# Crafting Emotional Authenticity: A Design Thinking Approach to Developing a Practical Deep Acting Tool for Emotional Labor

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#### Abstract

This paper presents a pioneering application of Design Thinking principles to create a tangible Emotional Labor toolkit, focusing on deep acting as a sustainable emotion regulation strategy in professional contexts. Surface acting, prevalent in Emotional Labor, can lead to burnout and undermine well-being. Drawing from Design Thinking's human-centric approach to creative problem-solving, the toolkit harnesses three key facets - Empathy, Definition, and Ideation - to foster Empathy, Awareness, and Cognitive Reappraisal in deep acting emotion regulation. Incorporating insights from literature on emotion authenticity and regulation, the toolkit underwent iterative prototyping and testing, including two rounds of pre-pilot playtesting with smaller groups for refinement. The pilot toolkit, designed for experiential learning, involved 20 participants in a play test simulating diverse life scenarios across various age groups. Tasks involved demonstrating empathy in challenging situations and utilizing cognitive reappraisal with emotional vocabulary as tools. Data collection via observation and thematic analysis assessed Empathy Expression, Cognitive Reappraisal Effectiveness, and Affect Labels Expansion (Awareness). A post-play survey measured participant experiences, confidence, and growth in these domains. This study offers a comprehensive account of toolkit development, refinement, and validation, with the aim of providing the industry with a practical and accessible resource for emotional labor.

Keywords: Design Thinking, Emotional Labour, Emotional Authenticity, Organisational Development, Organisational Well-being, Deep-acting, Emotional Regulation

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### Introduction

#### The Problem With Emotional Labour

Emotions play a significant role in shaping organizational behavior and workplace culture. Certain professions mandate the display of solely positive emotions, while in others, employees are expected to suppress all emotions, viewing emotional expression as contrary to rationality in the workplace (Raz, 2002; Barsade and Gibson, 2007). Hochschild (1983) defines Emotional Labor as the effort, skill, and regulation of emotions required to perform a job in exchange for compensation. This entails expressing appropriate emotions, suppressing inappropriate ones, and projecting a desired emotional demeanor, often regardless of one's genuine feelings (Van Kleef & Fischer, 2016).

According to Grandey and Gabriel (2015), Emotional Labor is a threefold process: emotional requirement, emotional regulation, and emotional performance. Emotion requirement dictates the necessary emotional expression for the job; Emotion regulation involves modifying feelings or expressions to exhibit positive emotions and conceal negative ones; Emotion Performance entails observable expressions consistent with job requirements (Grandey and Gabriel, 2015).

In numerous professions, such as customer service, nursing, teaching, and hospitality, emotional labor is integral to job performance. For instance, flight attendants must maintain composure in stressful situations, nurses convey empathy to patients, and teachers foster a positive classroom atmosphere regardless of their personal feelings. Many organizations train their employees to adhere to scripted behavioral norms, termed 'surface acting' (Menon & Dubt, 1999), which disconnects them from their genuine emotions. Emotional labor that suppresses authenticity has been identified as a primary cause of workplace burnout and disengagement, negatively impacting personal well-being (Schmid, 2005; Wyatt, 2001; Dhanpat, 2016; Metin et al., 2016; Cable and Kay, 2012).

### The Need for a Deep-Acting Tool for Emotional Labour

In a survey conducted by Intellect, a mental healthcare technology company in Asia Pacific, in collaboration with Milieu Insight, a Southeast Asian research firm, 150 human resource professionals in Singapore were polled. The findings revealed that 75% of respondents reported experiencing regular feelings of burnout at work. Despite the widespread availability of mental healthcare resources, only 32% believed that their companies genuinely valued mental health (Intellect, 2023).

Similarly, a study conducted in Asia by Aon and Telus, as part of the Asia Mental Health Index Report 2023 (Aon, 2023), surveyed 13,000 individuals across the region. The results indicated that 47% of respondents felt mentally or physically exhausted by the end of each workday. Additionally, 45% reported that burnout negatively affected their productivity, and 54% expressed concerns that their career development would be impacted if their employers were aware of their mental health issues.

These findings underscore the significant impact on well-being when individuals encounter challenges in communicating stressors and maintaining emotional authenticity in the workplace.

