Wear Your Heart on Your Screen: Provoking Player Empathy in Video Games

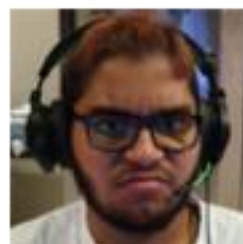## Or, How I Learned to Stop Worrying and Make My Players Sad

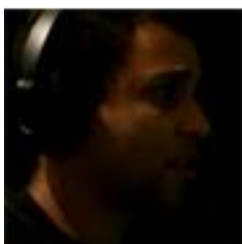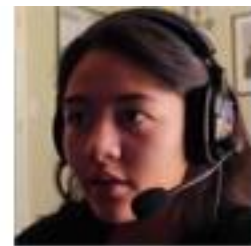Saran Walker

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Cover image: Screenshots of letsplayers playing "Looking Back" in their respective videos (left to right)

Top Row: Fellow Player, Maineiacs, Bront, Cereal00KILLER

Middle Row: Sir Royal Muffin Bottoms The First, ChrisALOO, LeninWhatsGood, Robboberty

Bottom Row: Are0us, LAWRENCE OMEGA, HunzB, LigiDone

INTRODUCTION

I do not cry easily. Whether watching a sad movie or dealing with personal problems, I almost always remain collected and composed. Yet I would not hesitate to reel off a list of video games that have brought me to tears; perhaps there's something about the immersive nature of games that affects me more. Especially amidst the growth of the indie gaming scene, I've been exposed to games that prioritize strong storytelling and emotional engagement over collecting coins or killing enemies. Stepping into the shoes of various game characters, I've saved a friend's life, worked through an abusive relationship with an alcoholic parent, mourned a deceased spouse, evaluated my life after a car accident, given my food to a hungry child, survived rape, fought depression, fallen in love, and certainly shed many tears along the way.

So I'm very surprised at the volume of academic focus on how games are linked to violence and aggression (Anderson et al.), (Bartholow, Sestir, and Davis). Video games have been blamed for sociopathic behavior on an oedipal level (Kestenbaum and Weinstein); a cursory internet search for "video games + empathy" fetches a mix of articles about the negative psychological effect of games. The accuracy of research on this issue is still up for debate (Barlett, Anderson, and Swing) (Ferguson and Kilburn), but many efforts to push back against this viewpoint involve highlighting video games' learning benefits; researchers are examining how games can help children build on concepts learned in school (Posso), improve cognitive skills (Shawn, and Bavelier), and even assist with physical and mental rehabilitation (Primack et al).

While these findings are encouraging, they defend games by trying to legitimize them in an academic or scientific context rather than for their artistic or entertainment values. Other media like books and movies have spawned critical theories that examine their craft, evaluating them beyond scientific justification; for example, reading a book might have a positive impact on one's vocabulary and mental dexterity, but for most readers their primary goal is to enjoy a good story or beautiful language, not build cognitive skills.

As someone who has had many positive gaming experiences, and who views games as a form of artistic expression, I feel that it is necessary to push back against the prevailing focus on games as incubators for violent behavior. Rather than try to validate games' cultural role in terms of their cognitive or medical effects, I want to focus on the emotional impact of games,

highlighting their positive effects rather than negative ones. Specifically, I want to explore if and how video games affect empathy in players.

To this end, I have taken on the role of both developer and researcher. I developed a video game, *Looking Back*, emphasizing empathetic engagement in its design. I then created a multi-part survey for the purpose of recording and analyzing how players responded to the game. Though my own experiences as a player make me hypothesize that games have a positive and tangible effect on empathy, I hope my project will explore this in more solid academic terms.

GAME DESIGN & METHODOLOGY

My game, *Looking Back*, is a modern retelling of the myth of Orpheus and Eurydice. The story follows Olivia, a woman grieving over the recent death of her girlfriend, Erin. She journeys through the Underworld in search of Erin's soul while reflecting on memories of their time together. Genre-wise, it is a narrative-driven walking simulator.

I made the game over the course of three months; I came up with the concept and developed the story in April 2016, started 3D modelling and texturing, which ran through May, then finished with programming, lighting, and SFX in June. I also maintained a development blog over the time that I was working, which I will include in my list of resources. I released the game publically for free on the gaming site Gamejolt on July 5th, 2016 along with the survey; the game is compatible for PC and Mac.

In this section I will outline my design choices and the process behind creating the game itself.

Influences

I took inspiration from a number of existing games while I was creating mine; in some cases I tried to look for things these games had done well that I could mimic, and in other cases I thought of ways that I could improve some of their features. While I have a long history of gaming that I no doubt drew upon consciously and unconsciously when making my game, these were some of the more prominent influences.

Sunset (Tale of Tales, 2015)

Set in a fictional South American country during political upheaval, the game follows a cleaning lady, Angela, during her weekly visits to an apartment owned by a wealthy art collector named Gabriel Ortega. From week to week, however, the apartment changes in some way, from something as small as finding an opened letter on Ortega's desk to walking in to find that the apartment has been searched and trashed. The use of space to non-linearly and non-explicitly tell a story is not new to games, but I really liked the way that revisiting the space over time creates a relationship between the player and the apartment so that they do become attuned to changes in the environment. The player not only learns about Ortega but is also able to watch his character develop despite never encountering him in person.

There were certain ways in which I felt the game could have been improved; for instance, the player had a limited amount of time to spend in the apartment each day, hindering the player's ability to thoroughly explore the space. Additionally, the game might have benefitted from condensing itself into fewer but richer levels as some felt underdeveloped. I still really liked this storytelling mechanic, however, so I employed something very similar in my game with the addition of my suggestions.

Firewatch (Campo Santo, 2016)

Here, the player takes on the role of Henry, a man who has recently taken up a post as a park ranger in Wyoming to escape the pain of dealing with his wife's early onset dementia. I was very inspired by the fact that Henry's centrality as the protagonist is often at odds with his personal inability to recognize and tackle some of the biggest flaws in his behavior, making him a fascinating playable character. The player simultaneously roots for Henry and tries to make the best choices they can for him while also recognizing that Henry gradually becomes more distant, irrational, and paranoid over the course of the game, almost to the degree of an unreliable narrator.

The game's use of audio is fantastic, as much of the story rides on Henry and Delilah's ever-present radio communications despite the fact that the player never sees them in person; I briefly considered using in-game text to convey my characters' thoughts, but this game

convinced me that actual voice acting, when done right, is more poignant and can convey a lot in place of more economical features.

The Path (Tale of Tales, 2009)

Like my game, *The Path* offers a remediation of a well-known myth, in this case, Little Red Riding Hood. The player will play as 6 sisters as they each journey into the woods to visit their grandmother. Most of what we learn about each girl in *The Path* comes from their interactions with random objects scattered around the forest. I really like the idea of developing a character via their reactions to their surroundings because it feels a lot less heavy-handed and more natural than simply having the character make some sort of exposition; instead, the player is able to slowly piece together clues about the character's nature.

