

Mental Jam: video game co-creation for young people with lived experiences of depression and anxiety

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ABSTRACT

MENTAL Jam explores the knowledge translation of young peoples' lived experiences of depression and anxiety through video game co-creation. Prior research in this area has shown different artistic mediums can be used to portray stories as a form of self-expression and to raise community awareness. Video games offer interactive and immersive experiences that can inspire players to gain knowledge of the lived perspectives of others. Through a participatory action research methodology, this research will develop a program of game jam workshops that will facilitate the co-creation of video games with participants with lived experience of depression and anxiety using diverse video game design approaches, such as narrative-driven game design. I report the results from one of the game jam workshops through which a game called *Amour de Soi* was produced.

INTRODUCTION

MENTAL Jam is a series of game jam workshops that facilitate the

knowledge translation of young peoples' lived experiences of depression and anxiety through video game design. I used the Participatory Action Research (PAR) methodology to bring together young people with lived experiences of depression and anxiety in collaboration with video game developers. Participants co-create video games about their personal experiences as a form of self-expression to build empathy and promote mental health awareness in the community. This paper is a report from one of the game jam workshops, which produced a game called *Amour de Soi*.

REVIEW OF LITERATURE

Knowledge Translation of Lived Experiences of Depression and Anxiety through Arts

Traditionally, research findings are published and disseminated in academic journals, however often they do not reach their intended audience, and there is a knowledge gap between research and practice (Pablos-Mendez & Shademani, 2006). To address this, Knowledge Translation (KT) was introduced by the Canadian Institute of Health Research (2000) to ensure that knowledge is disseminated, exchanged, and applied by stakeholders to improve the health system (WHO, 2005). KT also focus on the people being studied and give importance to tacit knowledge from their experiences and practice (Pablos-Mendez & Shademani, 2006).

KT has increased interest in the field of mental health because it provides broader perspectives from a wider range of participants and values their experiential knowledge (Caron-Flinterman et. al., 2005; Goldner et. al., 2011). KT has been applied to increase mental health literacy and awareness via art, such as *Digital Storytelling* (Tilleczek & Loebach, 2015).

Digital Storytelling is a participatory videography project *with, for and by* Canadian Aboriginal youth about their experiences with digital media and its role on mental wellbeing (Tilleczek & Loebach, 2015; Tilleczek, 2016; Loebach et. al., 2019). The research engages participatory videography as their approach because it engages the participants as filmmakers, storytellers and researchers, who ultimately determine how they are

represented in the film and how their story is told within and beyond their communities (Evans and Foster, 2009; Lomax et. al., 2011).

To co-create the research with participants, the researchers organised talking circles to encourage participants to share their stories, and workshops to teach them digital storytelling, storyboarding, and the creative and technical aspects of filmmaking (see Figure 1; Tilleczek & Loebach, 2015; Tilleczek, 2016; Loebach et. al., 2019). The researchers also emphasized the importance of the process of making the film, from ideation to production, and they also included deliberate reflections to encourage the youth to share their creative filmmaking process (Tilleczek & Loebach, 2015). The researchers continually asked for feedback from their participants and adjusted the project accordingly (Tilleczek & Loebach, 2015; Loebach et. al., 2019). imageInterview with participants about their filmmaking experience

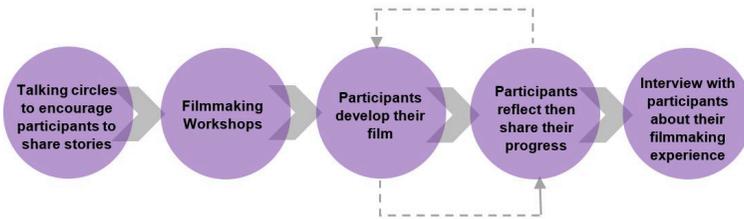


Figure 1: Digital Storytelling Facilitation Process (adapted from Tilleczek & Loebach, 2015; Tilleczek, 2016; Loebach et. al., 2019)

These arts-based knowledge translation projects inform my research because I am also exploring alternative ways of presenting knowledge from the lived experience of depression and anxiety to the public. While my research will explore the use of video game co-creation as a medium of artistic self-expression with young people self-identifying as experiencing depression and anxiety. Video games can be a powerful medium for telling people’s stories, as they are interactive and immersive, and they can inspire players to gain a more insightful understanding of the experiences of others (Solberg, 2016). Video game development is also multidisciplinary, covering design, art, storytelling, music, programming, which provide multiple platforms for people with lived experience to tell their stories,

such as through the narrative, art, music, and game mechanics. My research focuses on the design process to understand how lived experience stories may translate into games.

