# Five Design Patterns for Integrating Story Play's Therapeutic Narrative Elements with Interactive Technology

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**Abstract:** Interactive narratives show significant potential for mental health, yet their design relies heavily on traditional Narrative Therapy or CBT. Story Play, a metaphor- and play-based narrative therapy proposed by Mills and Crowley, remains underexplored in its integration with interactive technology, presenting a distinct research gap. This article investigates how existing interactive narratives work (e.g., Video games, VR film) integrate the therapeutic storytelling principles of Story Play. This study employs a mixed-method qualitative approach. First, a comparative analysis argues that Story Play is more suitable for integration with interactive narratives than traditional Narrative Therapy. Following this, 16 interactive works were selected for case studies based on Story Play's narrative techniques. Finally, these cases were analyzed using thematic analysis. The primary contribution is the proposal of five design patterns that summarize the integration of Story Play's narrative techniques with interactive narratives. These patterns provide a new perspective for the design of "therapeutic games/XR works". Also, these patterns offer guidance for artists, HCI researchers, designers, and psychologists creating therapeutic interactive applications and researching the healing value of interactive works.

**Keywords:** Story Play, Narrative Therapy, Interactive Narrative, Video Game, Virtual Reality, Design Patterns, Digital Health.

## INTRODUCTION

### 1.1. Purpose and Research Gap

Interactive narrative refers to story delivered through various interactive media platforms, including augmented reality (AR), virtual reality (VR), video games, board game, mobile applications, and physical interactive installations. Substantial evidence demonstrates that interactive narratives significantly contribute to mental health improvement, including post-traumatic stress disorder (PTSD) treatment (Loranger & Bouchard, 2017), transformation of negative self-perceptions (Brown *et al*., 2021; Slater *et al*., 2019), reduction of anxiety, stress, and depression(Harmon *et al*., 2021; Ferrari *et al*., 2022), anorexia nervosa intervention (Fernandez-Aranda *et al*., 2015), attention deficit hyperactivity disorder (ADHD) management(Oh *et al*.,2024),schizophrenia rehabilitation (Percie du Sert *et al*., 2018), and social anxiety mitigation(Anderson *et al*., 2013).

Therapeutic interactive narratives are primarily designed based on psychological treatment frameworks. Commonly utilized frameworks include exposure therapy (Anderson *et al*., 2013; Loranger & Bouchard, 2017), cognitive behavioral therapy (Harmon *et al*., 2021; Fernandez-Aranda *et al*., 2015; Ferrari *et al*., 2022; Oh *et al*., 2024; Percie du Sert *et al*., 2018),self-compassion (Slater *et al*., 2019), and Narrative Therapy (Brown *et al*., 2021).

This article focuses on investigating therapeutic interactive narratives grounded in Narrative Therapy. To date, the majority of research examining how Narrative Therapy can be integrated with interactive technology has been based on the traditional Narrative Therapy proposed by White and Epston (1990) (Franco, 2016; Georgieva & Georgiev, 2019; Eladhari & Koenitz, 2023). However, scant attention has been paid to investigate how Story Play, a Narrative Therapy model proposed by Mills and Crowley (2014), could be combined with interactive technology to create therapeutic interactive works. Therefore, the primary aim of this article is to address the research gap regarding Story Play's integration with interactive technologies.

### 1.2. Research Question

What approaches or patterns do existing interactive works (e.g., games and XR) use to integrate Story Play's therapeutic narrative elements into interactive narratives?

### 1.3. Research Methods

This article adopts a mixed-method qualitative approach, primarily comprising the following steps:

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- Comparative Analysis: First, this article compares two major narrative therapy approaches—White and Epston's traditional Narrative Therapy, and Mills and Crowley's Story Play—and then argues that Story Play is more suitable for integration with interactive narratives.
- Case Study: Based on the therapeutic narrative elements proposed by Story Play, sixteen interactive narrative works were selected as cases for analysis.
- Thematic Analysis: After an in-depth analysis of these sixteen cases, the researcher applied Braun and Clarke's thematic analysis to systematically code the collected data and derive themes, ultimately summarizing five design patterns.

### 1.4. Contribution

The main research contribution of this article is the proposal of five design patterns for integrating Story Play Therapy with interactive narratives.

### 1.5. Primary Beneficiaries

The five design frameworks proposed in this article not only offer fresh inspiration for psychologists designing interactive applications for clinical therapy but also enable content creators—such as game designers, artists, and HCI researchers—to more readily translate these psychological theories into a design language for developing therapeutic interactive works. Furthermore, individuals who have experienced or are currently enduring mental illness and adversity can follow these design frameworks to easily transform their personal stories into interactive narratives that foster healing.

## 2. NARRATIVE THERAPY VS. STORY PLAY

### 2.1. Why Story Play Is Better Suited to Integrate with Interactive Narrative

Two distinct narrative approaches prevail in psychology: "Narrative Therapy" (White & Epston, 1990) and "Story Play" (Mills & Crowley, 2014). While both leverage narrative to enhance client initiatives to address mental illnesses (White, 2007; Mills & Crowley, 2014), they differ in three key respects:

- Content: Narrative Therapy requires detailed analysis of specific problems. In contrast, Story Play avoids direct recollection of trauma, advocating instead for expression through metaphor.
- Therapeutic Approach: Narrative Therapy involves direct engagement to formulate coping strategies. Story Play utilizes indirect guidance, stimulating clients to independently reflect on solutions.
- Medium: The core of Story Play is play. It integrates games—such as having a child design a board game based on personal experiences—to lower defenses and facilitate healing. Traditional Narrative Therapy does not involve gameplay.

Story Play is arguably better suited for integration with interactive narratives than traditional Narrative Therapy due to its metaphorical, indirect, and play-based nature. First, therapeutic interactive narratives function similarly to Story Play: they do not provide direct psychotherapy but rather prompt player reflection and motivation. Second, as mass-market products, interactive narratives must rely on metaphors to address shared human strugglesrather than tailoring solutions for the problem of a single user, aligning with Story Play's metaphorical focus. Finally, the inherent interactivity of digital narratives parallels Story Play's clinical foundation in gaming. Consequently, integrating Story Play with interactive media represents a highly valuable, yet underexplored, research avenue.

