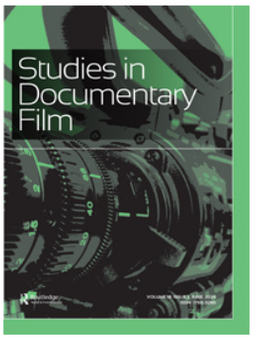

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Exploring the empathic potential of 360-degree documentary

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ABSTRACT

This paper provides an exploration of the creative and ethical challenges that emerged from producing a 360-degree documentary demo, focusing on two Greek drag artists who live in Athens. It introduces a new approach to understanding empathy at the level of practice and from the perspective of audiences, combining the production of the demo with a reflexive analysis of audience responses to the demo. Emphasis is placed on the potential of 360-degree documentary to develop emotional and cognitive empathy. The demo aimed to capture the drag artists' performance as a form of resistance, using an innovative technology to portray this underrepresented community. A reflexive methodology was deployed for analysing the data, which were collected in the form of 360-degree video and focus groups with participants experiencing the demo. The findings of this study provide insights into the possibility of 360-degree documentary to create change. During the production of the demo, moments of perspective-taking between the researcher and the documentary subjects were rare. The focus groups pointed to aspects which also hindered the empathic potential of the demo, including the diverging expectations of participants and the levels of participants' familiarity with this technology.

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Introduction

The rise of immersive documentary in the last decade has created new challenges and opportunities for audiences and practitioners and has generated discussion about the potential of this documentary form to elicit empathy. This project is situated at the intersection of practice-led research and audience reception studies, building on previous work that explored the concept of empathy in traditional documentary (Brinckmann 2014). It focuses on 360-degree video, a form of image capture often associated with nonfiction virtual reality (VR) which significantly shaped its emergence (Rose 2018). The potential of this technology to transport the users to another world opens up new possibilities for advancing the key purposes of documentary film, as a vehicle for highlighting 'underexplored themes, histories, and experiences' (Geiger 2020, 182) and creating social change. A set of new ethical questions are also raised, ranging from platform politics to user privacy and trust, which will be considered in the following sections.

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The practical element of the research aimed to provide a better understanding of the community of drag artists and propose a new way in which it can be perceived, contributing to the solidarity campaign that supports the rights of the LGBTQ community in Greece and beyond. Enhanced empathy with this community could bridge social distance, promote prosocial actions and increase awareness. Drag performance artists at large operate in the margins of Greek culture and society and their representations in mainstream and more alternative media are scarce. Documentary storytelling has the capacity to challenge this lack of representation and the stereotypes associated with this group, by providing insights into the perspectives of members of this community.

Previous research has demonstrated the impact of empathetic processes on the ways in which non-fiction audiences engage with stories, taking the time to build deeper understanding and to make connections with characters (Brinckmann 2014). Documentary film puts forward a distinctive relationship between the image and the real which can encourage audiences to get more involved with the real world and invest their empathy in the documentary subjects (ibid.). In terms of non-fiction VR experiences, it has been argued that they have an increased potential to generate empathy due to a characteristic of VR, known as a sense of presence, which can increase 'closeness' between audiences and VR documentary subjects (Milk 2015). The link between presence and increased empathy in immersive documentary has been problematised (McRoberts 2018; Rose 2018) and will be further unpacked in the section Empathy and Ethics in VR, alongside a discussion of the critiques around empathy.

The demo produced as part of this research is the first 360-degree piece focusing on Greek drag artists. Arguably, an immersive experience of this type could have an enhanced impact on the users' levels of social understanding and empathy with the drag artists. The concept of presence in a VR documentary is often used interchangeably with that of immersion in VR (Jensen and Konradsen 2018). If a VR user responds to being immersed in a virtual environment in a way that is similar to what their behaviour would have been in real life, then the user experiences presence (Slater 2003). Based on this premise, I was interested in exploring if the form of a 360-degree documentary could increase the users' proximity with the drag artists portrayed in the demo and if in turn, the increased proximity could enhance their empathy with them. This technology also opens up new avenues for research on the emergent field of immersive documentary ethics.

Throughout the production of the 360-degree demo, I aimed to develop an ethical documentary practice that was open and responsive to the situations it explored. This approach placed emphasis on the 'non-linear, iterative and recursive' nature of creative documentary (Kerrigan 2013) and entailed adapting to changing circumstances and coping with various challenges that emerged. Ultimately, participants decided to withdraw from the practice-led research, naming the constraints of remote collaboration and the technology itself as reasons. This decision influenced the first phase of the research, as it was envisaged that the 360-degree demo used in the focus groups would serve as a trailer and a testing ground for producing a longer piece.

This paper examines the relationship between 360-degree documentary makers, subjects and audiences, as a lens through which ethical issues can be addressed, and seeks to explore the potential of VR to create new experiences, moving beyond unsubstantiated empathy claims. It provides an exploration of what constitutes an ethical question in the context of producing an immersive demo about an under-represented community

and addresses a key debate revolving around the recent turn towards immersive documentary forms (Rose 2018). How can practitioners develop an immersive documentary practice which adheres to ethical standards commonly found in traditional filmmaking, such as building trust and respect? What is the impact of 360-degree technology on enabling a meaningful connection between documentary makers, subjects and audiences? The next section contextualises these questions and sheds light on the ability of digital media to foster empathy and care for others by consuming, and understanding, VR experiences.