Representation of Depression and Anxiety in Video Games

There is a rise of empathy games that explore mental health from a personal experience, whose aim is not therapeutic. Empathy games are video games that hope to inspire players to walk a mile in someone else's shoes (Solberg, 2016). In empathy games, the main experience is driven by players' desire to understand and relate to the emotions of other avatars or players (Caballero, 2014).

The multidisciplinary nature of video game development allows the experiential knowledge from people with lived experiences of depression and anxiety to be translated through different platforms, such as through narrative and game mechanics (Rusch, 2017). According to Rusch, there are two different approaches that game developers can take, incorporating it in its narrative using a literal approach, and representing it through game mechanics using a metaphor (Rusch, 2017).

Narrative-driven game design takes a literal approach to teach players about depression through its narrative writing. Empathy games are often developed as a form of artistic self-expression based on the game developers lived experiences.

For example, *Actual Sunlight* is a narrative-driven interactive story, where the player plays as someone who is suffering from depression as they go through their everyday life. The game represents the helplessness people feel during depression. Even though the player is presented with story passages and choices that can influence the character's life, since depression is debilitating, some of the choices presented to the player are disabled, because though the player is aware of the choice, is unable to act on it, and the games may not end positively. In *Actual Sunlight's* climactic ending, all the other choices are disabled, and the player is left with no other choice but to "Go up to the roof and jump off" (WZO Games, 2013). Even though *Actual Sunlight's* narrative and the ending was bleak, some

players treated it as a cautionary tale, while some players related with the character and found comfort in knowing that they were not alone in those painful experiences. The game also fostered a sense of community as players shared their stories and words of encouragement on message boards (Hoffman, 2017).

While Rusch advocates the use of metaphorical game design, which uses game mechanics to portray metaphors (Rusch, 2017). Even though the literal approach can portray the observable aspects of depression, particularly the symptoms such as the loss of control shown in *Actual Sunlight*, metaphors can portray not just the symptoms, but the inside view of what depression feels like (Rusch, 2017). Some of the games she led are *Elude* (GAMBIT Singapore, 2010), *Soteria* and *For the Records*. *Elude* is a 2D platformer game that represents depression, players explore a forest, jumping up to climb trees and call out to birds, which represents 'passion' in the game. Eventually, you reach the sky, which represents 'happiness', however, without warning, black snake-like vines grab you and drag you down, which represents 'depression' (Rusch, 2012).

I have highlighted the different ways depression and anxiety have been portrayed in video games through narrative and game design approaches. These approaches will inform my research, as they will guide my participants in the knowledge translation of their experiences through game design. I will run a couple of game jam iterations, with each one focusing on a different game design approach. For the first game jam, participants will develop a game guided by narrative game design.

Participatory Methods to Develop Video Games

Game developers have adopted different participatory design methods to collaborate and get feedback from lay participants with lived experience during the development of their games (Rusch, 2017). One participatory methodology that has been used by game developers to collaborate with people with lived experience to develop games is Participatory Action Research.

Participatory Action Research

As mentioned previously, Participatory Action Research (PAR) is a participatory methodology that encourages the close collaboration between researchers and participants, to co-create new knowledge through a cycle of action and reflection (Bergold & Thomas, 2012).

The advantages of this approach for my research, as compared with some more traditional approaches are researchers work *with* participants in all the phases of the research, from design to execution and dissemination (Vollman, Anderson & McFarlane, 2004; Smith et. al., 2010). This presents a shift to a balance of power dynamics between researcher and participants, which allows the creation of new knowledge from minority voices, which might not otherwise be heard (Fals-Borda & Rahman, 1991; Rose & Kalathil, 2019). Traditional research may exclude some participants who may not feel equipped to express their experiences through academic writing (Fricker, 2013; Groot et. al., 2020; Rose & Kalathil, 2019). Some participants have reported that they felt their experiential knowledge is undervalued as they were not present in the reporting phase conducted by academic researchers (Fricker, 2013; Groot et. al., 2020).