### 2.2. The Application of Narrative Therapy and Story Play in Interactive Narrative and Immersive Media

Previous studies have proposed various approaches for integrating interactive technology with Narrative therapy. One such method involves utilizing role-playing games (RPGs) like Final Fantasy, Cyberpunk 2077, Minecraft, and Morrowind, which allow players to customize characters and experience diverse narratives (Franco, 2016). The therapeutic process begins with clients creating a character and storyline that closely mirror their real-life experiences and personalities, representing their dominant narrative. Subsequently, they develop a character and storyline that reflect their ideal self and life, embodying their alternative narrative. This approach encourages clients to reflect on their values, aspirations, and future life goals. Additionally, scholars have explored the integration of Virtual Reality (VR) with Narrative Therapy (Georgieva & Georgiev, 2019). Researchers

suggest that transforming a client's positive life storyline into a VR experience enables them to immerse themselves in these moments, thereby enhance the memorization of the positive life storyline and altering negative perceptions profoundly. Eladhari and Koenitz (2023) developed a board game titled Mind Stories, which is grounded in Narrative Therapy and designed to systematically analyze and resolve personal challenges. Each player is required to concretely describe a personal problem, which takes the form of a "boss" within the game. In each session, one player's boss is selected, and all players collaborate to confront and defeat it. To the best of my knowledge, there is currently no existing research integrating Story Play with interactive narratives and immersive media.

## 3. THERAPEUTIC NARRATIVE ELEMENTS PROPOSED BY STORY PLAY

According to Story Play theory, an interactive narrative must include the following two narrative elements to have a therapeutic effect.

### 1. Metaphorical Crisis

Metaphorical conflicts refer to the symbolic representation of the participant's external struggles or internal psychological issues through story elements. This often involves designing a protagonist whose experiences, challenges, or internal dilemmas parallel those of the participant. When a participant recognizes similarities between themselves and a story character, they begin to empathize with that character, forming an emotional bond. As the character faces setbacks or sorrow, the participant may feel corresponding sadness; when the character experiences success, the participant may share in the joy. This emotional resonance is critical in helping participant confront and transform their negative thoughts and emotions (Mills & Crowley, 2014).

### 2. Parallel Learning Situation

The concept of the Parallel Learning Situation involves designing narrative elements to metaphorically suggest potential approaches for resolving the audience's current external conflicts or internal struggles (Mills & Crowley, 2014). After introducing a character whose experiences reflect the audience's psychological or situational challenges, the narrative must include plot developments that imply the possibility of overcoming these problems. Given that Story Play is fundamentally aimed at enhancing the audience's confidence and intrinsic motivation to confront psychological challenges, it posits that therapeutic stories need not provide personalized, specific, or direct guidance on how to solve individual problems. Instead of offering explicit solutions, the story depicts a protagonist who, facing challenges similar to those of the audience, gradually overcomes their difficulties. Observing this process may inspire the audience with potential solutions, but more importantly, it instills a sense of hope. By realizing that their problems are common human struggles successfully navigated by others, the audience gains the renewed motivation and courage necessary to address their own issues.

## 3. METHODOLOGY

This study adopts a mixed-method qualitative approach comprising comparative analysis, case study, and thematic analysis. First, I conducted a comparison of two Narrative Therapy models—White and Epston's Narrative Therapy (White & Epston, 1990) and Mills and Crowley's Story Play (Mills & Crowley, 2014)—to distill their commonalities and differences. I then undertook an in-depth analysis of the therapeutic narrative elements proposed in Story Play. Subsequently, I selected suitable interactive applications for a case study, aiming to identify works that embody Story Play's therapeutic elements and to analyze how these elements are integrated with interactive storytelling.

The core techniques of Story Play include metaphorical conflicts and parallel learning situations, and its defining feature is the use of metaphorical, play-based and indirect approaches to therapy (Mills & Crowley, 2014). Therefore, the criteria for identifying relevant interactive works were: 1) The work has to be interactive, 2) the work must use metaphor to represent the protagonist's psychological or physical issues, or external dilemmas; and 3) the work must employ metaphor to convey potential solutions to the protagonist's problems. Based on these criteria, I identified 16 interactive works that met the requirements, including video games and VR films. These works are: Celeste, Sea of Solitude, The Key, The Stanley Parable , Psychonauts 2, Journey, The line VR, Gris, A Fisherman's Tale , Hellblade: Senua's Sacrifice, Goliath: Playing with Reality, Rakuen, The Unfinished Swan, Unpacking, Wolves in the Walls, A Space for the Unbound. To ensure consistency and minimize subjective bias, a systematic selection process was employed. The initial pool of candidates

was sourced from major digital distribution platforms (e.g., Steam), recognized industry awards, and prominent video game media outlets (e.g., IGN), utilizing keywords and tags such as "Story Rich," "Psychological," "Emotional," "Trauma," and "Therapeutic." This broader pool was then rigorously evaluated against the aforementioned selection criteria.

After completing the case selection, I began data collection. I analyzed all sixteen interactive works and documented how each depicts the protagonist's psychological or physical issues or external dilemmas, as well as how it implies potential solutions to those problems. The study then employed thematic analysis to examine the collected data.

Thematic analysis is widely used in qualitative research (Lochmiller, 2021; Guest *et al*., 2012). Braun and Clarke provided a systematic articulation of the method, which is regarded as one of the most authoritative guides on thematic analysis (Braun & Clarke, 2006). Following Braun and Clarke's procedural steps, I analyzed the data as follows:

1) Familiarisation and Initial Coding.

I first read the textual records carefully, then identified and labeled features of the data. Examples of my feature codes:

- Celeste: "Fighting depression = climbing a snowy mountain"; "Obstacles during the ascent = everyday challenges faced by people with depression"; "Reaching the summit = overcoming depression and regaining control of life."
- The Key: "The descending elevator and the underground world = entry into a frightening unknown—life in a refugee camp"; "The monochrome desert and endless queue = despair and numbness while waiting in the camp"; "The colorful ocean world and the keyhole in the sky = acceptance by another country and a rebirth in identity and spirit, with a renewed willingness to face and process trauma."
- Gris: "A black-and-white world = numbness after trauma"; "A return of color = emotional recovery"; "A broken statue = an inner world shattered by the death of a loved one"; "Walking out of the game world = accepting a loved one's passing."

2) Searching for Themes.

I then collated these features into broader potential themes. For example, codes derived from Celeste, The Key, and Gris were integrated into the theme: "Personifying Problems as Human Characters, and Confronting, Weakening, Forgiving, Assisting, or Comforting Them."