Empathy and ethics in VR

Empathy

Empathy in VR has been extensively debated by scholars and practitioners (Archer and Finger 2018; Bevan et al. 2019; Bollmer 2017; Carey et al. 2017; Ersoy 2022; Fisher 2017; Herrera et al. 2018; Jones and Dawkins 2018; Mikelli and Dawkins 2020; Nakamura 2020; Nash 2018; Rose 2018). Since VR practitioner Chris Milk (2015) suggested somewhat ambiguous links between empathy and VR, researchers have sought to clarify the various meanings of the concept and its implications for audiences. This research is informed by the definition of empathy as 'an ability that encompasses diverse psychological processes related to sharing and understanding the internal (mainly affective) mental states of other (not only human) beings' (Rueda and Lara 2020). The authors argue that empathy is a multi-dimensional phenomenon and identify that the literature on VR and empathy differentiates between two types of empathy, emotional empathy (personal distress) and cognitive empathy (perspective-taking). The development of cognitive empathy in VR is under-researched and was addressed at the stage of focus groups, by exploring the ways in which the demo users interpreted the intentions of the demo maker. The stage of focus groups encouraged the participants to reflect on their experience of the 360-degree demo which enhanced the development of cognitive empathy, as I will discuss in the Findings section.

In the field of non-fiction VR, this distinction between emotional and cognitive empathy can impact the effectiveness of the VR experience (Martingano, Hererra, and Konrath 2021), but it is not often taken into consideration. Fisher (2017) describes emotional empathy as a mirrored somatic response to another's emotional state. This type of empathy can be automatic and occur spontaneously, whereas cognitive empathy requires more effortful engagement to imagine other people's experiences (Martingano, Hererra, and Konrath 2021). In that sense, the promise of VR to enhance a sense of presence and to allow users to 'inhabit the world' of others (Milk 2015) could limit cognitive empathy, as users might feel that the technology automatically does that for them, making them less inclined to engage in the mental effort required to imagine what others might experience.

Fisher (2017) also relates empathy in VR documentaries to the perspectives of VR designers and having compassion for their subjects. He associates the concept of cognitive empathy with the German word Einfühlung (aesthetic sympathy) to describe the act of understanding an artist through their work. In the context of VR documentary making, this could refer to the audience's ability to understand the choices of the creator (a process of perspective-taking with the artist), rather than empathising with the documentary subjects.

Previous research aiming to critique the empathic potential of VR proposed alternatives including radical compassion (Bollmer 2017), focusing on the concept of witness (Nash 2018) and staging an encounter (Scott-Stevenson 2019). Bollmer (2017, 71) is interested in how digital media can develop radical compassion, which 'refuses any attempt to experience, or even completely understand, the experience of another, but instead embraces an openness to understanding and refuses assimilation into one's own self'. Nash (2018) addresses the risk of improper distance that VR may entail, when users focus on their own experience instead of a more distanced position that would enable them to critically engage with others. Scott-Stevenson (2019) foregrounds VR as a curated encounter with another human being, the VR maker or even ourselves, which could alleviate some of the ethical concerns related to the idea of developing empathy simply by 'walking in someone else's shoes'.

Ethical issues

In line with these critiques, I am interested in further exploring the links between ethics and the empathic potential of 360-degree documentary. Even though ethical standards in the field of documentary have not been clearly articulated (Aufderheide, Jaszi, and Chandra 2009), ethical considerations are central to traditional documentary filmmaking and can minimise harmful effects on participants and audiences. Ethical behaviour is often at the core of documentary makers' practices (Aufderheide, Jaszi, and Chandra 2009) and empathy is considered an ethical choice, due to its potential to create connections between others and increase the possibility of truly informed consent (Nåls 2018). In terms of VR, for claims of empathy to be legitimate, it is important that VR documentary makers address their ethical responsibilities towards their subjects and do justice to them (Fisher 2017).

Nichols (2017) locates ethics in the relations between traditional documentary filmmakers, subjects and audiences, as 'a measure of the ways in which negotiations about the nature of the relationship between filmmaker and subject have consequences for subjects and viewers alike'. He discusses ethics at the level of ideology and argues that the ideological perspectives of the filmmakers have an effect on their aesthetic choices. In terms of this research, my ideological positioning towards the participants was that of an ally. From the outset, I perceived our relationship as a sympathetic one, based on sharing the responsibility to tell their story, with me as the researcher and practitioner in charge of how the story would be told (Aufderheide, Jaszi, and Chandra 2009). This relationship will be further analysed in the Discussion section.

Nash (2011) further links documentary ethics to aesthetics, building on Nichols's argument that different documentary modes raise different ethical questions. This relates to the interview scene in the 360-degree demo; my presence in the scene indicates my ethical position and interest in collaboration and co-creation. Nash (2011) also emphasizes audience expectations and responses to the ways in which different modes represent reality. Exploring how audiences engage with different modes can make the connection between ethics and aesthetics more visible.