While the forest levels are fairly open-ended in terms of story, they are at least rooted in some semblance of reality; when the girls enter Grandmother's house, on the other hand, the journey becomes completely surreal and feels like a symbolic translation of each sister's story. Even the game mechanics change drastically between the two different settings. Objects encountered in the forest will reappear in odd contexts within the house, cementing a connection between the events in the forest while suggesting via its presentation that Grandmother's house is operating on a different form of reality than the forest.

I like the design of these levels because they present a more artistic and experiential means for the player to understand the story than a simple cutscene would provide, and it leaves a lot of room for interpretation–I think analyzing and unpacking a game's story is as meaningful a form of interaction as guiding a character through a digital environment or making their moral choices.

That Dragon, Cancer (Numinous Games, 2016)

I never actually got to play this game before making mine, but I was aware of its existence and followed its release. I remember being struck by two scenes that were juxtaposed in a video review, one where the narrator recalls cleaning up his ailing son's vomit and another more surreal moment where he bobs in an ocean and his wife calls to him from a boat and tells him to stop wallowing. Aside from the obvious connection that both of our games deal with cancer, I liked that this game showed the contrast between the mundane, literal, and even gross realities

of dealing with an illness and a more symbolic translation of the emotional toll it takes on a person. I wanted to capture that contrast between the apartment and Underworld levels.

Dear Esther (The Chinese Room, 2012)

This game was an influence on mine in a number of different ways. Story-wise, they both involve the metaphorical journey of a person dealing with their deceased spouse and are told in circular, scattered parts that the player pieces together through careful observation; while my story is perhaps made a little less oblique, I was still inspired to go back and forth between apartment and Underworld so as not to reveal the story in a completely linear plotline.

I also wanted to make my Underworld levels look like the caves in *Dear Esther*, but unfortunately I didn't have the time or skills for that complexity and level of detail. There are really compelling small details and moments of surreal mystery, such as finding a bunch of paper boats on the shore of a supposedly abandoned island or noticing chemical compounds written in glowing paint on the wall. I was struck by the surreal and breathtaking moment when you plunge underwater and find yourself on the motorway at the scene of Esther's car accident.

Gone Home (Fullbright, 2013)

This game shares many qualities with other games that inspired mine in that it is a narrative-driven walking simulator in which the player explores a space to piece together a story. Additionally, it focuses on a queer narrative, and although my story is quite different, queer characters are still fairly rare in mainstream video games, so I felt that it was worth looking into.

I enjoyed the story at the heart of it, but I had mixed feelings about gameplay. On one hand, I liked that the player could look at objects in the house without receiving a whole lot of narration from the player character; this way, the game's various storylines were much more intuitive and the player had to figure things out for themselves. The story was also told very economically with a small cast of characters in one dense location, almost like a stageplay. On the other hand, I didn't feel very emotionally engaged with the story because the player character was such a passive viewer of events and not really part of the main narrative.

The Void (Ice Pick Lodge, 2008)

My game doesn't have much in common with this one in terms of gameplay or even story, but *The Void* is set in a purgatory-like place and was probably one of the largest aesthetic influences on my work. Stony, misty terrain punctuated by strange objects make up many of the game's spaces, and the atmosphere is surreal and otherworldly. There are also certain levels designed to reflect their inhabitants, and these spaces often tell a story by themselves; one character, Yani, lives in a creepy dilapidated house full of non-essential but interesting details. The player can find a bloody bathtub that has nothing to do with the main plot but perhaps hints at some violence in Yani's life; I loved the unnerving effect of stumbling upon it without any context.

Silent Hill 2 (Konami, 2001)

The *Silent Hill* series has always been great at weaving symbolism into its aesthetic and gameplay, from the monsters that are designed to reflect issues in the protagonist's life to the fog that disorients the player. While I didn't necessarily want my game to be scary, I thought there were places where it would be appropriate to make the player uncomfortable, which is something *Silent Hill* does exceptionally well. Moments like when James has to stick his arm into a mysterious hole in the wall or jump down into a dark pit with no knowledge of how deep it is or where it will go influenced moments in my game like when the player must walk across bloody pillows or jump into a bathtub full of blood. Even James' past misdeeds de-center him as the hero of the game and create tension between the player and the character. Making the player feel like they are doing something wrong can be a great way to stir their emotions.

Story & Narrative

Since the goal of my project is to measure empathy, I wanted to craft a story that would resonate with players. I initially intended to write something more autobiographical about a past relationship, but in the interest of telling a more universal story, my ideas ended up morphing into a retelling of Orpheus and Eurydice. That myth in particular was attractive to me as it explores many aspects of the human experience—love, death, faith, trust— but also because Orpheus' journey through the Underworld seemed like something that would easily translate into a video game. I thought that the different realms of the Underworld in Greek mythology could

serve as different levels of the game; I named the different levels after the rivers of the Underworld, and they actually shaped my story. The rivers have different associations that I wanted to play up in each level; for instance, Phlegethon is the river of fire, and I tried to highlight Erin's physical suffering in that level, while Lethe is the river of forgetfulness, and it is there that Erin tells Olivia to let go and move on.

There were several benefits to adapting an existing myth: firstly, it meant that the core of the story was already developed and I could save time crafting a plot to work on other aspects of the game. At the same time, the open-ended and malleable nature of fables and myths allows them to be reinterpreted and altered; I hoped that changing the ending, among other details, would surprise players who are familiar with the myth and leave them open to unexpected emotional responses.

The game implements a circular narrative as the player moves back and forth between the present day and the past, beginning after Erin has died. In addition to building mystery around the circumstances of Erin's death, this format instills a sense of dread in the player as they are aware that they are slowly drawing closer and closer to her passing. While I worried that the timeframe might be jarring to the player at first, I think that switching back and forth between the apartment and Underworld levels clarifies the sometimes abstract nature of the latter, and the player eventually learns to anticipate that details encountered in each apartment will be mirrored in its corresponding Underworld level.

As a side note, but one that I think is important, I changed the genders of the characters so that the story was about a queer couple. As an avid gamer and queer woman, I am often disappointed by a lack of diversity games when it comes to characters' genders, sexualities, and races; *Looking Back* was a chance for me to create the kinds of characters I want to see. Perhaps more than any other medium, games allow us to step into a character's shoes and see the world from their perspective; diversifying the stories we tell in games can give players the opportunity to learn about and understand people with different backgrounds and experiences. The more stories like this that players encounter, the more normal they will become, so I created my characters with this in mind.

Aesthetics

While I had many aesthetic inspirations ranging from existing video games to cave photography, I tried to design with technical considerations in mind; I have some experience 3D modelling, but I'd never tried UV mapping before this project. I didn't want the game to look too cartoonish, but I worried that hyperrealism might be an unrealistic aim considering my skill level (and the effect it might have on the game's performance), so I tried to strike a balance. I modelled objects in Blender and made UV maps in Adobe Photoshop, then brought them together in Unity.

Development progress in the apartment levels. Alpha (above) and final with lights and textures (below).

In order to really make the apartment feel lived-in and homey, I tried to thoroughly consider what sorts of objects my characters would have around, from the decorations on their bookshelf to the contents of their medicine cabinet, and I actually ended up making many items' textures from photographs of my mine and my friends' flats. I even recycled images of old paintings I had made to brighten the apartment walls. I felt that having a realistic and fleshed-out space would help the player connect to the characters.