3) Reviewing Themes.

Next, I reviewed the themes to ensure internal coherence and external distinctiveness.

4) Defining and Naming Themes.

I then defined and named the themes to clarify the essence of each.

5) Producing the Report.

Finally, I produced the analytic report by selecting vivid examples and crafting an analytic narrative.

The analysis revealed that existing interactive works primarily integrate Story Play into interactive narratives through five approaches. These five approaches are detailed in the Results section.

## 4. RESULTS

### 4.1. Five Patterns for Integrating Story Play's Therapeutic Narrative Elements with Interactive Technology

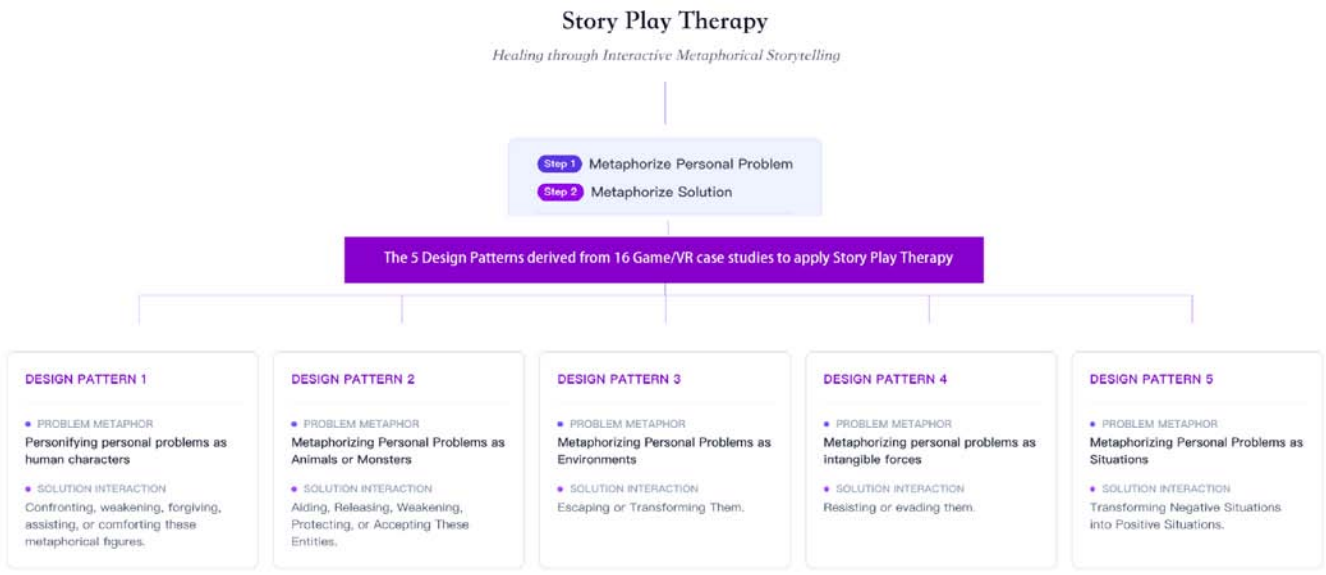
The five themes derived from the thematic analysis meet the criteria for design patterns as defined by Jennifer Tidwell. Accordingly, this paper presents them as five distinct design patterns (Kruschitz & Hitz, 2010; Tidwell *et al*., 2020). In this chapter, I will use game/VR work to explain the five design patterns in detail. Table **1** presents a summary of the five patterns and Figure **1-5** presents the illustrative examples of how these design patterns can be applied.

#### *4.1.1. Pattern 1: Personifying Problems as Human Characters, and Confronting, Weakening, Forgiving, Assisting, or Comforting Them.*

- Story Play techniques 1: Metaphorical Crisis (Problem Metaphor)

Celeste (Maddy Makes Games, 2018) is an independent platform game that received two awards at The Game Awards 2018: Game for Impact and Best Independent Game. In the game, the protagonist, Madeline, embarks on a journey to ascend the

**Table 1: Patterns of Integrating Story Play Therapy with Interactive Narratives**




mysterious mountain Celeste, utilizing skills such as jumping and climbing. The mountain's supernatural power manifests Madeline's psychological struggles as an anthropomorphic entity named Badeline (see Figure **1**).

Badeline represents a specific symptom of Madeline's depression: self-criticism. Self-criticism is characterized by persistent self-devaluation and doubt regarding one's ability, which often results in stagnation or the avoidance of problems (Beck & Alford, 2009). In the game, Badeline appears repeatedly throughout Madeline's journey, persistently attempting to dissuade her from climbing the mountain and actively obstructing her progress. For instance, Badeline intervenes by halting a moving cable car to induce panic in Madeline, or by constantly discouraging her with remarks such as, "You cannot do this." Madeline's ascent of the mountain serves as a metaphor for the pursuit of a significant aspiration; consequently, Badeline's interference symbolizes the internal obstacles presented by self-criticism during the process of achieving one's goals.

- Story Play techniques 2: Parallel Learning Situation (Solution Metaphor)

The interaction between Madeline and Badeline implies how the audience can employ self-compassion to cope with depression and self-criticism. Empirical studies have demonstrated that self-compassion is effective in alleviating symptoms of depression and self-criticism (Gilbert & Procter, 2006; Falconer *et al.*, 2016). The interaction between Madeline and Badeline undergoes a transformation across three distinct stages:

In the first stage, Madeline consistently flees upon encountering Badeline, as contact results in death. This interaction serves as a metaphor for Madeline's fear of the self-critical voice in her mind, highlighting how she is controlled and influenced by it.

In the second stage, Madeline actively seeks out Badeline. Upon encountering her, they engage in an intense battle; however, Madeline refrains from attacking Badeline, choosing instead to dodge her attacks and embrace her(see Figure **1**). This metaphorically represents the intense self-attack, belittlement, and insults one experiences during episodes of self-criticism. Drawing on the principles of self-compassion therapy, individuals experiencing such self-attacks should neither flee nor allow these critical voices to inflict harm. Instead, they should analyze the origins of these self-critical and devaluing voices and attempt to understand them (Gilbert & Procter, 2006; Falconer *et al.*, 2016). For instance, in Celeste, Madeline initially perceives Badeline's belittlement as purely malicious. However, as she begins to understand Badeline, she realizes that Badeline's obstruction and criticism are actually misguided attempts to protect Madeline; Badeline fears Madeline's potential failure to reach the summit and the emotional devastation that would follow.