To ensure participants experiential knowledge is valued and represented in the final output of the research, researchers may be required to go beyond conventional methods (Smith et. al., 2020), such as exploring arts-based knowledge translation strategies and game jams. Game jams are events that promote the participation of multidisciplinary teams to co-create games based on a given theme from start to finish (Bayrak, 2017; Kultima, 2015). To contextualise my research project, I will briefly describe game jams and their process.

Game Jams

Since the inception of game jams in 2002, it has grown in popularity (Kultima, 2015), with Global Game Jam that attracted more than 48000 participants from physical sites around the world in 2020 (Global Game Jam, 2020). While Ludum Dare's latest iteration attracted more than 13000 participants online (Ludum Dare, 2020). There is also a multitude of smaller

game jams organised by individuals, companies and even researchers, as physical events or on online platforms, such as itch.io (Kultima, 2019).

Participants are motivated to join game jams for their interest in game development, to learn or improve their game development skills, and to socialise with other game developers (Reng et. al., 2013; Kultima, 2019). Participating in game jams give participants a sense of belonging in their game development community (Turner & Thomas, 2020). Game jams are also considered a rite of passage for game developers because it allows participants to experience the whole process of game development from ideation to release in a low-stakes and experimental environment (Thomas & Owen, 2013; Deen et. al., 2014; Faas et. al., 2019).

Game jams are fast-paced events that occur in a short amount of time, ranging from 48 hours to a month (Foltz et. al., 2019), and they have three phases: 1) pre-jam, 2) the jam itself, and 3) post-jam (Faas et. al., 2019).

During the pre-jam phase, participants form teams. They can work solo or in multidisciplinary teams, with a distribution of skills, such as programming and art (Reng et. al., 2013). For game jams in physical locations, participants are encouraged to work in multidisciplinary teams (Faas et. al., 2019). Some game jam organisers facilitate team formation to ensure there is a balance of skills and interests in each team (Reng et. al., 2013; Faas et. al., 2019). In the case of online game jams, some organisers use a chat platform, such as Discord, to allow participants to socialise and form teams (Faas et. al., 2019). Faas et. al. conducted a study on online game jams, and they found that many participants preferred to work alone due to scheduling concerns, such as time zones and availability (Faas et. al., 2019). However, working solo requires participants to have a wide set of skills, including programming and art (Faas et. al., 2019).

The second phase is the jam itself, which also includes activities such as ideation and development. The ideation process is guided by the game jam's theme (Ho, 2017). Ho and his colleagues also investigated the use of different idea generation toolkits, such as IDEO's design thinking (Brown, 2008), that aid participants in their ideation process (Ho, 2017). For my research, my participants will also be guided by IDEO's design thinking (Brown, 2008). IDEO's field guide includes step-by-step instructions for

ideation activities, such as brainstorming and storyboarding (IDEO, 2015). The game development process during a game jam is as important as the games produced (Locke et. al., 2015). For online game jams, such as Ludum Dare, participants are encouraged to share their work in progress through blogs in their online community (Turner et. al., 2013; Locke et. al., 2015).

The last phase is the post-jam phase, where the games produced are released publicly. This phase is important as it gives participants a sense of accomplishment, and it also provides them with a venue to get feedback on their games from a wider audience, which will help them improve for future game jams and their game development practice (Faas et. al., 2019).

Game jams have also been adapted as a participatory design method by researchers to explore solutions to real-world problems (Kultima, 2015; Bayrak, 2017). My research aims to develop a game jam workshop process that will facilitate the co-creation of video games as a knowledge translation tool with young people with lived experiences of depression and anxiety.