Development progress in the apartment levels

I designed the labels for products like shampoo bottles and toothpaste, naming the brands after characters from Greek mythology as a reference to my story's origin (for instance, the microwave brand is Hestia, named for the goddess of the hearth, and the box of plasters is named for Panacea, goddess of healing). These are small details, but I hope that the eagle-eyed player will appreciate these easter eggs.
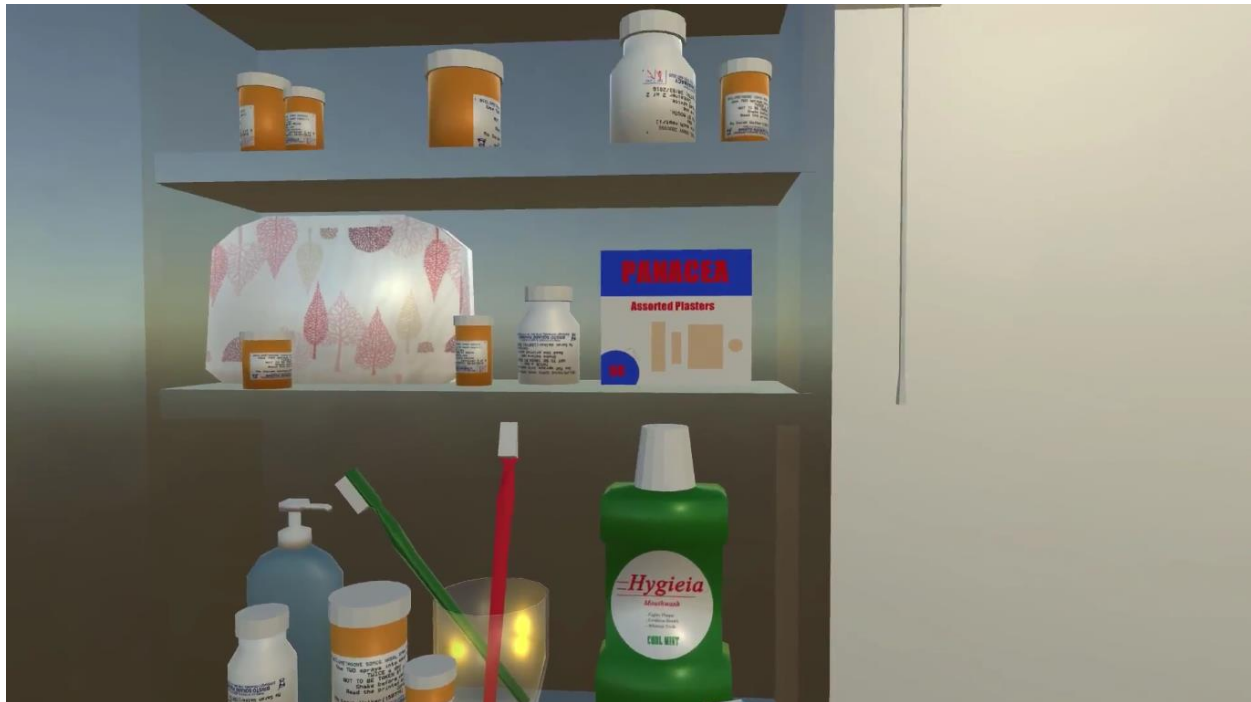
Inspired by some previously-mentioned games, I wanted the Underworlds to be a surreal reflection of the developments revealed in the apartments; this decision allowed me to be economical and recycle objects that I had modelled for the apartment instead of making a whole new set of objects for the Underworld. Therefore I could focus on creating more detail in the apartments.

The Underworld levels were a little harder to design than the apartment, but I decided to make them into caves because they provided a small linear path for the player to traverse (and also created a contained space that prevented the player from wandering off the edge of the map). I found the cave heightmaps to be the most challenging objects to texture, as it was very difficult to match seams on the complex models. I had pixilation issues using photographs as textures and had to create a rocky texture in Photoshop instead.
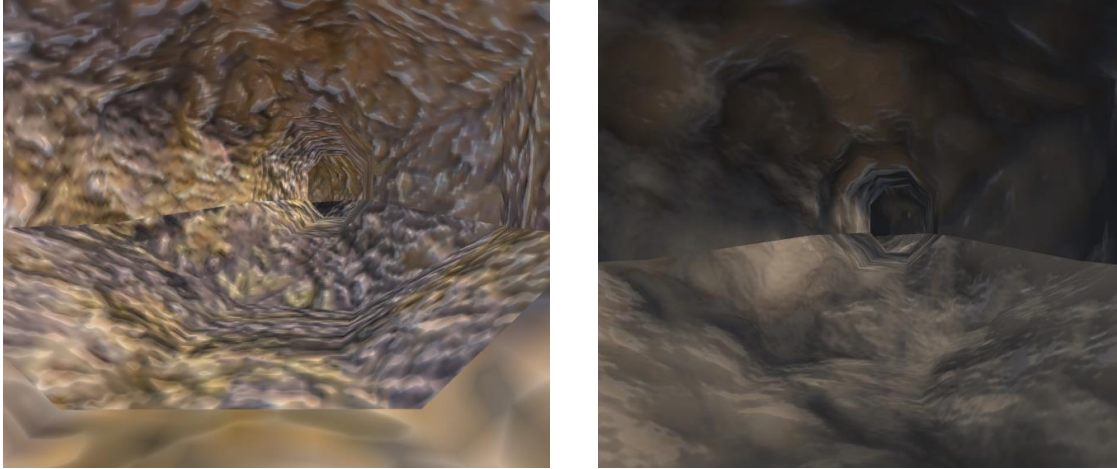
Pixelated texture (left) versus final texture (right)