In the third stage, the player controls Madeline as she merges with Badeline to become a unified entity.

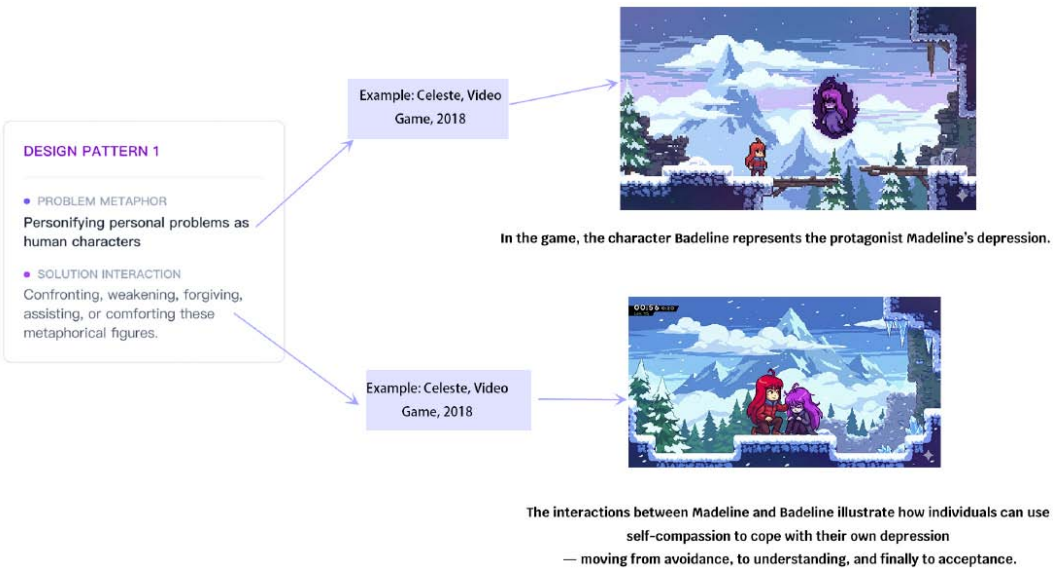



**Figure 1:** Using video game Celeste to explain Design pattern 1. Images in this diagram are generated using Nano banana.

This interactive mechanism serves as a metaphor suggesting that every self-critical individual should integrate with the part of their psyche that persistently criticizes and warns them. It involves understanding that these parts function as "psychological security guards"—overly anxious and tense entities that aim to protect the self from the pain of failure.

#### *4.1.2. Pattern 2： Metaphorizing Personal Problems as Animals or Monsters, and Aiding, Releasing, Weakening, Protecting, or Accepting These Entities*

- Story Play techniques 1: Metaphorical Crisis (Problem Metaphor)

Taking the video game Sea of Solitude (Jo-Mei Games, 2019) as an example, the protagonist Kay is tormented by persistent guilt and self-loathing. Her neglect of her family and boyfriend indirectly contributed to the harm they endured. The following paragraphs will examine how the game uses monster design to metaphorically represent Kay's guilt and self-loathing.

**Kay's Brother - The bird monster**: Sunny, Kay's younger brother, was bullied in middle school, enduring prolonged emotional abuseand physical assault. Although Sunny makes multiple attempts to confide in Kay about these incidents, she remains inattentive and indifferent. Kay' s disregard for Sunny' s plight allowed the bullying to persist, ultimately causing him to transform into a monster.

**Kay's Parent -** The Octopus and Lizard monster: The toxic relationship between Kay's parents is symbolized by two opposing monsters. Her mother appears as a giant octopus, representing suffocating emotional entanglement and control, while her father is depicted as a fire-breathing lizard, embodying explosive rage and avoidant behavior. Throughout the game, these two monsters are engaged in perpetual conflict. Kay' s avoidance of her parents' discord allowed their relationship to deteriorate further, precipitating their transformation into monsters.

**Kay's Boyfriend -** The Wolf: Kay focuses solely on her own happiness within her relationship with her boyfriend, Jack, neglecting his emotional well-being. When Jack developed symptoms of depression, Kay expressed that his condition made her feel insecure and unhappy. The game represents Jack as a wolf-like monster, symbolizing his desire to withdraw from the relationship and cope with his depression independently (see Figure **2**). Kay' s apathy toward her boyfriend' s emotional state resulted in his transformation into a monster.

- Story Play techniques 2: Parallel Learning Situation (Solution Metaphor)

This game utilizes interactive mechanics to demonstrate therapeutic strategies for addressing guilt and self-loathing. Guilt often stems from having failed to carry out an action they felt obligated or deeply wished to perform, resulting in a regrettable outcome. The game introduces a mechanism of symbolic remediation: players assist monsters representing guilt-associated individuals by performing the actions they previously failed to take. Upon successful intervention, these monsters are transformed back into their human forms. For example, in the chapter where Kay rescues

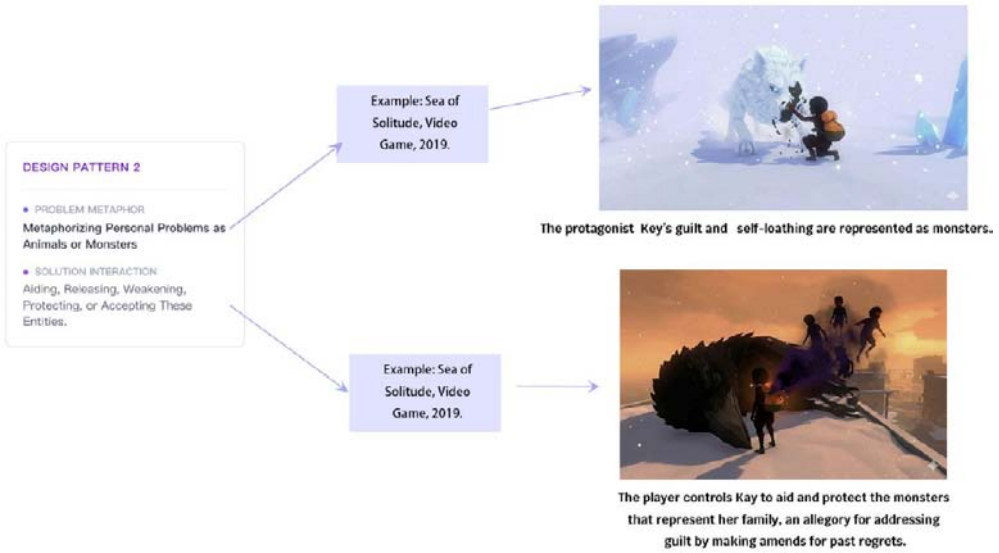



**Figure 2:** Using video game Sea of Solitude to explain Design pattern 2.Images in this diagram are generated using Nano banana.

the bird- like monster, she must complete two specific tasks to restore her brother to human form:

Attentively listen to and empathize with the harm Sunny endured. Kay must revisit the school and gymnasium where Sunny was bullied, using flarestoreveal luminous orbs that represent suppressed memories. She then absorbs the dark particles surrounding these orbs with her backpack, unlocking dialogues between Sunny and his bullies, as well as between Sunny and Kay.