METHODS

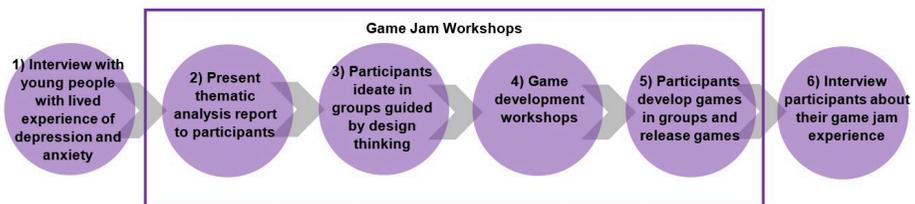


Figure 2: Game Jam Workshop Process for MENTAL Jam

My game jam workshop process has 6 activities, as follows (see Figure 2):

- Interview with young people with lived experience of depression and anxiety
- Present thematic analysis report to participants
- Participants ideate in groups guided by design thinking

- Game development workshops
- Participants develop games in groups and release games
- Interview participants about their game jam experience

Interview with young people with lived experience of depression and anxiety

For this research, the inclusion criteria include two groups of participants: 1) Young people, aged 18 to 25, with self-identified lived experience of depression and/or anxiety, who are currently, by their own account, sufficiently well to participate in research, and have an interest in gaming and/or in learning game development; and 2) Game developers, aged 18 and above, which include programmers, artists, game designers, writers, and musicians. While the exclusion criteria are people under the age of 18, and people with lived experience of depression and/or anxiety, who are not sufficiently well to participate in research.

I recruited eleven participants via social media, such as game industry groups on Discord and Facebook, and my personal Instagram. The participants are mostly students, while two participants are working full-time. Most of the interview participants are based in Australia, while some participants are international students. While two participants are based in Vietnam and one participant is based in the Philippines.

I conducted interviews with the participants on Microsoft Teams, which lasted from 20 minutes to an hour. Some participants had their video cameras on, while two opted not to turn on their video cameras. Participants were advised that they should inform me if they experience distress at any time and we can stop the interview. Participants were invited to give an uninterrupted account of their lived experiences of depression and/or anxiety. I also asked some follow up questions to clarify aspects of their experiences. For two participants, one who is currently studying games design and another who is working in the games industry, we also talked about their interest in game development and what inspired them to want to develop games about mental health.

The interviews were video recorded and transcribed initially by the

automated transcription software, Otter. I manually checked the transcripts for accuracy, and I also emailed the transcripts to participants to give them an opportunity to member check and remove or edit any sections. I used Nvivo software to organise the interview transcripts and aid in coding for thematic analysis (Braun & Clarke, 2006).

Present thematic analysis report to participants

I have identified six themes from the interviews: “Views about the Causes of Depression and/or Anxiety”, “Experiencing Depression and/or Anxiety”, “Support and Challenges”, “Recovery”, “Message to Others” and “Game Ideas”. I also developed a password-protected website to showcase the themes along with some excerpts from interview transcripts (see Figure 3).



Figure 3: Website featuring Themes from Interview Transcripts

The website also has word clouds for the different codes from each theme (see Figure 4.6), the size of the codes in the word cloud is based on how frequent they were mentioned in the interviews.

The excerpts from the interview transcripts are deidentified, and colour coded based on the different participants (see Figure 4). Participants are also given pseudonyms. The website will also feature the screenshots from the games developed during the game jam workshops, alongside the codes and interview transcripts they were based on (see Figure 4).



Figure 4: Website featuring Excerpts from Interview Transcripts and Game Screenshots

Participants ideate in groups guided by design thinking

I divided the interview participants into groups of 2, and I will be embedded in each team as a researcher, programmer, artist, and game designer. I selected the teams based on common themes from their lived experiences, as well as their skills and interests. This paper will discuss the game developed by the first group, which is composed of Rachel, who is working full-time as a programmer based in the Philippines, and Natalie, who is a student studying Business Information Systems in Melbourne. We also collaborated with a music composer and a music producer.

Participants begin their game development with an ideation session, which is guided by IDEO's design thinking, which encourages empathy, integrative thinking, optimism, experimentation, and collaboration (Brown, 2008). Design thinking is a human-centred approach, where designers can work closely with their end-users in developing solutions to problems (IDEO, 2015). I have chosen the design thinking approach because I'd like to work closely with my participants to co-create video games about their lived experiences of depression and anxiety. During the game jam workshops, the participants will be encouraged to share as many ideas as possible, defer judgment, and build on each other's ideas (Brown & Wyatt, 2010). The

ideas are discussed and sorted as a group to develop the design for their games.