However, other unintended results came out of this texturing setback; I made the stone a different color for each level to create variation, and in the third Underworld level, I gave it a pinkish hue that actually ended up looking a lot like internal organs. It wasn't initially intentional, but I ended up trying to push that effect to give the player the disturbing sense that they were inside Erin's body.
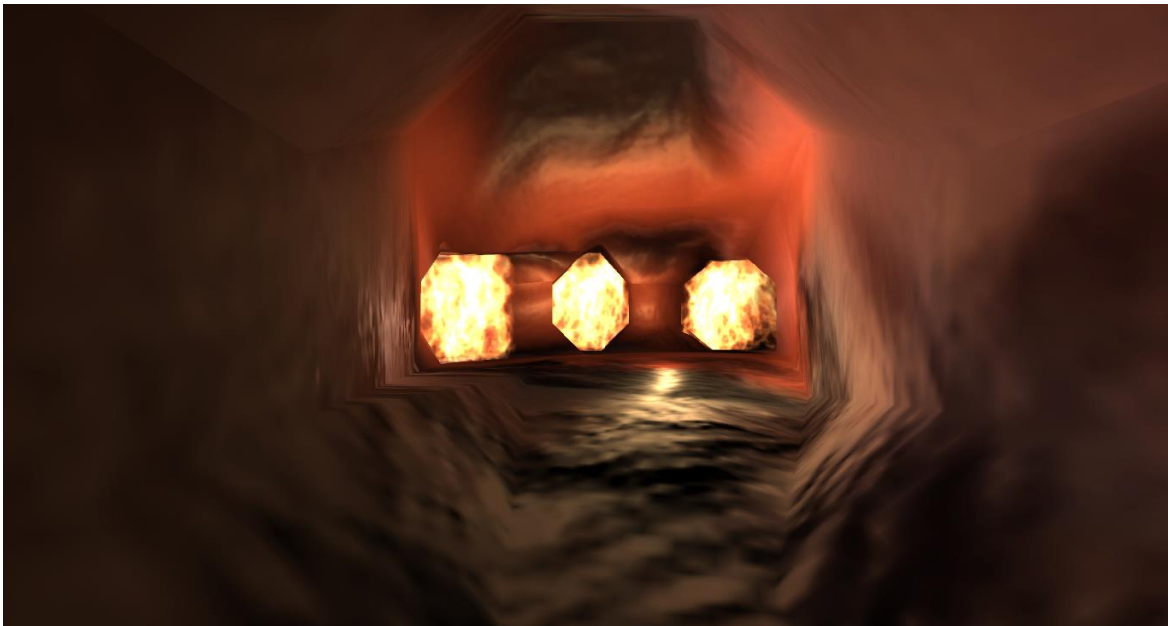
Finally, I tried to find effective ways of using lighting to tell the story. In the apartment levels, I changed the lighting to reflect different times of day and weather conditions in order to create mood, provide variation, and show a passage of time. I (actually unintentionally) created a

progression from daylight to sunset to night that mirrored the decay of Olivia and Erin's relationship. In the Underworld, I made the lighting very dark, partially to create a creepy and mysterious atmosphere, but also so that I could use lighting to guide the player in certain directions; in the first Underworld level, for instance, there is a hard-to-see pathway that I was able to highlight with a point light so that it is visible from a certain angle.

Gameplay

Once again, my limited technical abilities constrained my design, but I was able to achieve most of what I wanted to. From the start, I'd envisioned a walking-simulator type game with strong storytelling. My first ideas were for the apartment, which the player explores for clues about the characters; it slowly changes as the player re-visits over time. I liked the element of exploring and clicking on objects to learn more about them because it feels more participatory than a cutscene, allowing the player to develop a relationship with this setting and become attuned to the gradual changes. In anticipation of bugs, I tried to ensure that players could understand the narrative from visual cues too—and naturally, some players did have technical issues where they were unable to click on objects, but they were still able to get the gist of the story.

I had envisioned the Underworld levels being a little more action-packed with some light platforming, but felt it might have been too incongruous and taken away from the story I was

trying to tell. I think the conversations between Olivia and Erin make up for the lack of actual gameplay by giving the player something interesting to listen to.

I wanted aspects of the story to be mirrored in the gameplay of the Underworld levels, though. The first level mostly serves as an introduction to Olivia's journey and the connection between the apartment and Underworld through recurring furniture like the bed. The distance between the bed (a connection to Olivia and Erin's domestic connection) and the guitar and suitcase (recalling Olivia's time on the road) was supposed to highlight a 'choice' (albeit, one that the player doesn't get to make) between Olivia's relationship and her career. It also provided a transition into the following apartment level where her luggage is laid in the same formation by the door.

In the second level, Olivia's surprise and horror at finding a bed full of blood is echoed in the path the player must take—through a pond of blood, across some bloodied pillows, and into a full bathtub gushing blood from its faucet. I intended to make the player really uncomfortable and shocked, and judging from the reactions of some of my letsplayers, it worked.
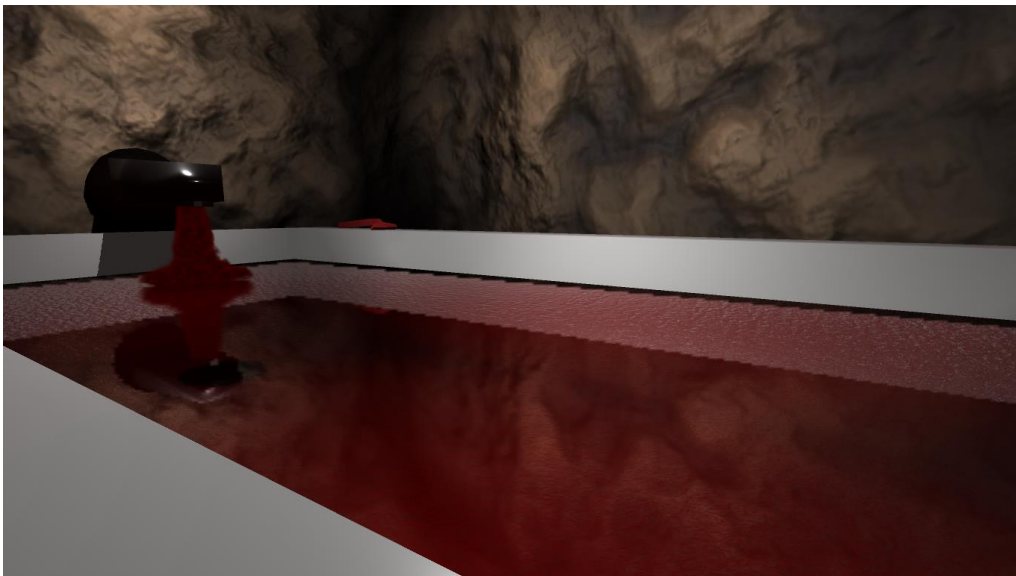
The third level is composed of several mazes, which I'd hoped would underscore the drudgery and frustration of living with an illness, the growing obstacles between Olivia and Erin, and the constant worry that one might reach a dead end (morbid pun intended).

In the fourth level, I wanted to emphasize the disorientation and shock that Olivia feels at discovering Erin's affair by creating instability in the gameplay. The tunnel of screens that flips the player in all different directions, the bottle that rolls suddenly as the player attempts to cross it, the floating glasses that the player so easily falls off of, and even the dizzying spiral shape of the path are all intended to convey to the player that Olivia's world is falling apart.
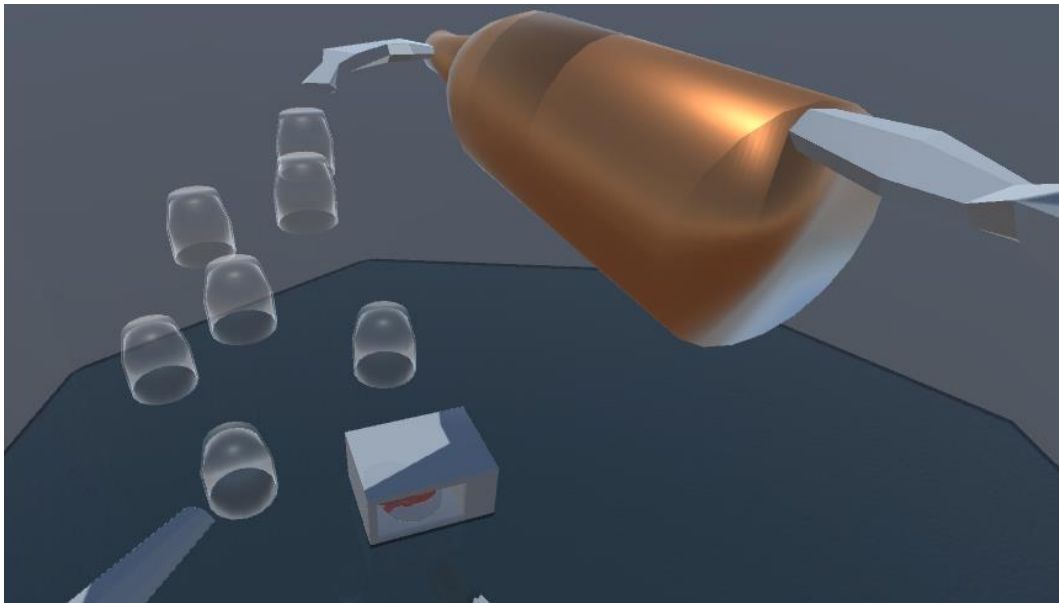
Development progress in the Underworld