Over the last years, there has been an interest in empirical investigations of documentary ethics, providing insights into the principles that might influence the decisions of

documentary makers in different contexts (Sanders 2012). Nash (2012) highlights the participant's experience of documentary production, which remains under-researched, and foregrounds the complexity of ethical issues such as trust and power between makers and subjects. This paper presents some of the perspectives and responses of the drag artists participating in the demo, although a more systematic approach to capturing their reflections could have been more insightful.

Reviewing an ethical framework for VR documentary, Rose (2023) proposes the consideration of platform politics as a fourth dimension, in addition to examining the relationships between producers, subjects and audiences. Rose refers to a set of questions that VR makers should critically engage within the stage of pre-production, covering issues of accessibility, data collection and privacy.

Further research is needed to investigate the links between empathy and the ethical implications of platform politics. Martingano, Hererra, and Konrath (2021) point to the degree of psychological engagement triggered by various types of VR, and in turn, various platforms, to arouse different types of empathy. The authors point out that more accessible forms of VR (such as 360-degree video) might have a reduced impact on empathy, as they might provide a less immersive experience, thus limiting a sense of presence.

The intended dissemination platform for this project was YouTube and the headsets used in the focus groups were Google Cardboards. The form of 360-degree documentary was initially selected for this project, due to its potential to be accessible to diverse audiences, in contrast to computer-generated 3D experiences which require a head-mounted display. The technology of 360-degree video could enable sharing of the final documentary via platforms such as YouTube, thus reaching larger audiences for whom VR headsets might not be accessible. Previous studies suggest that the perceived user experience between head-mounted and desktop-based, two-dimensional virtual reality is similar (Archer and Finger 2018; Martingano, Hererra, and Konrath 2021). Even though this form would offer a less interactive experience, compared with a 3D environment for example, it could improve dissemination and create more impact within diverse communities.

Finally, maintaining trust with audiences and subjects has been a central issue for documentary makers (Aufderheide 2014) and a key point for this research, expressed in my pursuit to build a relationship of trust with the documentary subjects and the focus group participants. In the context of a virtual experience, trust has been linked to potential concerns over content, if users cannot perceive the boundaries between reality and virtuality (Slater et al. 2020). The proposal to develop a cross-industry code of conduct by which virtual content makers must abide has not yet materialised and further complications could arise given the interdisciplinary nature of the field. VR brings together collaborators from various backgrounds, who may be unaware of the ethical contexts of documentary.

This paper proposes an innovative approach to exploring the empathic potential of 360-degree documentary, which has not been previously examined both at the level of practice and from the perspective of audiences. It combines practice-led research in this area with data collected from audiences experiencing the artefact that emerged from the research. The methodological underpinnings of the research are discussed in the following section.

Methodology

Practice-led research and reflexivity

The creative work in this research entailed the production of a 360-degree documentary demo. The final demo is 2:49 min long and presents a series of scenes including a performance and an interview with the two drag artists who participated in the practice-led research (discussed in more detail below). The term practice-led research has been defined by Smith and Dean (2009) as referring to both the work of art as a form of research and to the creative practice as generating research insights which can be documented and generalised. Theorising creative practice as research involves a reflexive inquiry which has the possibility to transform both the artist and the viewer (Sullivan 2009). Reflexivity is also seen as a strategy that researchers can use to manage the tensions generated within the research (Haseman and Mafe 2009). I deployed a reflexive methodology, as proposed by Alvesson and Skoldberg (2009). The two basic characteristics of reflexivity are interpretation and reflection. Interpretation foregrounds the awareness of the theoretical assumptions and the pre-understandings which shape the research. Reflection is defined as a 'critical self-exploration' of the researcher's interpretation of empirical data (Alvesson and Skoldberg 2009, 9).

Having a reflexive approach to the production of this demo and the analysis of the data enabled me to consider how my positioning as a researcher and practitioner had an impact on these processes. It also provided the means to shed light on my knowledge and understanding of the drag culture that formed the background for the demo and shaped the final edit.

In the realm of documentary filmmaking, reflexivity has been suggested as a way of dealing with moral issues (Sanders 2010). In this context, reflexivity refers to showing the audience that a film is constructed. A reflexive technique was used in the production of the 360-degree demo for this research by inserting myself in the interview scene with participants, which I will discuss in the following sections.

Data for this research were collected in the form of 360-degree video and focus group discussions with audiences experiencing the above-mentioned 360-degree demo.

360-degree Video

360-degree video, also known as linear VR, refers to experiences where interaction is limited to head movement (Green et al. 2021), allowing users to turn their head in any direction, while being in a fixed position within the scene. A 360-degree camera was used for the demo, capturing two video files from dual lenses with a 180-degree field of view.

The participants in the demo are known as Daglara, a fashion designer and drag performer, and Georges Jacotey, a media and performance artist. They are both based in Athens and their artistic practices explore notions of gender performativity and queer empowerment. The purpose of the demo was to capture a drag performance and an interview with Daglara and Georges Jacotey, exploring their inspirations and their art as a form of resistance.

Audience reception studies and focus groups

Collective activity and social interaction were essential elements of the methodological approach, given the emphasis of the research on audience reception (Harcup 2016).