Protect Sunny by confronting the bullies. Kay must use her backpack to absorb metaphorical representations of bullies located near the classroom and gymnasium, thereby eliminating them (see Figure **2**). This act symbolizes her effort to amend past neglect by taking active steps to support her brother.

- Story Play techniques 2: Parallel Learning Situation (Solution Metaphor)

#### *4.1.3. Metaphorizing Personal Problems as Environments, and Escaping or Transforming Them*

- Story Play techniques 1: Metaphorical Crisis (Problem Metaphor)

The Key (Tricart, 2019) was awarded Best VR Experience at both the 2019 Tribeca Film Festival and the Venice Film Festival's VR program. This immersive experience conveys arefugee's emotions and inner struggles through symbolic environmental storytelling. At the beginning of the VR film, viewers find themselves inside a house floating midair. Suddenly, a tornado strikes, propelling them into a descending elevator. The tornado symbolizes the abrupt outbreak of war, while the elevator represents the refugee' s journey of escape to another country. As the elevator descends, the once colorful sky and surroundings gradually fade into black and white. Upon reaching the ground, viewers enter a barren, monochrome desert. At its center stands an endless, motionless queue, symbolizing the prolonged, uncertain waiting that refugees often endure incamps before being accepted by one of the 26 host countries, a process that can last upto 26 years (see Figure **3**).

- Story Play techniques 2: Parallel Learning Situation (Solution Metaphor)

The Key uses interactive mechanisms to illustrate how trauma survivors can integrate past experiences and develop a positive, resilient self-concept. In the final sequence of the interactive VR film, the protagonist's application is approved, and she receives a key that opens a door to an underwater realm. This underwater realm stands in stark contrast to the desolate, monochrome desert; it has vivid color, dazzling corals, shells, and fish. Another key appears in the protagonist's hand, and a keyhole materializes before her (see Figure **3**). As she ascends to insert the key, narration reveals that she recalls a previously suppressed painful memory, which now makes her feel strong and brave.

The transition from the monochrome desert to the colorful underwater world metaphorically signifies: 1)the protagonist's rebirth upon gaining acceptance from another country, receiving formal citizenship and

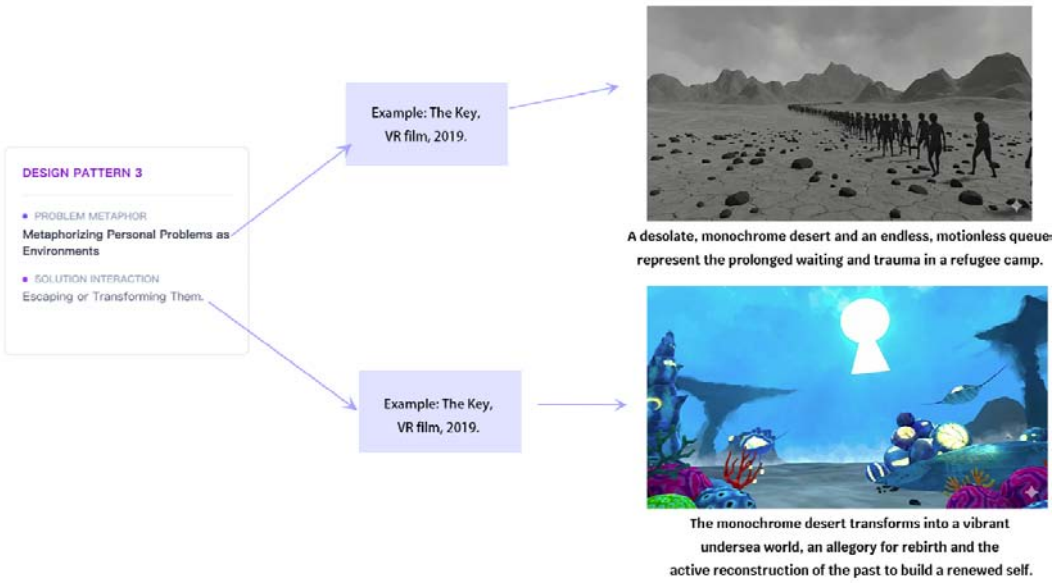



**Figure 3:** Using VR game The Key to explain Design pattern 3.Images in this diagram are generated using Nano banana.

2）the inner transformation as the protagonist recalls and embraces her past experiences. By reinterpreting her memories from a positive perspective, she creates a brave and resilient new self-image.

#### *4.1.4. Metaphorizing Personal Problems as Intangible Forces, and Resisting or Evading Them*

- Story Play techniques 1: Metaphorical Crisis (Problem Metaphor)

The Stanley Parable (Galactic Cafe, 2013) is a pioneering game that employs interactive narratives to convey a therapeutic concept: when individuals are subjected to overwhelming internal forces (e.g., desire, envy, anger, hatred) or external pressures (e.g., addiction, abusive romantic relationship), reclaiming autonomy often requires breaking free from those influences. In the game, players control Stanley, an office worker whose sole task is to follow on-screen instructions by pressing designated keys. One day, he discovers that all his colleagues have vanished and begins exploring the office to uncover the mystery. Throughout the game, a male narrator provides constantguidance, directing the player's every move. Players can comply or defy the narrator' s instructions. Deviations may incite the narrator's anger, leading it to manipulate the game environment as punishment. For instance, if the narrator instructs the player to walk through a red door but the player insists on taking the blue door, the narrator forcibly resets the scene, removes the blue door, and adds more directional signs leading to the red door (see Figure **4**). The narrator also compels the player to follow increasingly invasive commands, such as pressing "Z" to watch TV or "V" to question nothing. Eventually, the player is instructed to press a key to commit suicide; with no alternative available, the player is forced to comply. This interactive mechanism metaphorically represents the overwhelming, inescapable control many encounter in real life, succumbing to which ultimately leads to self-destruction. The game features countless possible endings. Once a player unlocks one, the game restarts, creating a sense of being trapped in an endless loop. This design metaphorically reflects the experience of being caught in internal or external forces of temptation or control, which is difficult to escape.