Finally, the last Underworld level was fairly simple as the player would have just discovered Erin dead; I was trying to suggest Olivia's numb shock and the sense of everything else melting

away. It seemed like a fittingly solemn end to the game as the player finally reaches Erin's spirit. The long walk towards the island gives them a moment to reflect on everything they've encountered in the game so far.

Posting the game online has given me the benefit of hearing players' feedback, and I've made adjustments and released patches accordingly. For instance, in my initial release, the player would press the Esc button to exit the apartment levels, it seemed like this mechanic took players out of the game and wasn't very natural or intuitive. I watched peoples' gameplay videos and noticed that they tended to walk back to the front door before remembering the Esc button, so I changed the function so that the end of the level triggers when the player interacts with the door. The series of updates I've made is visible under the devlog on the Gamejolt page (link in the appendix).

Collaboration & Audio

I worked with Nick Cole-Hamilton previously on our game *Selene* and he kindly volunteered his audio services for this project as well. I started by sending him a playlist of songs from other video games and movies that I was listening to during the early stages of the game's development, and which I'd hoped would convey the tone I was aiming for. After listening to the playlist, we went through his Soundcloud page together while he pointed me towards some specific tracks he felt were a good fit, and I ended up selecting the game's entire soundtrack from his existing collection of music (we still jokingly refer to the soundtrack as "Nick's Greatest Hits").

I wanted to make sure that the music would reinforce and further my design choices; most importantly, I wanted to use music to help differentiate the tone of the apartment and Underworld levels. I looked to another game, *Alice: Madness Returns*, for inspiration; the game was actually scored by three separate composers and their various styles of music were used to contrast different areas throughout play. While I was only working with one sound designer, thankfully Nick had a range of work to draw upon. We ended up using some of his acoustic guitar pieces in the apartment (which seemed appropriate for Olivia's profession as a guitarist), while he loaned some of his more experimental, industrial tracks to the Underworld. I felt that this helped clarify the difference in nature between the two locations.

I also made Nick a list of sound effects that my game would need and let him run with it. In some cases, he provided his input as a designer; I initially wanted cave ambience in the Underworld, but Nick advised that this probably wouldn't be that noticeable over the music playing in each level, so we ended up scrapping that idea. In other cases, time and availability influenced the direction of the audio design; due to time constraints in his own life, Nick wasn't able to create running footsteps before I released my game. This initially led to me removing a run button from the game, but I later re-added a run feature, although without running sound effects.

While Nick was my main collaborator, I cast my net a little wider for some troubleshooting and to record voice actors. Nick and I went to Jules Rawlinson for help with playing one-shot audio clips around the apartment and he let us borrow some of his code for that purpose. While this fi created problems of its own, we were able to sort them out. I also worked with voice actors; in lieu of professional actors, I got a neighbor and a friend's girlfriend to lend their voices to my characters. I coached them through the script and Nick recorded them line by line; we chose the takes that we liked best and were able to stitch them into fairly natural-sounding dialogues.

Jess Henderson (voice of Erin) in the studio

In some ways, working with my actors was something of a collaborative process; when the girls, who are UK natives, read their lines, they identified a lot of Americanisms that they weren't accustomed to. In order to create continuity between their accents and dialogue, I changed some of the lines on the fly during recording with their input so it would sound more authentic. This also later reminded me to change the visible plug socket in the kitchen to the UK formation.

STUDY, RESPONSE, & ANALYSIS

<u>Methods of Data Collection</u>

I released *Looking Back* on Gamejolt under the same account where I had released *Selene* previously; my hope was that the small fanbase who had started following that game would be inclined to check out this one as well, providing me with a sample group for collecting data. *Looking Back* did moderately well for an indie project, earning about 660 downloads in the course of a month. In the game's description, I left a link to my study.

I devised several means of evaluating players' engagement with *Looking Back*. The quantitative portion of the study saw players take Cambridge University's Empathy Quotient (EQ) questionnaire before and after playing my game, recording their scores each time. The 60-question test is available online; though it was actually created to detect autism in participants, I hypothesized that its focus on empathy could be used to measure any change my game had made on players' emotional engagement.

In addition to the EQ, I also wrote a more qualitative 8-question anonymous survey that asked about players' emotional experience, engagement, and feelings about the story and characters. Each question had an open text field so participants could answer as much or as little as they chose; I also allowed players to skip any of the questions they didn't want to answer lest they abandon the entire survey after getting stuck on one question.

Selene and *Looking Back* were also accepted into Dare to be Digital's 2016 Indie Game Fest in early August. The games were set up for attendees to play, which provided a great opportunity to direct them to the survey after they had finished. In fact, this proved the most fruitful method for gathering survey responses as I received the same number of surveys in the festival's 3 days as in the entire month that I'd had the study posted online.

My third method of data collection involved tracking down videos of players who film themselves playing games and post the videos on Youtube (known colloquially as letsplayers). I ended up finding 22 individual letsplays of my game posted publically on Youtube. At least some of the letsplayers knew about the study and said that they also participated in the survey portion, while others did not seem to be aware of the project and had presumably just found the game online. The advantage of using letsplays as a tool for measuring player engagement is that they give me the opportunity to watch players react in real-time to the game; from a developer's perspective, they also help me understand how players engage with the game and highlight bugs and issues that need to be fixed.

Evaluation of Methods

In hindsight, there are a number of lessons I've taken from evaluating the format of my study. As I was mostly relying on random internet players to serve as participants, I didn't have the organization to focus my study by using control groups like age, gender, or gaming experience. There may have been a bias as only players who liked the game would have been inclined to participate in the survey portion.

Although I'd hoped that it would provide more quantitative results, the EQ actually ended up being the least successful of all my methods. Due largely to its length, and the fact that players had to retake the same test after playing my game, I didn't get many results. A friend who participated told me that she had realized the second time around that she'd misread some questions the first time. One of the letsplayers actually filmed himself taking the survey, and after finishing the game said he assumed his answers would be the same, so he simply skipped taking it a second time. Because players were taking the quiz remotely, it was difficult to regulate whether or not they were completing this portion of the survey correctly, if at all.

