitioners from education, health and creative arts. Six community advisory members identified with multiple categories, resulting in the total number of participant categories exceeding the number of interviewees reflected.

Procedure

University of Southern Queensland ethics approval was granted prior to conducting the study. Participants were provided with a flyer and information sheet describing study details, confidentiality, and anonymity. Before engaging in the interview, participants who voluntarily agreed to participate completed and returned a signed consent form. Interviews were conducted online or in-person during August 2023.

Semi-structured interview questions focused on the process of designing the VR simulations, including prompting discussions about scenario development, script writing, virtual reality design, learning outcomes, and considerations for implementation. The data collated were reflective of the information obtained during the interviews about the design process.

Analysis

We employed thematic analysis as described by Clarke and Braun (2017) to interpret the data, focusing on deriving meaning rather than seeking an absolute truth, because we recognised that each advisor's experience with VR design development would be different. As such, we sought to inductively present the collective design themes described in the data. This was an important methodological approach, as it enhanced the rigour of the design-based research by reflecting on the valuable insights and procedural knowledge presented across each of the community of design developers. To capture the presenting themes, the authors searched the transcribed data to find repeated patterns, while undergoing a process of deconstruction and synthesis (Liamputtong, 2019). Qualitative data analysis software NVIVO was used to aid in the search for themes based on clusters identified in the system (Braun & Clarke, 2022). Clusters were coded and refined until each clearly reflected the themes that collectively depicted procedural knowledge about VR simulation design processes for social work education about DFV (Clarke & Braun, 2017). The themes are presented below.

Results

The findings were guided by an examination of two overarching concepts: *design processes* and *design outcomes*. The identified themes for design processes are realism, immersion and authenticity. The presenting themes associated with design outcomes are social justice, intersectionality, and empowerment. It should also be noted that to protect participant anonymity, study participants are not reflected in the findings according to their community advisory role. Instead, participants are captured as either a designer (e.g., D1) or expert advisor (e.g., EA2).

Design processes

Theme 1: Realism

Realism was identified as an important focus in the design process. Participants identified that an array of considerations were necessary to support the development of 'realism', which was important across multiple stages of the design process e.g., script writing, technology selection, production, post-production and implementation.

D4: I think the way that we went about the entire process of this project, from its conception ... through to the technology used to shoot it, all of those as being ways to sort of go towards the same goal of realism... from choosing appropriate locations and making it look believable, to having actors who made it look believable.

EA12: What was scripted, and ... recorded was so true to life in terms of the chaos ... there's a visceral quality that's, you know, incredibly hard to describe to people unless you see and feel it.

Emotional realism was an important design feature developed within the script, character development and actor selection.

EA8: They could really stand in [the characters'] shoes and sort of try and get how she feels in that moment and why she's saying the things she is in that moment and being so resistant.

D10: It just gives you an appreciation and empathy towards what others are going through.

In the production, the technology and design techniques used were important 'realism' design features.

D3: We've recorded this with a 360-degree camera. It records a 360 degree sphere around itself and, and then we played to that camera as though it's a first person narrative. That was a creative choice because we want the people viewing this to actually feel... feel the reactions that they would if they were inserted into that scenario.

D4: With the 360 I was almost one of the characters in the scene and I had to think about it in those terms... So it was a real interesting change between, you know, even the way I moved the camera was a different thing. I was walking it up and down and moving it like a head would.

D3: The other one is audio ... you will feel you're in the space as soon as you cut off the vision. But audio is what brings the emotion into the fold ... We've made it realistic by using spatial audio as well ... if you want to overpower with emotion... get creative with the sound design.

Theme 2: Immersion

Participants described the 360-degree cameras as being an important feature to sever reality, engulf the senses and to support users to gain greater control over the learning experience.

D3: The 360 ... it gets you in straightaway... its always fascinated me how little we need as humans to sever reality.

D4: What 360 lets you do is put a lot of that control back on the actual user... and even enhancing that even more by putting them into a VR headset environment. ... does that to eliminate all the distractions around... and completely engulfs the persons sense I suppose in that environment which is very powerful.