- Story Play techniques 2: Metaphorical Crisis (Problem Metaphor)

The game suggests that timely departure can be an effective means of resisting over- powering control. When the player follows the narrator's guidance and enters a door labeled "Escape," they are led to a mechanical device designed to crush anyone who steps into its center (see Figure **4**). As the player approaches the device under the male narrator's instruction, a female voice suddenly intervenes, informing the player that the only way to succeed is to press the escape key and quit the game. This moment reflects a psychological truth: individuals caught in overwhelming internal or external pressures often find it extremely difficult to stop their course of action, even when continuing leads to self-destruction. The player's hesitation mirrors this internal struggle. The game implies that, despite the pain and uncertainty, walking away can serve as a powerful act of self-salvation and a way to save Stanley.

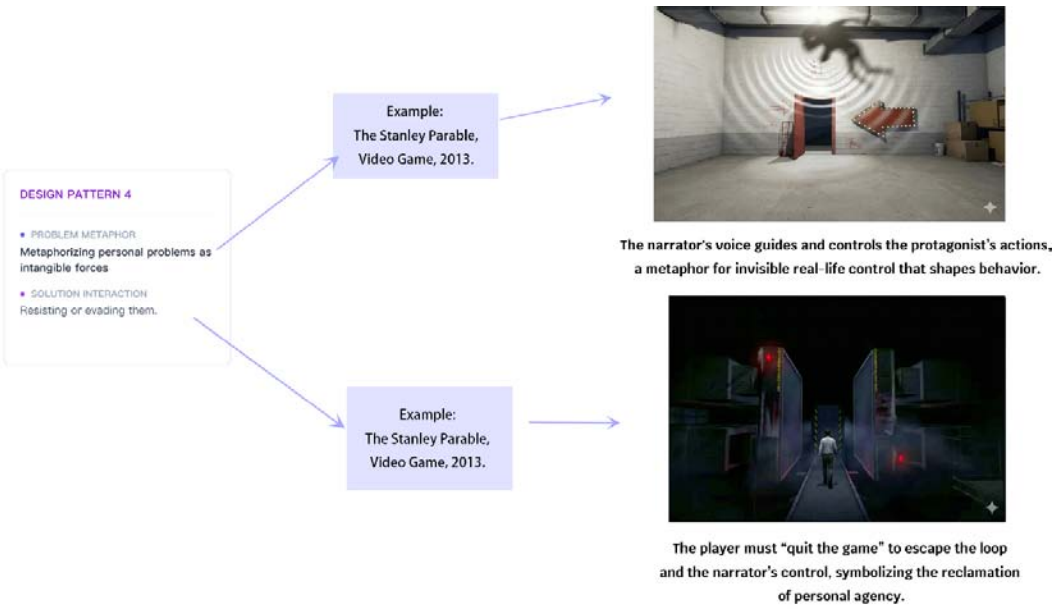



**Figure 4:** Using game The Stanley Parable to explain Design pattern 4.Images in this diagram are generated using Nano banana.

### *4.1.5. Metaphorizing Personal Problems as Situations, and Transforming Negative Situations into Positive Situations*

- Story Play techniques 1: Metaphorical Crisis (Problem Metaphor)

Psychonauts 2 (Double Fine Productions, 2021) is a single-player game where players control Raz, a10-year-old boy with psychic abilities. Raz enters different characters' minds to help them overcome psychological challenges. This analysis focuses on his intervention with Compton Boole. Upon entering Boole's mind, Raz finds himself in a courtroom where he and Boole must battle a fearsome judge. After defeating the judge, Raz and Boole are shifted to another scene—a live broadcast cooking competition (See Figure **5**). Here, Raz and Boole are the only contestants, standing before three judges who scrutinize them (see Figure **5**). They must prepare three dishes within a limited time to earn the judges' approval. The audience, composed of vegetables and animals, functions simultaneously as spectators and ingredients. These two scenarios creatively symbolize Boole's generalized anxiety disorder (GAD) and social anxiety disorder (SAD):

**Social Anxiety Disorder:** Both the courtroom and the live cooking competition symbolize Boole's overwhelming fear of being judged, criticized, and evaluated, which are core symptoms of social anxiety disorder (American Psychiatric Association, 2022). Furthermore, individuals with anxiety often persistently simulate potential negative evaluations and disparagement from others in their minds (American Psychiatric Association, 2022). Consequently, in the live cooking competition, the judges relentlessly humiliate Boole with remarks such as "He will never do it" and "Impossible." However, the player ultimately discovers that these judges are merely puppets controlled by Boole's own hands (see Figure **5**); their criticisms represent Boole's internal simulation of the negative judgments he anticipates from others.

**Generalized Anxiety Disorder:** Individuals with generalized anxiety disorder tend to perceive impending tasks as excessively difficult; they worry about their competence, fear failure, and consequently avoid taking action (American Psychiatric Association, 2022). In Psychonauts 2, as soon as the trial and cooking challenge begin, Boole immediately flees and disappears, leaving Raz to face the judge and complete the required dishes alone.