In a few cases, players mentioned that they only saw the quiz after playing the game—partially a problem with Gamejolt's layout, as the download button is located at the top of the screen, whereas one must scroll down the page to read the description where my study link was located. When I had the game at the Dare Fest, I actually excluded the EQ for the sake of time and just had players fill out the survey. As only roughly 20 players completed the EQ, I don't feel that I have enough data from this portion to be conclusive.

The short-answer survey responses gave me much more useable data to work with. I was disappointed by the number of participants; despite the number of downloads, I received 48 survey responses, which is still reasonable, but not as much as I'd hoped for. As with the EQ, I think it's very likely that people either didn't see the link, or forgot about the survey after they finished playing. Nonetheless, I received some very thorough answers, and even short responses gave me a general idea of how people reacted to my project.

Although being present at the Dare Fest allowed me to promote the survey, it was not necessarily the most natural setting for players to play my game. One player told me semi-jokingly after finishing that he didn't want to cry in the middle of the event hall; certainly, players were aware that they were in public and so might react differently than if they were playing in a private space. And while most of the other games at the event allowed people to drift around, mine required the player to put aside anywhere from half an hour to 45 minutes to play and finish the survey; some players left about halfway through.

The letsplays provided the richest data in my survey. As all of the letsplayers were playing my game for the first time, their reactions are very genuine. The only critique I have for this method is that letsplaying is filmed with the intent of being seen by an audience and letsplayers will sometimes exaggerate their responses or try to come up with entertaining commentary, so the experience is not quite that of someone playing the game by themselves. Many of the letsplayers filmed their faces while playing, which was helpful because I could track their physical reactions, but a few did not, so in those cases I could only rely on vocal cues.

Because I have no way of knowing how many letsplayers also responded to the survey, I am evaluating each form of feedback separately.

<u>Results & Analysis</u>

In tracking players' empathy, I looked for responses that show emotional engagement and understanding of the emotional nuances of the characters and story.

Survey

Dare Indie Fest attendants play "Looking Back"

Since there was a fairly substantial amount of survey results, in this section I will focus more on visible patterns in data rather than specific instances. Some common keywords that came up in peoples' reactions included "sad", "depressed", "guilty", "afraid", "concerned", "helpless", "reflective", "thoughtful", and "uncomfortable". Of the 48 people who completed the survey, 73% said that they were engaged with the story and/or characters, while 14% gave a 'maybe' or unclear response, and 12% said they did not feel engaged. As the survey was anonymous, each response was given a unique number which will be used to cite quotes in this section. Full results are available on the accompanying flash drive.

For the players who said they didn't feel engaged, or who gave a more conflicted response, this seemed largely due to the mechanics and arrangement of the game rather than story features. Some players had issues with the controls seemed to break their experience, complaining that "Movements are very slow. Jumping is too hard!" (30); one player said, "I liked the story but as a non-game player I was more distracted by trying to navigate the game" (11). Others seemed to crave more interactivity, saying they felt "a little impatient walking around the apartment, like there should be something more to do in there" (10) and "I was hoping for a little more of a sense of freedom of choice/action - the game currently comes across as quite a linear storytelling experience" (31).

A few players found the format of the story difficult to engage with, sometimes because they were "confused by what I/Olivia were 'doing'…mainly what was going on in the hellish scenes" (9), sometimes due to the length of the game, pointing out that "the story was too short lived to fully immerse myself" (42). A few players also had issues with the voice acting, noting that Olivia

"was harder to relate to because of the flat acting" (11); one player went so far as to speculate that "[Erin] sounded very young (the voice actor) and thus most likely less mature in her relationship experience" (40), suggesting that the voice actor wasn't very well suited to the role.

These are all valid criticisms to consider when evaluating my game; even with a strong story, to which most players seemed to respond well, the craft of the game itself can affect how that story is transmitted. I was limited by my time, resources, and experience in the game development field, so there are certainly many aspects of the game that could be improved.

That being said, a large majority of survey respondents did show emotional engagement with the game. While there was a range in the length and thoroughness of players' answers, quite a few went into great detail assessing the characters' behavior; some were critical but made an effort to see the characters' perspectives, arguing points like "While I do not agree with how [Olivia] handled the situation (running away, lack of communication), I understand her actions and that everyone handles grief and stress differently" (17), or even providing lengthy evaluations of the characters' motivations like respondents 2 and 40. That players were willing and able to become so involved in thinking about the characters and issues presented in the story demonstrates their engagement.

Most people made an effort to understand both characters' perspectives, with about 65% of respondents saying they had no preference over which character they liked or agreed with, compared to 21% who sided with Olivia and 15% who sided with Erin. Some people pointed out that Olivia's position as the player character might have affected their opinions, arguing that "I liked Olivia more, but that might not be fair. It was from her perspective, so that might make her easier to empathize with" (19), while others felt the opposite: "it get's [sic] hard to stay engaged when playing a character who acts very different from what I would have wanted to do. At some point it breaks the feeling of beeing [sic] the character" (47).

Many players also related their own behavior, like when one player feels "sad, angry and upset (with both Olivia and myself, because I had hurt people that way before)" (6). Some even offered their own solutions for the problems presented in the story: "Why don't people in relationships just talk more? It'd solve so many problems" (12) one player offers, while another questions, "If I were there, what could I have done to avoid their situation. How could I have helped them?" (16), and another says that "I would always stay by my lovers [sic] side no matter

what. No travelling if they don't like it" (48). Players' ability to apply their own experiences and opinions to the story again suggests their empathetic involvement, to the extent that they even imagine how they would act in Olivia's place.

Ironically, though the voice acting was a complaint for disengaged players, it was also frequently cited as a reason that other people felt immersed, with quite a few players mentioning its advantages, such as that "the voice acting drew me in and the "hell" sequences made some abstract concepts more readable" (33) and that "Hearing their dialogue while I see metaphorical objects made me feel the emotion in their voice" (25).

On the whole, players seemed engaged with the game; one even admits that "I cried… This related a lot my life and things that I felt. It was hard to go through but I'm glad I did" (20) and another mentions that "I really enjoyed it to the point that I lost track of time, didn't check my phone (which never happens!)" (46).These reactions suggest that players were invested in and affected by the story.

Letsplays

Many results from the letsplays echo those from the survey; most players again used similar keywords to describe their experience. Due to the density of information in these videos, however, I will examine more specific responses from players and their implications.

At least a small handful of players seemed very affected by the game and had physically noticeable emotional reactions: during the credits, Maineiacs becomes briefly flustered, leaning back and seems to have trouble finding his words before launching into an enthusiastic response (22:43). LigiDone pauses mid-sentence during his final thoughts, shaking his head, rubbing his face, and sighing (35:32). ChrisALOO pauses and stutters as he reflects on the game (Part 3, 4:50) and his voice becomes shakier when he mentions Erin's death (5:16); he sighs, clenches his eyes shut, and rubs his eyes and face, apologizing to his viewers and saying that "It's a lot to take in" (5:38). "It's really hitting me hard," he continues (6:24), and his eyes appear to get watery and he wipes them (6:55). He ends the video hunched forward, rubbing his eyes.