We had our ideation session online using Microsoft Teams, which lasted 3 hours. Participants were presented with the themes and excerpts from the interview transcripts on the website (see Figure 4). The word cloud was very helpful for the participants to see all the codes at one time.

We used a Trello Board to organise our game ideas. Participants can add cards (like post-it notes) to different sections, such as “Game Mechanics”, “Narrative”, “Art Style”, “Music” and “Other Ideas” (see Figure 5). For the brainstorming, we had 6-minute bursts, to add as many ideas as possible to any of the lists. Following IDEO’s brainstorming guidelines, participants were advised that there are no such thing as bad ideas, and they were also encouraged to build on each other’s ideas. After each burst, we had a discussion to talk about all the ideas added and participants were also able to share their lived experiences.



Figure 5: Screenshot of Trello for Game Jam

Game development workshops

During the game jam workshop, I also introduced the participants to the game development tools that will be used. The game is developed using Unity, which is a popular game engine for 2D and 3D game development.

We also used YarnSpinner, which is a plugin that allows writing game dialogue in plain language (see Figure 6).

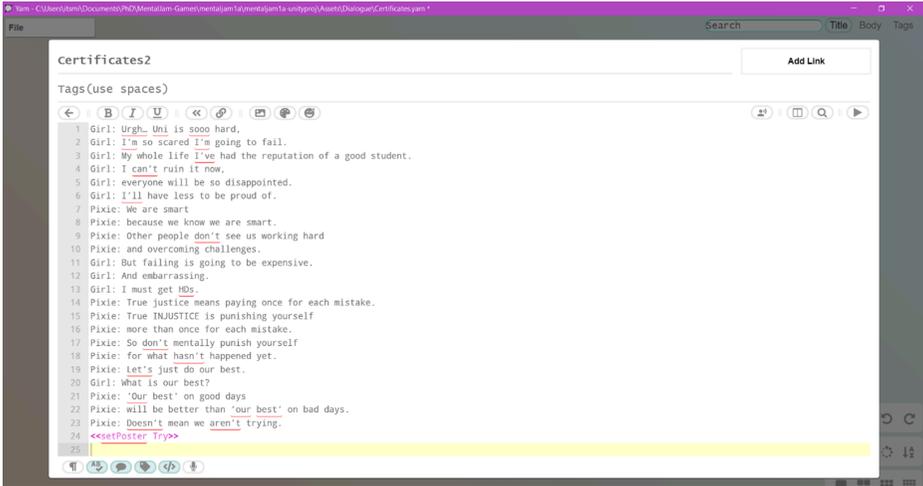


Figure 6: Screenshot of YarnSpinner

Participants develop games in groups and release games

My participants work together to produce video games about their lived experiences of depression and anxiety during a game jam. Due to the current pandemic situation, the game jams were conducted online via Microsoft Teams once a week over the course of a month. Even though there is a suggested time frame for the game jam, the participants' time commitment is flexible; participants will not spend the whole time working on the games. Game jams are normally low stakes environments and flexible with each participant's time and commitment.

After our ideation session, we divided the tasks. We all worked on the game design and narrative and script for the game together. We had a 3-hour session, where we worked on the script as a group. While writing the script, we also had discussions and shared more lived experiences which were then incorporated into the narrative of the game. During the weekdays, I worked on the art and programming. We also collaborated with a composer and a music producer who worked on the background music as well as a theme song for the game. I also organised meetings

once a week during the weekend, where we discussed different aspects of the game, as well as presented any work we have accomplished during the week.

We developed a game called “Amour de Soi”, which was released online with the consent of the participants on itch.io, a website that allows independent game developers to host their games (<https://mentaljam.itch.io/love>).

Interview participants about their game jam experience

At the end game jam workshops, I also conducted semi-structured interviews with the participants. The interviews have three purposes: 1) to evaluate the game jam workshop facilitation process, 2) to evaluate the participation outcomes of the game jam workshops, and 3) to evaluate the participants game development process. The interviews are also video recorded, transcribed, coded thematically to identify themes, and evaluated using thematic analysis (Braun & Clarke, 2006). The feedback from my participants will inform the next iteration of my game jam workshop process.