Reception studies focus on the interaction between the individual and the media text, forwarding interpretation, sense-making, and meaning-making (Reinhard and Olson 2016). Lunt and Livingstone (1996) explore the revival of the focus group in audience reception studies. Focus groups have the potential to examine the ways in which active audiences make sense of media texts and to encourage diversity and difference within or between groups (Lunt and Livingstone 1996). I used this method to capture subjective user data about the 360-degree video experience (Carey et al. 2017), which aligned with my interest in exploring the audience's meanings and ways of understanding and experiencing 360-degree documentary.

Recruitment was done through purposeful sampling, to enable the focus group participants to express opinions more reflexively. This process allows 'the identification and selection of information-rich cases related to the phenomenon of interest' (Palinkas et al. 2015) and suggests that participants have knowledge and experience of the researched area.

In light of the technique of purposeful sampling, focus groups were conducted with students, studying at Oxford Brookes University where the research took place (digital media production students were excluded from the study to protect the participants' ability to give free consent). This group was selected because of purported links between this generation and the increased likelihood of integrating advanced technologies like virtual reality into daily life (Jones 2017).

In total, there were 10 participants in the focus groups. The sessions were audio and video recorded for analysis purposes and I was the focus group moderator. The focus group guide is available in the appendix and was shaped by the preliminary findings of the practice-led research, which revealed areas worth further investigation with audiences.

A comprehensive collection and analysis of participants' demographic data and their impact on levels of empathy was outside the scope of this research. The participants were of mixed gender and ethnicity and studied at university level. A demographic feature that emerged during the focus group discussions and was relevant in the stage of analysis was familiarity with VR technology (further discussed in the Findings section). In future research, a more detailed demographic survey could be conducted to investigate if other demographic characteristics can lead to an increased empathetic response.

Google cardboards were used for the focus groups, aligning with the practices of various charities which turn to more affordable types of VR for prosocial purposes (Martingano, Hererra, and Konrath 2021). Participants were allowed to keep the cardboards in exchange for their participation in the focus groups.

I followed Carey et al.'s (2017) recommendation that researchers expose users to empathy-related VR experiences at least twice. The first viewing enabled users to become familiar with the experience and the second allowed them to focus on the details and engage with the story. Most participants highlighted that this approach was useful, as the second viewing revealed key elements of the experience which they missed the first time. Two participants had to view the demo on YouTube on their phone devices, as they would not pair with the cardboards.

YouTube is owned by Google so user privacy on YouTube adheres to Google's privacy guidelines. The 360-degree demo participants were provided with a privacy notice and a participant information leaflet outlining how information was collected and used. Their

real names and addresses were not collected for this study, only their drag artists' names. The demo was added as a private video to YouTube, which I changed to unlisted for the duration of the focus group sessions, so that participants could access it. The data collected from focus group participants were anonymised and the recordings were deleted following their transcription. All research participants signed consent forms and focus group participants were provided with participant information leaflets stating that the study would have no impact on their marks, assessments or future studies. Research ethics were approved by the University Research Ethics Committee, Oxford Brookes University.

To ensure methodological consistency, I analysed data from 7 participants. Some of the focus group sessions were not well-attended (participants signed up but did not come to the sessions), resulting in a lack of collective and interactive discussions. The analysis of the focus group data is based on my interpretation of the transcripts I produced, followed by reflections on aspects including participants' responses to the demo and the extent to which they developed emotional and cognitive empathy. Lastly, contrary to the above-mentioned assumption that university students are familiar with virtual reality, five out of seven participants were VR beginners, impacting their engagement with the demo. I will discuss this in the next section, which outlines the findings from the practice-led research, followed by the findings of the focus groups and a consideration of their implications in a 360-degree documentary. This section also sheds light on the factors and ethical issues that shaped my creative decisions and choices in creating the demo. The findings are structured to address the two types of relationships that this research examines, the relationship between the documentary subjects and the maker and the one between the documentary demo and the audience.

Findings

Relationship between the documentary subjects and maker

Producing the demo

At the time of pre-production, the artists were developing a performance with the working title *Venus Pindi*, which partly inspired the performance they staged for the demo. The title encapsulates the artist's fascination with the divine (Venus) and the incorporation of aspects of Greek folklore (Pindus is a mountainous area in Greece), as a way to celebrate queerness and the 'quintessential female' (Efthymiadi 2019).

The demo begins with a segment from this performance, which was staged in an independent art space in Athens (Figure 1). The music which is used in the demo is from Vincenzo Bellini's opera *Il Pirata* performed by the soprano Maria Callas, who has been an inspiration for Daglara and Georges Jacotey. The participants performed various songs on the day of recording which did not make it to the final cut, due to copyright issues.

The performance that was recorded on camera was curated by the participants and there was no creative intervention from me. In one of the pre-production meetings, I shared examples of 360-degree test shoots which I conducted prior to filming, so that they have a better understanding of how the camera captures space. I also explained

Figure 1. Screenshot from the performance scene.

that the 360-degree camera would be placed in the centre of the room and that their performance would have to be staged around the camera. The participants responded enthusiastically to these test shoots and valued the innovative nature of the medium. It is also worth noting the contrast between the absence of directing participants in the stage of production and the importance of directing the attention of immersive users to certain elements of the experience in the stage of the focus groups. I will expand on this aspect in the section focusing on the use of subtitles in the demo.