ChrisALOO responds after finishing the game

Of particular interest was the relationship between the players and the player character. Many players started out speaking in the first person; however, this identification shifts as the player learns more about Olivia. As Cereal00KILLER examines the calendar in the third apartment level, she switches from a first person to a second person address of Olivia: "I didn't even get to spend New Year's Day with [Erin]. Dang Olivia, you effed up…I don't even want to play you anymore" (11:00). Cereal00KILLER went on to respond vehemently to Olivia's character (16:00) while suggesting that Erin "find a way better lesbian" (19:10).

Despite feeling disconnected from the player character, Cereal00KILLER becomes passionately invested in the characters to the point of angrily ranting or offering advice in imaginary conversations with Olivia and Erin. Her strong emotional response and critical assessment of both characters' behaviors suggest that she is very emotionally engaged in the game, placing her sympathies with Erin and condemning Olivia's neglectful behavior.

Other players seemed to remained fairly invested in roleplaying Olivia. leongames6511 filters his reactions through Olivia's eyes, remarking that "[Erin's] cheating on me…I should be angry" (25:30); in Styx during the dialogue, he interjects with his own response, screaming, "Bitch, I'm going through the Underworld! What's fucking Aria doing? Fuck you!" (27:07). Though this is perhaps the inverse of Cereal00KILLER's reaction to the characters, both examples reflect the players' ability to project themselves emotionally into the story and respond passionately to the ideas put forward.

While not all of the letsplayers showed such visceral reactions to the game, many showed engagement through their contemplation and evaluation of the story. Lord Muffin weighs the complex emotional impact of Erin's affair, commenting that, "It's not just grief… You do feel

angry when something like this happens" (18:03). LigiDone assesses the empathy of the characters themselves, offering, "It seems like…Olivia has a low empathy level, but for [Erin] it's absolutely different. They are so… Different birds, kind of" (21:00).

A couple of players even continued their videos for several minutes after playing in order to share personal opinions that the game stirred up: Maineiacs asserts in his post-video musings that "Even if the one that you love is sick or hurt, it doesn't mean that you should stay away… I believe that if you love somebody, you should always be there for them in their hardest times" (24:40). LigiDone echoes this sentiment, saying that "Even if you don't like it, you should be there, because it means a lot… No matter how strong they are… It means a lot to everyone to have someone standing by their side" (34:46). These followup commentaries are interesting because they show the players processing their interpretation of the game's message, then delivering it like advice, perhaps to their viewers (note the second person address). This implies that they have accepted and internalized the message to the point where they can repeat it as part of their opinions.

Additionally, many players were able to relate experiences from their personal lives to the events of the game. "Just about everybody knows someone who's dealt with cancer," Prandall remarks in his video, "so it affects everyone, like a universal kind of way" (Part 2, 8:24). He goes on to discuss his grandmother's struggle with cancer (9:02). R Dog (19:43), Robboberty (18:23), and ChrisALOO (Part 2, 8:46) also open up about their own personal experiences with love and death. In these cases, they were able to apply real-life emotions to the situations presented by the game, further allowing them to empathize with the characters.

Even players who couldn't relate the story to their own lives worked to comprehend the characters. HunzB remarks, "I personally have never been through the same pain Olivia went through…But seeing that…I do kind of understand the pain she feels" (28:19). Several players shared similar sentiments, including Are0us, who adds that "I'm speculating…I've never been in one of these situations… I have social anxiety, so it's hard for me to read most people unless I'm really close to them" (13:21). Yet he shows a lot of emotional understanding, imagining the strain of being on the road for Olivia (11:55), reasoning Erin's motives for cheating (20:21), and acknowledging that "Neither of them are really looking at the other's perspective one hundred percent" (22:52). His ability to speculate about both characters' attitudes, even without having experienced anything similar in his life, demonstrates not only that players can become

engaged with the game, but that it can help them learn and grow emotionally. Are0us and others were able to use the game's fictional story as a framework for evaluating other people's feelings and applying their own responses despite not having an emotional reference point in their lives; this allowed them to understand the characters' perspectives while also giving them the opportunity to test their empathetic boundaries.

Perhaps the most interesting reactions were some players' display of metadramatic empathy: ChrisALOO leaves a link to the National Alliance on Mental Illness in all three of his videos, a considerate gesture towards any viewers who might be triggered by the game's events. Maineiacs at one point remarks, "I really hope this isn't something that the developer actually went through" (20:07), and Iron Vengeance echoes this, remarking, "Person who made this: if this was a personal experience to you, something close to your heart, I'm sorry that had to happen" (25:15). All of these examples see the players' empathy extending beyond the boundaries of the story and characters and actually spilling over into real life, demonstrating their concern for the viewers and developer even without personally knowing them. This concerned and caring behavior offers an encouraging example of how video games can spark empathetic behavior in players that carries over into real life.

Not all of the letsplayers were so engaged, though. Two letsplayers, Tormental and LAWRENCE OMEGA, maintain a facetious and joking tone throughout play, although the latter admits by the last level that "I can't really make jokes here, 'cause this is like super, super dark" (21:30). Both frequently talk over the game's dialogue, with Tormental expressing boredom (23:54), making fun of the actors' accents (24:11), and continuously repeating "Shut up, shut up" over the voice actors (18:52). LAWRENCE OMEGA films himself taking the survey after playing, and when answering whether he felt engaged, he says "Not really…I'm a man; there were no men in that story…It would have been more relatable if it was like, a parent, because pretty much everybody has parents" (24:27).

These reactions bring up some fair considerations, both relating to my game and players. People handle emotions differently and have different experiences, and there is no one-size-fits all story to which everyone will react in the same manner. Genre might play a role as well; not everyone enjoys walking simulator-style or story-driven games, and in the absence of gameplay in my game, it's not unpredictable that some players might grow bored. And as mentioned previously, my game has its own technical limitations. Additionally, although I hope that players

will be able to see past the characters' genders and appreciate the underlying issues, I can understand that my story might not appeal to everyone and that some players might feel alienated or even repulsed by some aspects of the game.

On the other hand, some players who initially seemed unaffected by the story actually did end up becoming more engaged. Hyper Raccoon mentions that "I'm pretty emotionally, like—I'm an emotionally not responsive person, but… This is even getting to me, damn" (11:25), while Knuckles10000 says, "I didn't expect to actually kinda be touched by this game" (21:26). Some players did start out with a more facetious and humorous tone, but once the seriousness of the story became evident, most adjusted accordingly (for instance, Prandall initially jokes about Erin's period when seeing the bloody bed (Part 1, 9:34), but after finding the books about cancer, he responds, "Damn, I feel bad for making jokes now. I'm sorry!" (Part 2, 7:08) and becomes more somber in his delivery from there).