Similar to the concept of emotional authenticity (Keltner & Haidt, 2001; Gross, 1998) is the notion of genuine emotional labor (Diefendorff et al., 2005). This represents the most desirable form of emotional labor, where there is no need for acting or emotion regulation; the displayed emotion aligns naturally with the individual's true feelings and the emotional display requirements of the job. Genuine emotional labor is often achieved through 'deep acting' (Hochschild, 1983), wherein individuals adjust their internal emotional state to match the expected emotional display for the job. Unlike surface acting, which involves simply faking emotions, deep acting entails genuinely experiencing the emotions one is expected to express (Fredrickson, 2001; Richins, 1997; Gross, et al., 1997). However, achieving deep acting is inherently more challenging due to its abstract and less tangible nature compared to surface acting. Therefore, the development of a tangible tool to facilitate deep acting for genuine emotional labor becomes essential.

Roger (1959) proposed that authenticity is an intrinsic aspect of human nature, although its actualization depends on a supportive social context characterized by empathy, the ability to maintain positivity, and a secure environment conducive to congruence. Emotion regulation (Gross, 1998; Gratz & Roemer, 2004; King & Hicks, 2007; Lane et al., 1990) involves various techniques, including awareness (Teper, Segal & Inzlicht, 2013), perspective-taking to foster empathy (Batson, 1991; Davis, 1983; Decety & Jackson, 2006; Hodges & Biswas-Diener, 2007), and cognitive reappraisal (Gross, 1998; Ochsner & Gross, 2005), all aimed at facilitating genuine and effective emotion regulation.

The insights for the development of a deep-acting tool that necessitate organisational well-being can be summed up as:

- 1. It must replicate the conditions of a nurturing social environment conducive to fostering emotional authenticity.
- 2. It should integrate elements of perspective-taking, awareness and cognitive reappraisal to cultivate deep-acting capabilities.

We translated the insights from the literature review to criteria that inform us on what the toolkit must encompass in Figure 1.

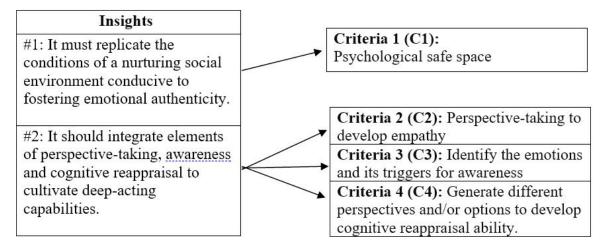


Figure 1: Mapping insights from Literature Review to inform criteria for deep-acting tool development

Insights #1 underscores the significance of psychological safety (Edmondson, 1999), characterized by an environment where individuals can freely express themselves without apprehension of reprisal. This atmosphere nurtures trust and openness, pivotal for genuine emotional expression. When individuals perceive psychological safety, they are inclined to disclose their authentic emotions (Kahn, 1990).

Insights #2 underscores the importance of integrating perspective-taking, awareness, and cognitive reappraisal to enhance deep-acting capabilities. Firstly, fostering perspective-taking enables individuals to comprehend others' viewpoints and emotions, thereby promoting empathy development and enhancing emotional understanding and connection with others (Decety & Jackson, 2006). Secondly, awareness involves identifying emotions and triggers, enabling individuals to recognize their own emotions and the situational cues that influence them (Gross, 1998). This self-awareness facilitates effective emotional regulation, leading to greater emotional authenticity and regulation abilities. Lastly, cognitive reappraisal involves reframing thoughts to generate alternative perspectives and options, thereby modifying emotional reactions (Ochsner & Gross, 2005). By exploring different interpretations of situations, individuals can challenge and adjust their emotional responses, fostering adaptive coping and resilience (Gross, 1998). This comprehensive approach cultivates deep-acting capabilities crucial for authentic emotion regulation, consistent with the principles of deep-acting.

## **Problem-Solving Frameworks**

## Leveraging Design Thinking as a Problem-Solving Framework

Design Thinking, celebrated for its human-centric problem-solving approach (Foster, 2019), presents an auspicious framework for designing a toolkit aimed at addressing issues surrounding emotional labor. With its robust methodology tailored for human-centered challenges, Design Thinking offers a dynamic framework adept at crafting solutions that deeply resonate with the needs and experiences of end-users (Brown, 2008). At its essence, Design Thinking commences with empathy, enabling designers to immerse themselves in the lived experiences of those they aim to design for (Kelley & Kelley, 2013). Adopting an iterative process, Design Thinking emphasizes collaboration between designers and users to frame problems and develop early concepts (Kim & Ryu, 2014). This iterative approach facilitates rapid prototyping and testing for continuous improvement, ensuring that solutions are responsive to human-centric insights (Kelley & Kelley, 2013).