The location that we used for the recording, the independent art studio, was also chosen by the participants. The studio was a small and confined space, which had an impact on how the performance was captured on camera. The selection of this space provides insights into the status of drag performance art in Greece. This type of art is normally found in the margins of cultural production, as independent art spaces usually host drag performances.

The opening scene of the demo fades into black and we hear the voice of Georges Jacotey talking about how queer people experience resistance. The only visual is a black and white portrait of Daglara against a black background, below which appear subtitles translating the voice over into English (Figure 2). In this scene, Jacotey suggests that

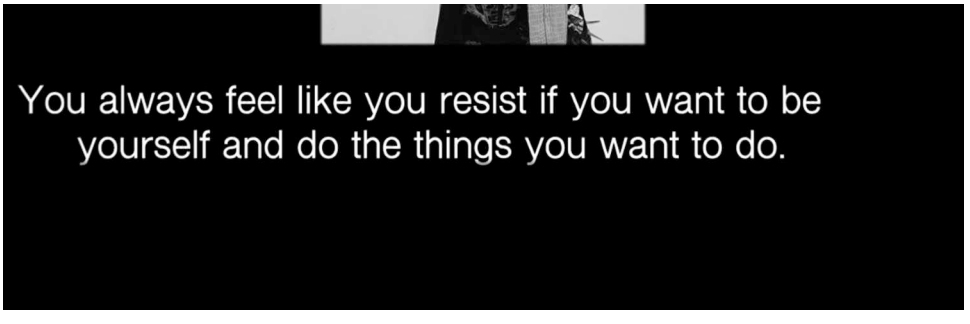

Figure 2. Screenshot from the subtitles scene.

drag performance is rooted in resistance as a way of life that allows queer people to be true to themselves (see Figure 2).

The final interview was conducted on the rooftop of the building where Daglara and Georges Jacotey live. The music continues in this scene and the original sound from the interview is muted, so that audiences do not hear what is discussed. This technique was used as a way to raise anticipation, given that this piece was created as a kind of trailer for the longer documentary. It is the first time that the participants are seen out of drag and that I appear in the demo, sitting next to them.

As I mentioned in previous sections, I saw my relationship with the participants as a sympathetic one and positioned myself as an ally, aiming to make this documentary to raise awareness about the community of drag artists in Greece and to generate more social understanding with this under-represented group. In hindsight, I could have made the ethical standards of my practice more explicit in the first meetings with participants and I could have sought to capture their reflections on ethics more systematically. Some of the ethical principles guiding my practice, such as privacy and confidentiality, were mentioned in the participant information leaflet and consent form, but it would have been interesting to further discuss how the participants understood these principles. The ethical challenges that emerged from our interactions are discussed in the following section. These insights about the complex nature of the relationship with my participants led me to acknowledge the barriers of communication that derived, to a certain extent, from my position as an outsider and the impact of using subtitles in 360-degree video during post-production.

Being an outsider

From the outset of this project, I was conscious that I was an outsider to the community of drag artists that Daglara and Georges Jacotey are part of. This positioning reinforced my commitment to developing an ethical practice, based on elements such as trust and respect. Rosenthal (1980) suggests that outsiders tend to have a less sharp and detailed view than insiders, but they may bring a fresh point of view to the story. Pryluck (1976) further contends that 'we are all outsiders in the lives of others', meaning that when the camera stops filming, documentary participants have to continue their lives in the places that they find themselves in.

Trust was already established with one of the participants, Georges Jacotey, whom I met while studying film at the undergraduate level in Greece. I only met Daglara in person once before the production stage, so I made sure to have regular online meetings with the participants to further build trust. The artists live in Greece and I am based in the UK, so communicating with them remotely was the only way, especially during the pandemic.

These meetings became more frequent as the production stage approached and enabled me to state my understanding of the drag community in my own words and check this understanding with the participants. I considered Daglara and Georges Jacotey to be fellow artists and interpreted their performances as activism. The driving force behind the project was to raise awareness and express solidarity, supporting the protection of their rights in an increasingly challenging context. I was interested in showing my respect for their commitment to their art, despite the pressures of the current social and political context in Greece, and exploring their inspirations from

ancient Greek mythology and contemporary Greek culture, which they used to challenge mainstream queer aesthetics. This positioning as a female researcher and ally may have been a factor that facilitated participants' involvement in the practice-led research in the first instance, albeit being an outsider.

Issues of truth

The interview scene in the demo was inspired by the participatory mode of documentary, as theorised by Nichols (2017), and his views on axiographics (1991). I made the decision to include myself in the 360-degree recording of the interview, not only considering the limitations of the technology and how it captures space, but also acknowledging Nichols's (2017) point about the kind of truth that this mode foregrounds. The participatory mode can provide insights into the interactions between the filmmaker and subject and construct the truth of their encounter, rather than the absolute truth. This truth, which would not emerge without the camera, is discussed in this section. In addition, Nichols is interested in how an ethics of representation is experienced in relation to space (1991). In the case of this research, my presence in the interview scene indicates my interest in co-creation and reveals the challenge of communicating meaningfully with participants at the stage of production, as my effort to engage them in conversation was met with hesitation.