Other players were even able to overcome unfamiliarity and discomfort with the game's subjects. When Maineiacs first encounters the bloody bed and tampons in the second apartment level, he assesses that "She had something up with her…" and trails off, apparently unwilling to speak of Erin's genitals by name, continuing, "I'm a guy; I don't know exactly how all that stuff works. I don't know how to talk about that…" (9:20). Maineiacs was not the only male player boggled by the uterus—Knuckles10000 actually pauses in the middle of playing to look up what a hysterectomy is (13:41). As Maineiacs learns more about Erin's condition, he admits:

> I had no idea that cervical cancer could show itself in that scenario… I hate to be stereotypical in the sense that 'Oh, I'm not a girl, I don't know all this stuff,' but it's true! I really don't know a lot of how some of this stuff works… But I am actually… I'm still enjoying the game. (13:29)

Despite his original unease at the sight of tampons, Maineiacs was able to appreciate a story with subject matter that was originally unfamiliar or uncomfortable for him. I had worried that my game's subject matter might estrange some players—and in some cases, perhaps, it did—but it was just as reassuring to see players put aside their personal preferences, enjoy, and even learn from a story outside their comfort zone. And considering that a majority of my letsplayers were male, it was encouraging to see that most of them were still able to engage with the story despite its all-female cast.

CONCLUSION

Overall, the data I collected indicates that players were able to engage emotionally with my game. By demonstrating strong feelings about the characters, identifying with or relating their own life experiences to the story, making an effort to understand the characters' perspectives, showing consideration for the game's effect on people in real life, and learning from the events of the game, players showed a range of empathetic behaviors in response to playing.

While my sample size for collecting data was somewhat small and there were flaws in my research methodology, I still think my results offer a promising start for thinking about player empathy. I would love to see a larger University or organization with more resources expand on this study, perhaps with a range of games, or tested against different control groups.

Most importantly, my project offers an alternative to the perception that video games cause aggression and violence: games clearly can and do foster empathy and compassion in players. There is still much more critical work that needs to be done on video games' emotional, social, and artistic effects and values; I hope that, if nothing else, my study will encourage scholars to expand their focus on how games affect players by showing that there is more than one way to view this relationship.

APPENDIX

<u>Works Referenced</u>

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Technical References

The script "Floating" was referenced from this help thread:

http://gamedev.stackexchange.com/questions/96878/how-to-animate-objects-with-bobbing-up-and-down-motion-in-unity

The script "Heartbeat" was referenced from answers in this forum discussion:

http://forum.unity3d.com/threads/using-c-to-make-an-object-scale-by-3x-wait-5-seconds-and-then-scale-back-to-normal.104257/

The scripts "TextFade" and "ImageFade" were created by following this video:

https://www.youtube.com/watch?v=7rNUWiRD8Ko

The script "Fading" was created by following this video:

https://www.youtube.com/watch?v=0HwZQt94uHQ

The script "DialogueManager" was created by and used with the permission of Jules Rawlinson

The scripts "BigRoomAudio," "EndBlood," "EndBiggie," "FadeAudio," "LevelManager," "MusicManager," and "SoundManager" were created with Nick Cole-Hamilton.

Project Links

Gamejolt page:

      http://gamejolt.com/games/looking-back/162669

Gamejolt devlog (Updates show progression of post-release patches as I responded to bugs):

      http://gamejolt.com/games/looking-back/162669/devlog

Personal devlog (chronicling my development progress):

      https://lookingbackgame.wordpress.com/

Game trailer on Youtube:

https://www.youtube.com/watch?v=4lcPao5YJ0c

Letsplay videos

Note: as these videos are public and under the control of their creators, I cannot guarantee their permanent accessibility or that players' usernames will remain the same over time. This list reflects their content as it was named at the time of writing.

Some players separated their letsplays into multiple videos, but I count multiples as one response.

1. Are0us "Always keep your loved ones close - Looking Back"
    https://www.youtube.com/watch?v=yLUCiYRQfqg
2. Bront "TO HELL AND BACK | Looking Back"
    https://www.youtube.com/watch?v=_lYeIsmfpqY
3. Cereal00KILLER "Looking Back (Exploration Game)- Bisexual Gets Distracted Easily- Full Walkthrough/Playthrough"
    https://www.youtube.com/watch?v=1QP4xZ2bgW0
4. ChrisALOO
    ":Looking Back: (Part 1) | The pain begins"
    https://www.youtube.com/watch?v=ZXgFzDMmUTA
    ":Looking Back: (Part 2) | A familiar sting"
    https://www.youtube.com/watch?v=FXsY-qlyZSg
    ":Looking Back: (FINAL) | A heart-breaking end, very emotional"
    https://www.youtube.com/watch?v=SzcqmSKBl5k
5. Coon Head "SHOULD PROBABLY BE MORE MATURE | LOOKING BACK"
    https://www.youtube.com/watch?v=1s7kcgvOBG8
6. Fellow Player "Looking Back (No Happy Ending?)"
    https://www.youtube.com/watch?v=jxv5YqX3fpE
7. FunkleBunkle "EMOTIONAL JOURNEY | Looking Back"
    https://www.youtube.com/watch?v=iWzUec44AZk

8. HunzB "There are no words... | Looking Back"

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9. Iron Vengeance "Looking Back"

   https://www.youtube.com/watch?v=CnsCdtIC_WA

10. Knuckles10000 "Looking Back - Super Sad Stuffs"

   https://www.youtube.com/watch?v=SbqaGncv38I

11. LAWRENCE OMEGA "I'm Trippin Balls Man | Looking Back"

   https://www.youtube.com/watch?v=bLtVbn-UkHg

12. LeninWhatsGood "Looking Back - Lesbian Couple in a game yass"

   https://www.youtube.com/watch?v=UCDREJLAPlo

13. leongames6511 "THE RABBIT HOLE | LOOKING BACK |"

   https://www.youtube.com/watch?v=vga4KF_qNzs

14. LigiDone "ONE SAD STORY... | Looking Back"

   https://www.youtube.com/watch?v=734pYmAO08M

15. Maineiacs "RUNNING AWAY DOESN'T CHANGE A THING | Looking Back"

   https://www.youtube.com/watch?v=a0f23dGTtGE

16. MayoGamer "Looking Back (MY GF DIED??)"

   https://www.youtube.com/watch?v=G7jYju77Xd8

17. Prandall

   "Looking Back: Moving In | Gameplay | PART 1 | Prandall"

   https://www.youtube.com/watch?v=jrQxYnArqwg

   "Looking Back: Hell Hath No Fury | Gameplay | PART 2 | FINALE | Prandall"

   https://www.youtube.com/watch?v=NSTTTUm5dM4

18. R Dog "LIFE - Looking Back"

   https://www.youtube.com/watch?v=YlmEr38fpyw

19. Robboberty "Looking Back - My emotions!"

   https://www.youtube.com/watch?v=JMnFqP_uSyo

20. Sir Royal Muffin Bottoms The First "There isn't just Grief | Looking Back"

   https://www.youtube.com/watch?v=vqA0X389AKs

21. Tormental "Womb with a View of Hell | Looking Back"

   https://www.youtube.com/watch?v=1IFdcrU5kb0

22. the WriteGamer Taskforce "Chasing Guilt | Looking Back"

   https://www.youtube.com/watch?v=NY1YX6xbqCI

<u>Misc.</u>

The Empathy Quotient that was given to players:

<u>https://psychology-tools.com/empathy-quotient/</u>

 A review of the game from Gaming Respawn:

<u>http://gamingrespawn.com/indie-game-spotlight/11560/indie-freebies-ravenfield-looking-back/</u>

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