By comprehensively understanding users' perspectives, motivations, and pain points, designers can acquire valuable insights that inform the entire problem-solving process. A pivotal strength of design thinking is its focus on divergent thinking, which encourages teams to explore a broad spectrum of possibilities, thereby generating innovative ideas that may not have been initially apparent (Brown, 2008).

By harnessing the principles of design thinking, organizations can cultivate solutions that not only align with technical feasibility but also deeply resonate with the individuals they aim to serve (Brown, 2008). As we grapple with the intricacies of deep-acting to aid emotional laborers in regulating their emotions authentically, the application of design thinking holds the potential to instigate meaningful and sustainable changes for the enhancement of organizational well-being.

Recognizing the potency and aptness of design thinking in addressing this challenge, the team further utilizes the "How Might We" method. This approach is commonly employed to formulate a design challenge (Siemon, Becker & Robra-Bissantz, 2018), encapsulated in the question:

"How might design thinking enable emotional authenticity and aide deep acting emotion regulation at workplace safely and effectively?"

As we collaborated to explore and address the problem, guided by the non-linear and iterative process of design thinking, we discovered that three of the five design thinking phases (Plattner, Meinel, and Leifer, 2012) – Empathy, Definition, and Ideation – align with the criteria essential for the deep-acting tool. These phases could potentially be leveraged in the design of the toolkit. We formulated three hypotheses to be tested, as outlined in Table 1:

- H1: Leveraging on 'empathy' process can create a psychological safe space for people to 'open up' (emotion authenticity to take place).
- H2: Leveraging on "Definition" process can help users develop awareness through identifying the emotions that were being triggered in different situations.
- H3: Leveraging on 'ideation' process to generate cognitive reappraisal as a form of emotion regulation strategy.

Design Thinking Phases	What it does	Potential fulfilment to criteria	Hypothesis
Empathy	Perspective taking to understand individual's experiences.	Perspective-taking to generate empathy (C2) that helps create a psychological safe space (C1), for people to share their experiences (Banker & Bhal, 2020)	Leveraging on 'empathy' process can create a psychological safe space for people to 'open up' (emotion authenticity to take place).
Definition	Identifying the core problem to be addressed	Awareness (C3) of emotions is the first step to emotional intelligence including regulation (Goleman, 2005).	Leveraging on "Definition" process can help users develop awareness through identifying the emotions that were being triggered in different situations.

Ideation	Creating multiple possibilities of potential solutions.	Generate different ideas or perspectives that helps develop cognitive re-appraisal (C4). Cognitive reappraisal is the ability to see the situations differently which is an important aspect of emotion regulation (McRae, K. et al., 2012)	Leveraging on 'ideation' process to generate cognitive reappraisal as a form of emotion regulation strategy.
Prototyping	Building a model according to the selected idea.	Not applicable.	Nil.
Testing	Putting the prototype to test.	Not applicable.	Nil.

Table 1: Mapping Design Thinking Phases to the criteria required and generated hypotheses

## Benefits of Gamification

As we came together to brainstorm ideas for the toolkit, we explored many different options, such as a training manual, an activity book, workshops, games, and many other ideas.

Gamification was chosen as the optimal strategy for prototype development because of its notable ability to establish a safe and nurturing environment for individuals to explore and express their emotions (Deterding et al., 2011). Through gaming, individuals can engage in emotional authenticity without fear of judgment or consequence (Bowman & Tamborini, 2015). Additionally, gamification facilitates experiential learning, enabling participants to gain insights into others' perspectives and experiences (Landers & Callan, 2014). In the immersive gaming environment, players can experiment with various emotional responses and identities, thereby promoting cognitive reappraisal. Through interactive scenarios and role-playing, participants can deepen their understanding of complex emotions and improve their communication skills for challenging conversations.

Moreover, gamification encourages active involvement and collaboration, fostering a sense of community and shared purpose among participants (Hamari et al., 2014). By incorporating elements like competition, rewards, and interactivity, gamification provides an engaging framework for navigating sensitive emotional topics and promoting constructive dialogue in a lighthearted manner (Deterding et al., 2011). The freedom to authentically express emotions within a supportive gaming environment can cultivate empathy and awareness (Kowert et al., 2014), ultimately facilitating deep-acting for genuine emotional labor. Therefore, gamification satisfies all criteria, from C1 to C4, for the development of a deep-acting toolkit.