Interestingly, the pre-production process also brought issues of truth to the fore. In one of the preparatory meetings, we discussed what truth meant for us in terms of our respective practices. I elaborated on my perception of documentary representation, which stems from an understanding of documentary as a 'futile pursuit' towards pure actuality (Bruzzi 2000, 68). This means that I am interested in working with real people, acknowledging that the presence of the camera (even if it captures a scene in 360 degrees) and the degrees of stylising that go into the editing stage shape the reality that is captured on screen. Daglara and Georges Jacotey responded that their meaning of truth emerges in their art from constructing and stylising their drag personas. Cross-dressing and performing on stage for them is a way to transcend society's constraints, foregrounding a perception of identity as 'capable of construction, invention, change' (Hooks 1992).

Despite establishing our common interests in art as an expressive form before the production of the demo, I was unable to engage the participants in an in-depth interview during production. It quickly became apparent that one of them was uncomfortable when the camera was recording. I suggested pausing the recording and having breaks that could help the participant relax, but the tension continued as soon as the camera was on. In another instance during the interview, the same participant seemed to be unwilling to open up and answer my questions regarding their inspirations and how they see their art, arguing that what matters to them is the act of performing and not explaining it.

Ultimately, the recording process did not flow in an organic way and the moments of perspective-taking (cognitive empathy) that we shared during the production stage were rare. The difficulty establishing a more empathic communication between myself and the participants during that stage might not be attributed specifically to the use of 360-degree technology in this setting (it is likely that the participant was overall not comfortable with the idea of being filmed), however, it questions the discourse presenting this technology as an empathy machine that automatically generates social understanding.

When the demo was completed, I shared it with Daglara and Georges Jacotey, in order to get their feedback and consent to use it in the second phase of the project (focus groups). In our last meeting which was held remotely, they provided their consent but commented that the slower pace of the demo and 360-degree storytelling did not convey the vitality and vibrance of their performances. They also thought that the demo did not capture the essence of their art, as the live audience element was missing (that was due to Covid restrictions). Ultimately, the constraints of the medium and the overall implications of remote collaboration did not fulfil their expectations of how this collaboration would evolve. They decided not to continue taking part in this research and producing a longer documentary, exercising their right to withdraw. Whilst I did not expect this outcome when we started collaborating, I respected their decision and thanked them for their valuable contribution to the research.

In summary, the first phase of this project demonstrated the limited potential of 360-degree video to generate empathy between the documentary maker and the documentary subjects. The technology did not automatically transform how the participants communicated with an outsider and their decision to withdraw provides further evidence of the limited perspective-taking between the researcher and the documentary subjects.

The next phase of the project entailed collecting feedback from audiences in a series of focus groups, in line with audience reception studies. The discussions aimed to explore participants' responses to the demo with an emphasis on the empathic potential of this piece. Participants will be referred to by a number to differentiate them from each other.

Relationship between the documentary demo and audience

Sense of presence

The potential for 360-degree storytelling to increase empathy through a sense of presence was demonstrated to an extent through the experience of participants in the focus groups, but there were also limitations. The majority of the participants reported feeling like they were transported to the performance space. Participant 3 mentioned that 'you felt like you were in there versus just watching something on the screen'. This immersive aspect of the demo enabled some of the participants to better understand the drag artists, but only to a certain extent. Participant 5 noted that the technology allowed her to experience 'more of what the people in the clip were experiencing' and think more deeply about it. She was 'attracted to smaller details in the space', which reflected the artists' feelings and struggles, observing that the room where the performance took place was 'not perfect' and 'not the warmest environment'. However, she could not fully relate to their experiences, because 'they are different', which other participants subscribed to.

On the other hand, Participant 6 experienced the sense of presence as being almost intrusive and 'too close' to what was depicted in the demo. He added that the lack of control over the story that is a characteristic of 360-degree technology 'feels like you're trying to be a part of the experience when you're not'. This was reinforced by the use of opera music throughout the piece. The combination of the technology with the opera music resulted in 'a feeling of you looking onto something rather than you're part of it'. This finding aligns with critiques on how VR produces improper distance (Nash 2018). The aesthetic decisions that shaped the representation of the artists'

performance space led the users to engage with it as a spectacle. Participants also seemed to be guided by their own experiences in how they responded to the drag artists. Overall, this effect of proximity enhanced a sense of being an outsider, thus limiting empathy with the documentary subjects.

Empathic potential

Other participants also alluded to the constraints related to not belonging to that community. Participant 8 pointed out that his life experiences differed from the ones captured in the demo, and that such a short piece could only provide limited insights into how the drag artists feel like. The length of the demo was a hindering factor for most of the participants, in the sense that a longer piece with more information about the documentary subjects could enable them to build a stronger connection with the story, although this could happen with a short linear piece too. Participant 6 referred to being uncertain about how to decode the amount of symbols used in the artists' performance, which concealed their personal emotions.