OUTCOMES OF GAME JAM

Amour de Soi is a game that was developed over a month with participants about their lived experiences of depression and anxiety. It is an interactive narrative game about Raille San, an anxious girl who is on a journey to self-love following a break-up from a toxic relationship. She tends to overthink and be trapped in her own thoughts. She meets Pixie, a magical manifestation of her subconscious, who challenges her negative thoughts and offers some advice while teaching her how to love herself and accept herself for who she is.

The name of the character, Raille San, is a portmanteau of the nicknames of the game jam participants. While the title of the game, Amour de Soi is based on the concept of self-love by the philosopher Jean-Jacques Rousseau.

In the next three sections, we discuss the themes identified from the interviews and how they informed the design of the game. The narrative of the game was based on three main themes that were identified from the interviews: “Views about Causes of Depression and/or Anxiety”, “Experiencing Depression and/or Anxiety”, and “Recovery”.

Views about Causes of Depression and/or Anxiety

Interview participants identified different reasons for the cause of their depression and/or anxiety. For three participants, they talked about their past relationships, which they described as toxic, emotionally and verbally abusive:

I think it's toxic when your happiness is very dependent on one person. And when you one person giving you validation or attention has the ability to like, make or break your entire day. I think that is toxic. But because he was giving me attention. I was so so happy because I was getting attention from that one person (Natalie).

Some participants talked about how they seek validation from their partners because they felt a bit insecure in their relationships and about their feelings. For one participant, her ex-boyfriend would also hide their relationship from his friends and family, which made the participant insecure, and she also felt that she was putting more effort into their relationship compared to her ex-boyfriend. Another participant cited multiple instances when her boyfriend was not there for her, even when she was sick and hospitalized, and her ex-boyfriend didn't reply to her messages and calls, before breaking up with her. While according to one participant, her ex-boyfriend was quite controlling. For one participant, their relationship also caused her to self-harm, while after their breakup one participant got hospitalized, and another participant started seeing a therapist.

At the start of the game, the main character, Raille, tries to text her boyfriend, but she isn't getting any replies until he ultimately sends a message to break up with her. The breakup led to her depressive episode, where she would lie in bed, cry, and not feel like doing anything (see Figure 7).



Figure 7: Screenshot from *Amour de Soi*, where Raïlle is depressed

Some participants felt out of place in school and at work because they were a minority, such as being the only woman in her team or being one of the very few people of colour in their company and school. One participant felt like he didn't fit in, because people in his school was very sports-oriented and he wasn't very good at sports. When one participant moved to a new school, where most students were from rich families, she felt that she couldn't keep up with their lifestyle, and they would make fun of her. Two participants talked about being LGBT+, and how they didn't feel safe in school. For one participant, she felt out of place at work because she was the only woman in her team and one of two Asians in her company, and "there was a lot of casual, sexist, racist, homophobic, transphobic language that was being used in the culture (Sarah)." Another participant also talked about feeling out of place because of their ethnicity:

I always wished I was like East Asian. Like, I wish I wasn't Filipino. I didn't want to look the way I did. Because at least if I was Asian, I would be pale. I like would look more like the white kids... cuz like for me, I wasn't. I was just like, yeah, I'm friends with the Asian kids. I don't look like them. And it felt weird... I always kind of felt like I think it didn't help that like, looking back. A lot of it did come from like, I was out of place because I wasn't white. But even with the other Asian kids, I was like, not like them either... (Kim)

For another participant, when she changed to a school, with more people from a similar background, she was able to connect with more people.

One of the participants, Natalie, suggested that for the game, instead of having players customize the character's look, such as the colour of her skin and hair, they are given a random colour wheel (see Figure 8), because as in real life, we do not get to decide our skin colour.



Figure 8: Screenshot from *Amour de Soi*, showing the random colour wheel

Some participants talked about how they set high expectations for themselves. For some participants, their parents put a lot of pressure on them as well to do well in school and get good grades. They also constantly seek validation from their parents:

I didn't realize but I was a perfectionist, but not in the sense where it was like, Oh, I must get like high distinctions. I must get high scores. But it was in more small, trivial things where I need to get this specific thing, right. So let's say in essay writing, I struggled a lot because I wouldn't be able to write more than, let's say two sentences, because they didn't feel right to me. Like I like they should at least be decent. You know. And, also, I needed to be like a role model. I had to be there for my sister, which puts a lot of stress on my mind... And mostly because I got into the Select Entry school, everyone there was like a high achiever. And so there was also stress coming from there (Abigail).