- Story Play techniques 2: Parallel Learning Situation (Solution Metaphor)

In the beginning, Boole is too afraid to face the Judge and the cooking competition, fleeing and leaving Raz (the character controlled by the player) to confront them alone. Subsequently, Boole summons the courage to reappear and helps Raz defeat the judges. After the player defeats the Judge and wins the competition, Boole undergoes a transformation; he no longer feels solely fear, but rather excitement toward the challenge. This shift serves as a metaphor for one method of managing anxiety: rather than avoiding difficult situations, one must face and resolve them,

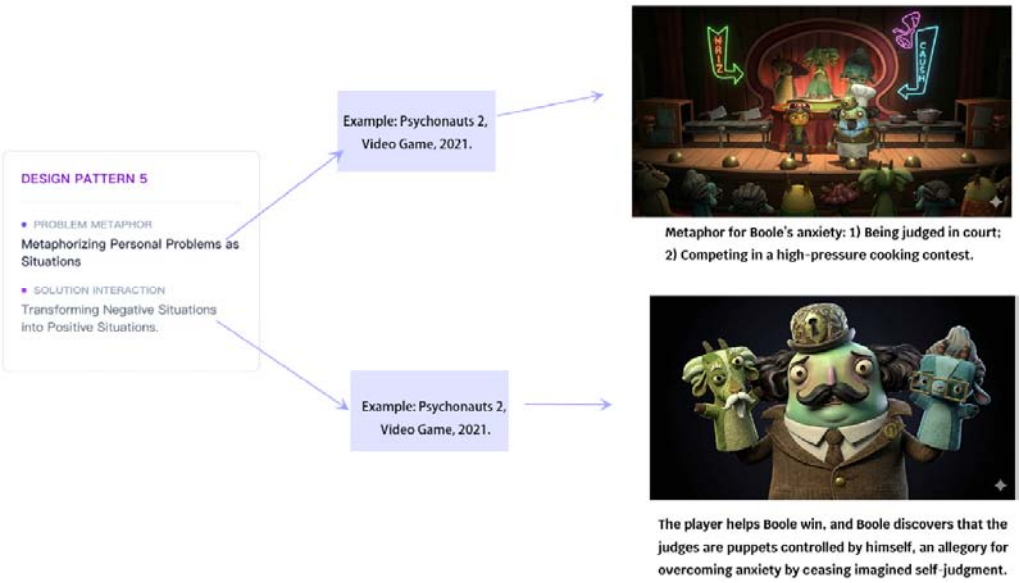



**Figure 5:** Using game The Stanley Parable to explain Design pattern 5.Images in this diagram are generated using Nano banana.

gradually building the confidence and courage needed to confront future anxiety-inducing scenarios. Furthermore, after the competition is won, Boole discovers that the Judge is actually a puppet controlled by his own hand (See Figure **5**). His transition from being a passive contestant to a controller implies that overcoming anxiety requires trusting one's ability to manage anxious emotions and ceasing to envision negative judgments from others.

## 5. DISCUSSION

### 5.1. Bridging Psychological Theory and Interactive Narrative Design

This study asks how existing interactive works integrate Story Play's therapeutic narrative elements into interactive narratives. Through thematic analysis, we distilled five reusable design patterns: metaphorizing personal problems as (1) characters, (2) animals/monsters, (3) environments, (4) invisible forces, and (5) situations. These patterns use diverse interactions (e.g., confrontation, collaboration, escape) to stimulate reflection on potential solutions. The findings offer a new lens for designing and evaluating "therapeutic games." They suggest that healing need not rely solely on direct clinical frames like CBT or exposure; as in Story Play, it can emerge via metaphor, play, and indirect prompting. This is especially relevant to mainstream developers and independent artists seeking works with therapeutic potential without sacrificing artfulness or play.

### 5.2. Impact of the Five Design Patterns on User Experience

In this section, I will specifically discuss the impact the aforementioned design patterns have on user experience, and why such influence can enhance the potential of a work to generate therapeutic effects.

#### *5.2.1. Immersion*

In UX research, immersion is often categorized into sensory immersion, challenge-based immersion, and imaginative immersion (Ermi, L., & Mäyrä, F, 2005). Sensory immersion occurs when players are absorbed by the audiovisual stimuli of the game to the extent that they ignore real-world stimuli. Challenge-based immersion refers to the state where players are fully focused on using skills to overcome challenges. Imaginative immersion involves players becoming absorbed in the narrative, speculating on plot developments or identifying with characters.

Design Patterns 3, 4, and 5 facilitate immersion by metaphorizing personal problems as environments, invisible forces, and situations. The design of these specific environments, the narratives they embody, and the interaction mechanisms within them are all crafted to allow players to profoundly experience the mental states of individuals suffering from these issues.

Sensory Immersion (Environment Design): In The Key (Pattern 3), the player is placed in a black-and-white, desolate desert, surrounded by a motionless queue. This monochrome desert appears endless, and

the surrounding crowd is static, bringing the audience a sense of anxiety, unease, and pain. Such environmental design is intended to allow the player to profoundly feel the despair, unease, and pain of refugees waiting in camps for years to decades.

Challenge-based Immersion (Interaction with Environment): In Psychonauts 2 (Pattern 5), players control Raz to enter Boole's mind, discovering that Boole compulsively simulates scenarios of judgment and evaluation, such as a "live cooking show." The player is tasked with a highly difficult challenge: dodging traps, transporting ingredients to specific machines, and assembling dishes under time pressure. The intense focus required to execute these skills precisely mirrors the overwhelming anxiety and fear of failure that individuals with Generalized Anxiety Disorder (GAD) experience when facing daily tasks. This shared struggle fosters a deep empathetic connection.

Imaginative Immersion (Narrative within Environment): In The Stanley Parable (Pattern 4), the player is trapped in an office building, unable to leave. Furthermore, there is a male voice in his head constantly ordering him to do things, such as where to go or which buttons to press. The design of the environment and the narration compels players to engage in imaginative speculation: Where does the voice come from? Why has everyone vanished? Are my actions my own, or am I being controlled? This immersion allows players to viscerally experience the suffocating sense of helplessness found in real life when one is controlled by invisible forces, such as social norms, mental illness, or abusive relationships.

#### *5.2.2. Emotional Engagement*

Emotional engagement refers to the depth of emotional investment a user experiences while interacting with an application (O'Brien & Toms, 2008).Patterns 1 and 2(Metaphorizing problems as Human Characters or Animals/Monsters) proposed in this article allow the audience to generate sustained emotional engagement with the characters in the game, and this emotional engagement typically changes along with the game's plot. Such sustained emotional investment and change allow the audience to develop deep empathy for the game characters. At the end of the game, when the audience sees the game character successfully resolve the crisis, the player will experiences emotional release.

1) Creating an Emotional Arc to facilitate Empathy. In Celeste(Pattern1), the player will generate a series of emotional reactions toward the character Badeline (metaphor of depression): Fear/Aversion-> Frustration/Anger-> Understanding/Compassion-> Acceptance/Gratitude. This series of reactions symbolizes the user's long-term and deep emotional investment in the game. These emotional investments can help the player feel the psychological shifts of patients with depression as they struggle with their symptoms, creating empathy for them. Players with depression can understand and empathize with themselves during this process, caring for and loving their fragile side more, rather than blindly denying and punishing themselves.