Immersion was identified as a powerful learning tool for the following reasons:

EA12: It's a little different than TV ... it feels like I am in it... that helps bridge students' learning and understanding of theory to practice. I know this stuff, but when I'm embodied there, what do I do? That's the powerful thing about this particular modality and the stories that you've crafted in that modality actually would help students to bridge that gap.

Theme 3: Authenticity

In achieving authentic experiences, participants expressed the importance of design processes that collected a diversity of perspectives. This was important in the creation of scenarios and situations that genuinely reflected social work practice.

EA12: You've had lots of people contribute to the, the story ... and there's an authenticity to it, it didn't feel that you artificially wanted to go, we must represent this! It was ... this came about from consultations ... by way of just because the foundation was so consultative, you captured a very diverse group of people.

Role selection was also identified as an important strategy to enhance authenticity in design.

EA1: Having a real nurse respond to the patient as well, and a psych nurse... because she handled that context really well. I think who you selected was very important. Was very useful and made it very realistic.

In the pursuit of authenticity, participants also reflected on the importance of actors being aware of the 360-degree approach to the production. In a standard production, actors would avoid making eye contact with the camera, but in this instance, actors needed to engage with the camera to support the development of a more authentic portrayal of a social work interaction.

D10: Having the actors engage with the camera ... might be a bit different and challenging for them. but certainly when they talk closely to the camera, you know, you get an interesting look and feel to the whole set up.

EA2: You need to realise that acting in a 3D film like that is much more like a stage experience. With this it's much more learning an entire script and filming just as you would on a stage.

Authentic design processes also evoke emotional connection between the user and the simulated characters. Participants reflected on design processes that supported the development of emotional authenticity.

D3: The camera placement in 'Bob's' a great, great one. I mean you're placing a camera specifically so that it engages a different emotional sort of response. I think those emotions are really interesting to try and capture and it was mostly in the scripts.

D4: The mental health scene in the hospital. I mean if you didn't get a visual, visceral reaction from being in that room, there's something wrong with you. That was the acting on that was pretty fantastic. And in both scenes and I think if you were witness to some of that, you would have felt it.

Lastly, participants recognised that authenticity extended to the way that the script was designed and paced, noting that opportunities to explore the virtual environment were a necessary component of the design process, to allow participants to explore and assess risks in the surrounding environment as they would in a 'real' social work context.

D4: What I liked about it too was there was enough time in all of the scripts for the students to have moments where they could just look around and have a look at the environment. And that was very important because ... this lets them tour them ... It's been well designed to grab their attention when it needs to, but also give them just a little bit of time to just notice, those clues.

EA12: So, I think in that way it captures how one would be as a social worker in that environment and being able to home in on different elements, I think is what makes it far more an authentic representation of reality, than, you know, just one person talking to camera.

Design outcomes

Theme 4: Social justice

As a mechanism to support the attainment of social justice, VR simulations were identified as a pedagogical tool with promising potential to support social work learners directly and indirectly. For social work learners, achieving social justice was seen as providing them opportunities to be exposed to practice contexts in safe and supportive ways.

D4: Its extremely important to have the ability to give our students these kinds of experiences in a semi-safe environment before they have to... meet it for the first time. So that when get there, they might not be quite as overwhelmed, or they might be a little bit more alert, focused, looking out for these things already. And have a little bit of a head start.

EA2: Any of the caring professions get exposed to some pretty dark things sometimes... the first time you experience dark things like that is actually in the field, that's probably not a good thing either. Better to have it in a safe environment and learn how to deal with it.

Nurturing socially just outcomes was also thought possible through better preparing social workers to support the service users that social work graduates will later serve.

EA11: One of the most important things is finding ways to be able to work with the precarious triangulation of other people being involved in this scenario who might be less sensitive to the realities of the scenario and as such potentially may bring judgement or language that just escalates conflict as opposed to being able to find a kind of safe space to be able to talk someone down to a place, where ... a real conversation can happen. And that, that person, that client, that stakeholder feels that they're being heard.