In addition, the variable levels of participants' familiarity with VR had an impact on their engagement with the piece and their ability to empathise with the artists. Those who experienced 360-degree video for the first time felt that they missed some information, as they were not sure where to look. Participant 3 would have preferred an even slower pace when experiencing this form of new technology, which required time to get used to. She also had to concentrate more so as not to disregard any elements of the demo, which ultimately obstructed her connection to the story. Some of these barriers might disappear when the technology becomes less novel, raising new questions about how to enable a meaningful connection between immersive documentary makers, subjects and audiences.

Finally, from the side of the audience, cognitive empathy with the VR maker was more developed than emotional empathy with the documentary subjects. Most participants perceived the performance as a political statement, which was my intention, and even though they felt that it was open to interpretation, they agreed that the intended message of resistance and perseverance came across. In that sense, they were able to understand my creative choices, alluding to the concept of aesthetic sympathy (Fisher 2017). In light of previous research exploring how the type of empathy measured can have an impact on the effectiveness of the experience, this finding suggests that focus group participants engaged in a more effortful process. Further research could shed more light on the impact of the focus group discussions on users' effortful engagement.

Subtitles

While editing the demo, I was presented with the challenge of sound design and creatively incorporating English subtitles into the 360-degree environment, as the interview was conducted in Greek. The importance of audio cues in VR storytelling as a way to direct the attention of the audience and their impact on enhancing a sense of presence have been previously discussed (Cooper et al. 2018; Rana, Ozcinar, and Smolic 2019; Rothe, Hußmann, and Allary 2018). In terms of this project, the camera recorded simultaneously in stereo and 360 spherical sound, which was the default recording mode for 360-degree video.

Given the richness of a 360-degree environment, it was likely that long subtitles would compete for the attention of non-Greek-speaking audiences, potentially resulting in reduced engagement with other elements in the scene. Therefore, I introduced subtitles in the scene following the opening drag performance, where the only visual reference is Daglara's static image against a black background (Figure 2). This approach did not seem to significantly disrupt the storytelling, however, it resulted in a slower editing pace and made me question how sustainable it could be in a longer VR piece.

Engagement with the subtitles was not greatly affected by participants' prior experiences with the technology. One of the VR beginners thought that reading the subtitles 'takes away the experience'. This sentiment was echoed by a more experienced VR user who attended the same session. The rest of the participants found that the addition of subtitles was useful and fitting.

Discussion

A synthesis of the findings from the practice-led research and the insights that emerged from the focus groups demonstrates that more attention needs to be brought to the nuances of 360-degree documentary and its impact on generating empathy between makers, subjects and audiences.

The documentary demo produced as part of the research aimed to capture an underrepresented community, that of drag artists in Greece, and increase the awareness of the audience about some of the challenges that drag artists might experience. It was envisaged that higher levels of empathy with this community could encourage prosocial behaviour. Communication barriers deriving from this situation however resulted in limiting perspective-taking (cognitive empathy) with the participants. The drag artists seemed to be unwilling to open up in the practice-led research, and the amount of symbolism in their performance discouraged focus group participants from relating to their experience.

The use of immersive technology in this research did not automatically resolve the ethical issues associated with being an outsider to the artists' community. The complexities around its use can sharpen ethical dilemmas and immersive documentary practitioners should address such concerns, in addition to the affordances and characteristics of their chosen technology. Shifting emphasis from creating empathy to exploring alternatives such as radical compassion could enable practitioners to engage more meaningfully with their subjects. It could also remind audiences of the risks of automated empathy and bestow them with a sense of responsibility (Nakamura 2020).

Issues of trust and respect were prominent throughout the research. In terms of my relationship with the drag artists, from the outset, I emphasised my respect for their commitment to their art and my position as an ally. I tried to establish trust through a series of pre-production meetings and by encouraging creative freedom without intervening in the curation of their performance. Although building trust did not translate into an unproblematic production stage, respect was maintained throughout the practice-led research, considering that the artists provided their consent to use the demo in the following stage of the research. Regarding the stage of focus groups, the users seemed to perceive the boundaries between the real and virtual space. Participants reported feeling like they were transported to the performance space but that closeness enhanced

a sense of being an outsider. Trust between the focus group participants and the maker of the demo seemed to be more developed, as the users understood the intended message of solidarity, resistance and perseverance.

The expectations of the demo and the focus group participants also diverged. The drag artists found that the slow pace of the demo did not provide an authentic representation of the vitality of their artistic practice, which led them to withdraw from the first phase of the research. Conversely, the focus group participants, particularly those who were unfamiliar with the technology, expressed a preference for an even slower pace, that would enable them to better engage with the story and connect with the artists. The divergence between the preferences of the documentary subjects and audiences in this context could also be linked to the performative nature of the demo, it demonstrates nevertheless how an immersive technology could hinder the ability of the audience to empathise with an under-represented group due to conflicting expectations.

The narrative and aesthetic decisions that shaped the final demo could be further investigated to contextualise the responses of focus group participants. In the opening scene, users have to rotate the cardboard to view the performers entering the space. If users do not rotate the cardboard, the first thing they see is one corner of the studio with the title *Venus Pindi, a documentary with drag artists Daglara and Georges Jacotey*. Participant 6 expanded on how this choice created confusion: 'the video starts facing away from everything going on, I don't know if that's them trying to be symbolic or you have to actually look at what's going on'. In addition, the same participant commented on the height of the camera: 'even the camera placement was strange because it wasn't quite eye level. (…). So when the bearded man walked past you, you still had to look up at him. And it was almost a sense of inferiority, maybe it may just be because the tripod was not tall enough'. This effect was inadvertent, as the tripod was indeed shorter than the performers, and it was not my intention to create a feeling of inferiority among the audience. It demonstrates however that audiences can have sophisticated responses which should be further examined in future research.