2) Creating an Emotional Arc to facilitate Embodiment Catharsis. Embodiment Catharsis typically refers to game players or movie audiences indirectly experiencing events that trigger strong emotional changes through role-playing (Oatley, 1999; Scheff, 1979); usually, after all crises are resolved, they obtain immense emotional release, thereby improving mental health. Sea of Solitude is an application of Pattern 2. In this game, the player needs to control the protagonist Kay to help the monsters in the game turn back into humans. When the huge, terrifying monsters gradually calm down, and return to human form through the player's efforts, the player receives a strong emotional reward. This visual "purification" process creates a sense of "atonement". Players harboring guilt for having hurt someone feel this sense of relief from atonement by controlling the avatar Kay to help others in the game, letting go of their inner burdens.

#### *5.2.3. Agency*

In interactive narrative and UX field, Agency is defined as whether the player feels they can completely control the game character, and whether all of the game character's actions come from the player's will, rather than being requested or forced by external forces (Murray, 1997; Ryan, 2001).

Patterns 1 and 2 proposed in this article allow the player to feel the mental changes of people troubled by internal or external problems by changing the degree of the player's Agency in the game. In addition, it also

allows the player to profoundly understand the methods for solving these problems, enabling them to change their real lives.

For example, in the game Celeste (Pattern 1), the player's degree of Agency is very low in the initial stage; the character Madeline controlled by the player can only passively flee when encountering Badeline, because she will die if she touches Badeline, metaphorizing the helplessness of depression patients being chased and controlled by depressive symptoms. In the middle stage, the player's degree of Agency increases; the player can actively chase Badeline, has the ability to dodge her attacks, and make her stop attacking, metaphorizing depression patients summoning the courage to face their symptoms. Finally, the player's Agency is further increased, possessing the ability to merge with Badeline, and jumping ability is significantly strengthened, metaphorizing the establishment of psychological resilience and growth of depression patients after overcoming depression.

#### *5.2.4. Cognitive Engagement & Processing*

Cognitive processing in the UX field refers to the degree of attention and thought invested by the user when participating in an experience. In interactive narrative and games, users need to use cognitive activities to understand the plot, solve puzzles, make strategic decisions, etc (Nacke & Lindley, 2008).

Concepts in psychotherapy (such as "giving oneself compassion,""shifting perspective to interpret events") are often abstract and difficult to understand. The five patterns mentioned in this article, through Cognitive Externalization, materialize mental problems into game challenges that need to be overcome, and materialize solutions into the player's abilities and ways to overcome challenges. Such cognitive externalization reduces the user's cognitive load, allowing the player to profoundly understand how they can solve personal problems, while simultaneously practicing these problem-solving methods in the game.

In Celeste (Pattern 1), Madeline's depression is externalized as Badeline and the snowy mountain; the method of solving the problem is externalized as her ability to climb and to hug/comfort Badeline.

In Sea of Solitude (Pattern 2), the protagonist Kay's guilt toward her family and boyfriend is externalized as injured, painful monsters. Kay's method of solving the problem is externalized as her ability to clear the toxic materials around these monsters, and the ability to listen to and transform the monsters.

In The Key (Pattern 3), the trauma experienced by the protagonist due to war and living in refugee camps is externalized as storms, deserts, and monsters. The protagonist's method of solving the problem is externalized as her ability to change the environment and open doors at will.

In The Stanley Parable (Pattern 4), the despair and anxiety of the protagonist being trapped by work are externalized as an office building that can never be escaped and a voice that constantly orders him. The protagonist's method of solving the problem is the right to quit the game, implying the right to resign.

In Psychonauts 2 (Pattern 5), the character Boole's anxiety disorder is externalized as various scenes requiring judgment and evaluation, such as the courtroom and live cooking competition. Boole's method of solving the problem is externalized as his ability to defeat the judges, as well as his ability to control the judges, because the judges are actually puppets controlled by his hands.

### 5.3. Limitation

While this study provides a preliminary framework, several limitations guide future research:

- Case Selection: The analysis is based on 16 interactive works selected according to specific criteria. This sample size supports the initial patterns but is not exhaustive.
- Methodology: Thematic analysis, while rigorously applied, relies on the researcher's qualitative interpretation and is susceptible to subjective bias. Future research could use multiple coders (Inter-Rater Reliability) to enhance objectivity.
- Efficacy Validation: The study identifies how to translate Story Play theory into design patterns but did not empirically validate whether these patterns produce a therapeutic effect in users.
- Cultural Interpretation: The proposed design patterns rely heavily on symbolic representation, yet the interpretation of metaphors is inherently influenced by cultural backgrounds. Metaphors for trauma, healing, or resilience may carry different connotations or varying levels of resonance across diverse cultures. This study did not explicitly account for these cross-cultural

variations, potentially limiting the universality of the findings. Future research should investigate how cultural differences affect the interpretation of these interactive metaphors to ensure the design patterns are culturally sensitive and effective across broader demographics.

## 6. CONCLUSION

This study successfully builds a bridge between psychotherapy theory and interactive design practice. Through an in-depth analysis of 16 cases, the five design patterns we summarized clearly answer the core research question: "How is Story Play's narrative theory integrated into interactive narratives?" The research confirms that many successful therapeutic game and VR works, whether intentionally or not, align in their design with Story Play's core narrative principles of "Metaphorical Crisis" and "Parallel Learning Situation."

The main contribution of this study is its translation of Story Play, a therapeutic theory, into a "design language" that is understandable and usable by content creators (including artists, game designers, and HCI researchers). This enables creators without a psychology background to more consciously and effectively design interactive experiences with therapeutic potential. This work not only fills the theoretical gap of Story Play in the HCI field but also provides a new perspective for the design of "therapeutic games."

Future research can proceed in two directions:

- Practical Application: Designers and researchers can utilize these five patterns as a framework to purposefully develop new interactive therapeutic tools.
- Empirical Validation: Future studies can, through user experiments, specifically measure and evaluate the actual clinical efficacy of interactive experiences designed based on these patterns in treating psychological conditions such as anxiety, depression, or Post-Traumatic Stress Disorder (PTSD).

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