EA1: It's beyond the textbook reading. It's actually immersive and you feel It ... it's a really reflective process of behaviours and what our potential outcomes could be.

Lastly, social justice was also thought to be attained because students might be able to sooner identify if the profession is the right fit for them. We recognise that social work is a rewarding profession, but it will not suit every individual. This is often discovered during a student's first placement, which is sometimes not positioned until the third year of study. Participants established that an outcome of the developed VR simulations presented earlier opportunities to make informed choice about their study fit and their choice of career moving forward.

D10: From a learning and teaching point of view it would give them a sense of whether they want do this as a career, knowing they're going to be put in these confronting situations... And if it is something that they want to do, it would, I guess, give them firsthand abilities to be able to deal with the situations better for when they come into them in real life.

Theme 5: Intersectionality

Study participants understood that an important outcome of the VR simulations was the ability to connect with a diversity of simulated characters and to understand intersectionality. This is an important design feature as it enhances learning opportunities through engagement, emotional connection and the ability to distinguish perspectives.

EA6: Whenever you do anything like this, you need, when people watch it, they need to be able to relate to different aspects of it or different people, I suppose, And I think you captured that.

The way this was achieved was through connection with a diversity of stakeholders, including those with lived experiences of DFV.

D3: I mean the amount of work that was put into figuring out exactly what to actually have in there was insane. The amount of people you need to talk to ... and so you've got that sort of like you've got a subject expert, you got like lived experience.

This was an important design-outcome in achieving an organic representation of intersectionality.

EA12: In terms of knowledge ... for social work students to really see... that each person comes with their absolute unique story and experience of whether it's their culture, whether it's their presenting issue, whether it's an illness ... so in that way their knowledge is tested and their ability to then translate or transmute that into skills with different individual people, gets strengthened because they are encountering it immediately.

Theme 6: Empowerment

An identified design outcome was empowerment—both for the learners, but also for those members of the community advisory group with lived experience of DFV. Participants appreciated that learners could build confidence through their application of theory to practice.

EA12: And if you are confident, you can draw on your knowledge and we know what anxiety does to our thinking and our cognitive ability and if we've never sort of seen ... or if we don't know how we are going to react ... but actually, you know, several times through it, I was like, "oh okay now I worked out what to focus on and now I have a little bit of a repertoire of what I could say". I feel more confident that I am going to be helpful in those situations. And I think that's the aim of the game.

For participants with lived experience of DFV, being involved in the design process led them to feel more empowered about what they had experienced and since overcome.

EA11: I was drawing upon my own lived experience to try to find something authentic. And the good moments were I came away from it feeling really quite empowered. Kind of I won't say I fully processed it, but it helped me unpack the reality of it through engaging in the fiction. So even in the performance of it, it was at some level therapeutic for me.

Discussion

The findings in this study are novel in that it has produced procedural knowledge about how to engage in the development of VR simulation for the education of social workers about DFV. Further, this procedural knowledge was notably influenced by the input of the community of advisors involved. This is important because DFV is an area of social work practice that social workers must be adequately equipped to respond to (Danis & Lockhart, 2003). It is also an area of social work practice that presents a diverse range of complexities, often requiring specialised social work knowledge and skillsets (Danis & Lockhart, 2003). Kolb (1984) argued that knowledge must be developed through experience. The findings in this study depict the key design principles of focus when developing virtual reality simulations—a resource that affords users the opportunity to gain realistic practice experiences about DFV in scaffolded and supported ways. The focal areas that were identified in the design were *realism, immersion* and *authenticity*.