Another participant felt like her parents did not value what she was studying in university, because it was not a science, technology, engineering, or math (STEM) course. While one participant, Rachel, during the game jam workshop shared that her mother did not allow her to pursue music, so she studied Computer Science instead. It led to a people-pleasing tendency for one participant, where she cares about other people's opinions a lot. Another participant felt bad about disappointing people, especially her teachers when she was in school.

Another participant, Rachel suggested that the players should get to decide which aspect of Railla's life they can explore first. So, in the game, the players can decide which objects in Railla's room they like to select first to get to know more about her. One of the objects are certificates on the wall, if the player clicks on them, Railla will talk about how her parents have high expectations for her to do well in school. Another object is a laptop, which prompts Railla to talk about how she is currently studying Computer Science because that is what her mother chose for her, even though she wanted to pursue music. Another object is a microphone, which prompts Railla to talk about how singing also helped her cope with her anxiety. For the game, we collaborated with a composer and a music producer to produce a theme song for the game for Rachel to sing.

Experiencing Depression and/or Anxiety

When experiencing depression and/or anxiety, some participants spent a lot of time sleeping and had self-destructive behaviours, such as neglecting self-care:

It was that bad. Like, I couldn't get up. And I didn't want to move and I slept all day. And I was constantly tired. Like, it was at the point where like, every three days, my parents, or like, my older brother, who was still at home, or like, live close by, they used to be like, hey, you haven't showered in three days, you have to get up and do it. They'd have to like, make me so. Like, they weren't like forceful, but they will kind of get up now. You could go back to bed after this. Just please look after yourself even a little bit. Yeah, so it was really, it was a struggle, because I could barely just move. And I didn't want to see anyone (Kim).

As mentioned before, in the game, during Raille's depressive episode, she is in bed and crying.

Participants also had negative thoughts when they were experiencing depression and/ or anxiety. For some participants, their anxiety usually starts with overthinking, some participants were hyperaware of their surroundings. Some participants questioned their purpose in life, especially during the lockdown, while another participant said he has nihilistic thoughts almost daily, thoughts about death and life after death.

For some participants, their anxiety starts with overthinking, and they would be stuck in a deadlock state. One participant said, "*our thoughts really do trap us* (Natalie)".

Most of the script in the game is Raille's internal monologue, representing her overthinking about the different aspects of her life, including her breakup, feeling out of place and high expectations.

Recovery

Participants talked about their self-care and coping strategies (see Figure 4.10). For one participant, she would challenge her negative thoughts by imagining that she was talking to a friend:

Questions to ask yourself when you're starting to spiral, for example, like, how would it be if this was happening to a friend? How would you react to it? And that, I guess, because I'm, I find myself and people with anxiety and depression usually are very self critical and have really high standards that they may or may not realize, and yeah, sort of thinking about it. If it happens to one of your friends can really help ground yourself, I guess, and challenge those negative thoughts... thinking about whether this was said or done by a friend how I'd react to that. So questioning my negative thoughts, and whether they're actually realistic or not? Um, I guess, being aware of like, how I think and that sort of patterns, and traps that I fall into often (Sarah)

In the game, Raille meets a character named Pixie, who wakes her up from her depressive episode. Pixie represents her subconscious who challenges her negative thoughts and teaches her to love herself and accept herself for who she is (see Figure 9).



Figure 9: Screenshot from *Amour de Soi*, showing Pixie

A few participants also tried journaling, including writing what they are grateful for, however, some of them did not think it worked for them. Another participant also likes keeping a planner to keep track of their day.

I like to journal which I haven't been getting into, because I feel like, when I was back at home, I had a lot of free time. And I would also journal and those help me like journaling really, really helped me and I don't journal about I just like, you know how you art journal, you just stick random scraps of paper together, put stickers together, not like writing about my day, just like creating something, thinking about it. Writing random words on paper, decorating it with stickers all around it, or scrap paper. That really helps (Natalie).