The use of subtitles in 360-degree storytelling has been under-researched. The demo aimed to value the participants' voices, therefore it was important to maintain the Greek language narration in the final cut. Incorporating English subtitles in the demo, which would allow wider audiences to engage with it, did not seem to distract the focus group participants from the story, but posed a creative challenge in the editing stage. Audio cues in VR could be effectively used to direct the attention of the audience and further audience research is needed to explore their responses to subtitles. Collaborating with an expert in immersive sound could result in designing more realistic experiences and maximising their empathic potential.

The contribution of an expert in immersive sound could have also enhanced the impact of the final interview scene. I decided to mute the original sound from the interview, as a technique to keep the audience curious about the longer documentary. Participant 2 felt that the absence of the original dialogue created further barriers to connecting with the documentary subjects: 'I didn't get at the end that was them out of drag. I saw no connection, particularly with the end. It was sort of like there are people on the roof and I, I don't know why. (…) Might be if you'd heard their voices, it would have made more sense because they'd have been discussing the performance. And so I would have got

it like, oh, they are the performers'. A professional sound designer could have offered creative solutions to approaching sound in this final scene, with an emphasis on enabling audiences to have a deeper understanding of the drag artists.

Finally, acknowledging a series of methodological constraints, this research is generalisable to the extent that it challenges some of the assumptions related to the empathic potential of VR. The findings were the result of an interpretive practice rooted in reflexivity. Reflexive practices in documentary have been criticised on the grounds that they may limit the filmmaker's creativity and raise further moral questions (Sanders 2010). In addition, one of the limitations of self-report measures in VR, such as the method of focus groups which was used in this research, is the vulnerability to bias and distortion (Carey et al. 2017). The short length of the documentary demo and the small sample for the focus group should also be taken into account. In terms of future research, the production of a longer 360-degree documentary combined with more expanded audience research could shed more light on the impact of this technology. Further interdisciplinary research drawing from psychology, neuroscience and documentary studies also has potential to provide a more nuanced understanding of the ways in which immersive documentary forms could generate more empathy.

Conclusions

This paper set out to explore the ethical implications and empathic potential of 360-degree documentary, introducing an artistic/creative approach supported by data collected from audiences and rooted in reflexivity. A 360-degree demo was produced, capturing a performance and an interview with two drag artists living in Greece. The concept of empathy was explored alongside the potential of this new technology to generate more social understanding with the community of drag artists and promote prosocial behaviour. Emphasis was also placed on the additional ethical challenges that the rise of immersive technology has created for documentary practitioners. Further audience research and empirical investigation on the ethics of immersive documentary practice could contribute towards legitimising claims of empathy in VR.

The findings of this research challenge the discourse surrounding VR as an empathy machine at the level of practice and audience reception. The technology of 360-degree video enabled a sense of presence but could not eradicate the barriers to communicating more empathetically with the documentary subjects. From the perspective of audiences, cognitive empathy with the VR maker was more enhanced than emotional empathy with the documentary subjects. Overall, the newness of the technology created differing expectations among the demo participants and the focus group participants, and the variable levels of participants' familiarity with VR also impacted the potential of the demo to generate more social understanding. For immersive technology to realise its transformative potential, further research is needed on the relationships between makers, subjects and audiences, so that this documentary form can be more relevant to communities.

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Appendix

Focus group guide

Welcome and introductions

Introduce the researcher and explain what the research and focus group are about, the format of the session and how data will be used.

Description of focus group 'rules':

- Everyone's opinions should be respected.
- There are no right or wrong answers.
- Data will be kept confidential.
- The focus groups will be video and audio-recorded.
- There will be an opportunity at the end to ask further questions.
- Ask participants to introduce themselves.

Part 1: Introduction to 360-degree documentary

- What did you think of this demo?
- How did it make you feel?
- How did you experience it?
- What are your reactions to this demo?

Part 2: Audio

- What did you think about the use of subtitles in this demo?
- What did you think about the music used in this demo?
- To what extent did the sound design enable you to immerse yourself in the demo?

Part 3: Empathic potential

- This part will begin with an explanation of the differences between emotional and cognitive empathy:
- Emotional empathy is a mirrored somatic response to another's emotional state, whereas cognitive empathy entails an understanding of similarities between an observer and an artefact that results in a process of perspective-taking with the artist (Fisher 2017).
- Would you say that this demo enabled you to develop emotional empathy with the documentary participants?
- Would you say that this demo enabled you to develop cognitive empathy with the VR practitioner?
- Would you say that this demo enabled perspective-taking? Either with the documentary participants or the VR practitioner?

Part 4: Final comments

- Ask if there are any additional final comments before the end of the focus groups. Thank participants for their time and inform them that they may keep the Google Cardboards.