Across each stage of the design project, strategies were implemented to support the development of these key principles. Participants reflected on techniques used to support the development of scenarios in a 360-degree view, spatial audio, capturing a first-person account directed to the camera, authenticity in story development, role selection, virtual environmental considerations, and camera movement. The outcome of these findings is unique compared to existing studies focused on VR development for social work education about DFV (Lie et al., 2023; Simpson et al., 2023) as they offer details about crucial steps in the design process, not just from the perspective of the authors, but from each of the community advisors who were influential in the development of this project. The insights reflected offer diverse discernments into the procedural knowledge needed to replicate or expand on this study. The findings showcase how it is possible to create immersive educational experiences that feel authentic and realistic, using technologies like 360-degree video and VR.

The findings are also significant in demonstrating how VR simulation development for social work education supports the mission of the social work profession. Social justice, empowerment and intersectionality are social work values (AASW, 2020), and the themes identified in the design outcomes. Through the development and application of the VR simulations, social work academics can empower social work learners to safely develop graduate competencies, while not exposing service users to risk of harm. Empowerment was also attained through providing people with lived experiences of DFV as an opportunity to collectively influence social work education about DFV. This was meaningful, because not only does it enhance realism in design, but it also provides an opportunity to influence the change needed to address the problems and gaps identified in social workers' responsiveness to DFV (Schaffer et al., 2024). This process is identified within feminist thought as consciousness raising: the ability to increase an individual's awareness of the root causes of DFV e.g., broader structures of power inequality (Healy, 2014). These findings are consistent with research indicating victim-survivors who participate in video and filmmaking (e.g., digital storytelling) are empowered to explore the realities of their experiences and subsequently process new meaning and outcomes through this exposure (Tuval-Mashiach & Patton, 2015).

Social justice is a primary objective in the field of social work (AASW, 2020). The attainment of social justice also applies to our social work students, who can, to varying degrees or for various reasons, be vulnerable in their positions as learners. The necessity for this safeguard is because social work practice can precipitate harm to the student (social worker) or service user. There was quorum among study participants that VR simulations offer students a resource that allows them to practise their skills through being able to make errors safely, or to observe errors being made.

Lastly, the findings revealed that the diversity of viewpoints captured through the community advisory group, including having representation from those with a diversity of lived experiences of DFV, were useful in enriching both the design process and the design outcomes. Social workers must be acutely aware of the complex interplay of social oppressions that can be experienced by individuals and communities. We must therefore acknowledge the multiple inequalities that victim-survivors of DFV can experience.

This finding is significant because the study's insights suggest that, through the application of the VR simulations, social work learners benefit through having access to diverse perspectives and, subsequently, greater propensity to develop insights about the multiple ways of identifying DFV risk, prevention and intervention (AASW, 2023).

Strengths and Limitations

A key limitation with any qualitative study is that the findings are not considered generalisable. However, for the purpose of this study, which was to reflect the voices of the community advisory group involved in the design process, 12 of the 14 members agreed to participate in the interviews, resulting in an 85% response rate. This was significant in attaining adequate representation and adding to the body of developing literature in this context. A noted design limitation was also that, to attain realism in the design of the VR simulations, the authors chose to forego interactivity (being the degree to which users could influence the virtual environment). Future studies should explore how interactivity and realism can co-exist in the design process. A further limitation to the application and use of VR simulations is that the use of VR headset gear may not be accessible to all users (for some, it can cause virtual motion sickness). Subsequently, the team sought to ensure that all students were still able to access the 360-degree experience using a two-dimensional computer. While there is less likely to be a complete severing of reality using this platform, immersion is still achieved through audio and character connection. Lastly, a study limitation could be that we did not evaluate the efficacy of this design-approach with social work students. It should be noted, however, that this study's aim was not to investigate the efficacy of VR simulations, but to show how they could be built using a systematic design approach that is discipline-informed.

Conclusion

This project offers procedural insights into the development of VR simulations for social work education about DFV. The outcome of the design process was four VR learning simulations grounded in principles of realism, authenticity, immersion, social justice, intersectionality, and empowerment. This alignment with both the social work profession and learning theories (Kolb, 1984) enhances opportunities for social work students to feel equipped and prepared to respond to DFV in real-world practice, empowering educators to optimise the benefits of simulation-based education.

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