Some participants found reading books quite helpful for their mental health, while other participants wish they could read more. They read self-help and motivational books. While another participant was inspired to join the game jam, after reading a series of books, who featured characters with mental illnesses. He finds the characters relatable, and it showed him that even if you suffer from mental illnesses, you can still be successful. During the game jam workshops, the participants also recommended books to each other.

Two participants also talked about how they watch Korean dramas as a

coping mechanism. One participant also mentioned how she would find role models from movies or TV shows and aspire to be like them:

When I used to watch like movies or TV shows, I used to like, have a character that I really liked and I thought she was and then I used to look up to a strong character in like movies like TV shows. Also in real life. Oprah Winfrey was like a role model for a while. I used to watch her videos. wanted to be like her just basically having a goal and no need to reach that goal or reach. become this person that I want to become. And towards that focusing on that helped me not look at my past. So that really helped because I was looking into the future I was focusing forwards (Natalie).

Journaling is also one of the coping mechanisms that Raille tries in the game. She also talks about how she likes to keep track of her tasks in a To-Do list and how it helps her focus. Raille also has a bookshelf in her room, and she talks about she likes to read motivational books and fantasy books. Raille also watches Korean dramas and she talks about how she aspires to be like one of the characters from *It's Okay Not to Be Okay*.

During the game jam workshop, the participants also shared other coping mechanisms, such as decluttering the photos of their ex-boyfriend, positive affirmations and skincare as self-care. Raille also has a wire grid on her wall, with polaroid photos of her ex-boyfriend, as well as a heart-shaped pillow that her ex-boyfriend gifted her. Pixie would give the Raille the option to remove the photos, if the player selected 'Yes', the photos and heart-shaped pillow will be removed from the room (compare Figure 7 and Figure 9). As Raille learns to love herself, she also unlocks affirmation stickers and posters that would appear in her room (see Figure 9). Pixie would also give Raille the option to put on a sheet mask as a form of skincare and self-care.

When asked what recovery is, while participants say that there might not be "*completely cured* (Sarah)", it's equipping themselves with tools that they learned, while one participant also said that being able to enjoy the present moment.

I think, for me, as of right now, being able to enjoy the moments that I'm experiencing. Because anxiety has made it really hard to do what I want comfortably, because there would always be a second thought

around me, there will always be I'll always be constantly worrying about something. By being able to talk through my counsellor being able to have my friends, I wanted to, to take things as it is, and just get to a point where I'm able to enjoy these moments (Abigail).

At the end of the game, Raïlle leaves her room and goes outside to see fireworks light up the sky, representing how she is enjoying her present moment (see Figure 10). In this scene, the theme song that Rachel sang, is also being played.



Figure 10: Screenshot from *Amour de Soi*, showing ending scene

CONCLUSION

Mental Jam provides a venue for people with lived experiences of depression and anxiety to share their stories, learn new skills and work together to develop video games. It also aims to contribute to the field of arts-based knowledge translation, as well as expand game design perspectives for empathy games.

It was the first time for both participants to join a game jam, while Rachel have made games before while she was doing her Computer Science degree. For Rachel, she felt that this game jam experience allowed her to be more creative, such as she was able to suggest the art style for

the game, and she also got to sing the theme song. While Natalie had an impression that game development would be hard and unachievable for her. But through the game jam workshops, she realized that working with the group, where everyone contributed different skills and expertise to develop the game, was very rewarding for her and gave her a lot of confidence.

Natalie also felt that the game jam workshops were a safe space for her to share her stories. Both participants expanded more on their lived experiences during the game jam workshops compared to their interviews. Especially when we were working on the script of the game together, participants were able to incorporate their lived experiences into the composite character, Raille. Natalie felt that the game represented her story well. Rachel also found the experience very personal because she was able to share her experiences with anxiety and depression, and for the game to potentially help other people going through the same thing. Natalie felt very proud seeing the final game output because it was something tangible, she also let her family play the game.

The positive and promising feedback from the participants of the game jam showed the game jam workshop as a viable method for developing video games about the lived experiences of depression and anxiety. The benefit of the game jam workshop and working in teams is that participants do not need to have all the skills required to develop a game. The participants also found a venue to reflect and share their lived experiences of depression and anxiety.

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