Utilizing Virtual Reality and Video Installation to Explore Emotional Responses to Death and Dying

Abby Blenk, Fatimah Krgo, Cate Willis, Katina Bitsicas, Peter Helm

Introduction





Many people are uncomfortable with the concept of themselves dying due to fear and uncertainty. Ironically, our death is one of the few certain circumstances in our life. However, without both internal contemplation and external conversation on one's death, we are unable to properly prepare for what is to come. Through our creative research, we believe that our work would be relatable enough to open up conversation about one's own death and would provoke feelings of peace, hope, and beauty.

Virtual Reality (VR) has been used in recent research on empathy creation for caregivers to experience what it is like during the final stages of their loved one's lives. California-based Embodied Labs, created a VR experience to help nurses and caregivers, empathize with patients at the end of their lives. The ASH Art of Death Digital Storytelling Research Team utilizes these tools to create an experience for viewers to move through the final stages of death and dying.

The In-Between is an interactive multimedia experience composed of two parts: A projected and a VR video. The three scenes are a hospital bed, a burial, and waking to an afterlife, meant to represent the different stages of death. Our reflection of the dying process is fairly generic to an American audience. Filmed from the perspective of the viewer, participants felt like they were in that environment and experiencing this process themselves.

Methods

The team compiled a series of death-evoking imagery, which created the three scenes of the presented work. Filming for the 2D video and virtual reality occurred simultaneously to preserve continuity and connection between the two experiences. The videos were carefully edited to provide smooth transition between each of the three phases. Final testing and tweaks involved optimizing timing and sound quality to ensure the viewers had an immersive experience.

Research collection occurred over the course of three separate sessions. All sessions were conducted in the same space and under the same conditions within a one week period. The team chose this method to prevent unnecessary and unpredictable data variances caused by a change in location or process. Participants viewed a 1:55 minute full-wall projected video in a darkened room before experiencing the 2:24 minute VR video through a headset in an open space. The projected video was displayed in a group setting, while the VR was an individual experience. Upon completion of the study, subjects were asked to take a short survey assessing their emotions and thoughts.



Technology



To create the video used in the projection, the team used a Canon 5D mark IV camera, and a Ricoh 360 camera for the VR video. The 2D video was filmed from the perspective of the viewer as a guideline for the most optimal shots and angles. For example, in the scene representing "heaven", the team used slow and steady movements such as pans or tilts to act as the viewer's eyes taking in the scenery around them. The team used a large projector to display the video onto a wall in an empty and quiet room. The main challenge with the 2D video was using the software, MadMapper, to set up the projection.

The biggest challenge in creating the VR video was the learning curve for editing 360 video. This was the team's first experience doing this. The 360 camera was limiting in terms of picture quality and resolution, and did not offer much control over things like focus or ISO. Due to this, the team re-filmed multiple times. To adequately capture the three scenes, the team set up the 360 camera so that it was either free standing or resting on something that wouldn't appear in the frame. This meant that the team blocked off or moved anything that may be a distraction or obstruct their view. The team stepped outside of the room or far enough that they wouldn't themselves appear in the video, which meant that the camera was stationary while it was recording. This made it difficult to achieve the goal of immersing the viewer in each scene.

Results

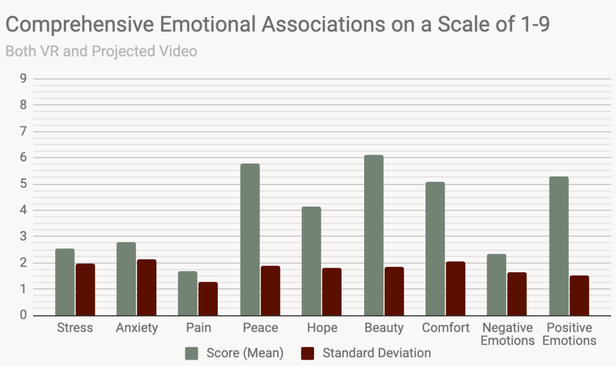
• Surveys were collected from the participants (N=36). While the majority of subjects (69.4%) indicated that they felt the projected video experience was more comfortable to view, 80.6% claimed that the VR experience led them to contemplate death more. Participants were 1:1 on whether a death experience that matched their personal religious beliefs would be more comfortable to view.

• Comprehensively, participants responded that they had more positive associations with the videos than negative ones: "Beauty", "Peace", and "Positive Emotions" scored most highly on a 1-9 scale (Beauty = 6.11, Peace = 5.79, Positive Emotions = 5.28, No negative categories scored above a 2.78 [Anxiety]).

• Topics the experience led viewers to think about most: One's own mortality, the mental/emotional process of dying, and the physical process of dying.

• Standard deviations are comparatively large in this data set (ranging from 1.27 to 2.85), meaning that the data experiences a wide spread from the average. An increased number of data points would help to reveal if this is in fact accurate to the population as a whole, and would provide more insight into the significance of data.

• Participant demographics leaned heavily toward Christians (38.9%), non-Hispanics (4:1), and Caucasians (66.7%), with a relatively even balance of males (41.7%) and females (44.4%) and a minimal number of nonbinary and gender nonconforming participants (5.6%). While participants ranged in age from 18 to 53, the mean age of subjects was 22.03 years, indicating a strong presence of young adults (18-25), which is expected from a college campus.



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Discussion + Conclusion

The goal of this study was to create an accepting mentality around dying and encourage open conversation around it. This goal was generally achieved as the data shows the videos had a positive impact on the participants and generated pleasant and reassuring thoughts. A majority of participants thought that the 2D video was more comfortable, but that the VR video allowed them to share their experiences and to reflect more on mortality.

This study did garner some conversation on the effect of cultural or religious beliefs being reflected in the piece, or lack thereof. Some participants answered that they would be more comfortable if their personal cultural belief surrounding the process of death was translated in the project. When creating the imagery for each scene, the team intended to create an objective and vague interpretation of the process of dying, in order to avoid any biases. In the future, it may be interesting to see how participants react to imagery taken from different processes belonging to various cultural beliefs, such as cremation or reincarnation. The differences between the two mediums of viewing would also be worth exploring. The team would suggest exploring a variety of technology that would allow for the camera to be mobile but still capture the appropriate imagery without the obstructions of a tripod or a hand. This would allow for the most optimal usage of the VR experience, since many participants said that they felt like the VR video felt too stagnant and constrained.

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