### **Concept Development**

Based on the established criteria, hypotheses, and the concept of gamification, the designers at Chemistry Team Singapore developed a board game that mirrors the complexities of adult life, filled with aspirations yet burdened by emotional challenges. The game's objective is for

players to attain numerous milestones while shedding emotional burdens baggage through demonstrations of empathy, awareness, and cognitive dexterity to reappraise situations. The ultimate victor is determined by the accumulation of milestones and the minimal retention of emotional baggage. To achieve this goal, the designers created a game board that replicates diverse life paths, along with a comprehensive game kit comprising a set of emotion cards, milestone cards, and challenging situation cards, each depicting various real-life contexts (refer to Appendix A-1 to A-3 for the list of cards).

In the game, each player begins with 7 emotion cards, representing their emotional baggage. Players take turns rolling two dice to determine the number of steps they move. Landing on a space may require them to undertake one of the following challenges:

- Blank space which represents no action required.
- In the Empathy challenge, players draw a situation card and must demonstrate empathy by identifying up to two emotion cards that describe the emotions in that scenario. Successfully completing the challenge allows players to discard emotion cards.
- During an 'Ideate' challenge, one player acts as the host while others pitch solutions by playing an emotion card from their hand. The host selects the winning solution, and the winner discards the used emotion card. Failure to complete challenges results in drawing two additional emotion cards.
- Landing on "Milestone" requires player to draw milestone card. Depending on the level of achievement, players can draw between 1 to 5 additional Emotion Cards, representing the emotional baggage that was accumulated in arriving to a Milestone.

Throughout both 'Empathy' and 'Ideate' challenges, players identify emotions in challenging situations by playing emotion cards, fostering awareness of emotions. These mechanics align with the three phases of design thinking: empathy (understanding challenging situations), definition (identifying emotions), and ideate (generating solutions).

During the development of the board game, the team conducted two rounds of online focus group studies. Each study involved 4 players who shared their gameplay experiences to refine various aspects of the game, including the clarity of instructions, engagement mechanisms, cards content and the establishment of psychological safety (refer to Appendix B for the Study Equipment – First Prototype of Board Game and Cards Design). As a result of the focus group study, a sand-timer was introduced into the first prototype to control the time for better engagement and "skip" cards were implemented to allow players to skip a round of sharing if they find themselves feeling too vulnerable with the situation thus providing some psychological blanket for the participants.

### **Research Methodology**

Qualitative scenario-based research was conducted using the board game during an event showcase at Singapore Design Week 2022. The scenarios for the research were replicated by the situation cards in the board game. Publicity and participant recruitment, targeting individuals aged 21 and above, were carried out via social media and the festival's website one month prior to the event, in collaboration with the Singapore Design Council.

Ten volunteer facilitators from the International Association of Facilitators (IAF) Singapore were enlisted to facilitate the board game. They familiarized themselves with the game rules by playing and experiencing the board game before the event. Participants were randomly

assigned to five game tables, each table led by two facilitators – one main facilitator overseeing gameplay and the other serving as a research assistant, observing and recording notes during the session.

A maximum of 30 participants were accommodated for the research, with 20 individuals ultimately participating in the game session. The player profile comprised 6 males and 14 females, aged between 25 and 60 years, representing various nationalities and ethnicities residing in Singapore. Voice recordings of the 60-minute gameplay sessions were collected for Interpretative Phenomenological Analysis (IPA). These recordings were transcribed, coded, and subjected to thematic analysis by two researchers independently. The findings were then compared with data from a post-play survey completed by 17 participants. The reliability and consistency of the analysis were further verified through cross-referencing with facilitators' observations.

#### **Conclusions**

### **Findings**

Using the transcripts from the voice recording, a word cloud validated conversations surrounded a board game about emotions. Key words like "emotion," "situation", "milestone" prominently featured and highlighted the core theme of the board game and indicated that participants were participating in the board game.



Figure 2: Word cloud generated from the voice recording transcribed by Adobe Priemer Pro

# H1: Leveraging on 'Empathy' Process Can Create a Psychological Safe Space for People to 'Open Up' (Emotion Authenticity to Take Place)

Participants showed a general interest in both sharing their own experiences and listening to others, indicating that the game environment fostered a conducive and psychologically safe space for authentic emotional expression. Notably, players appeared more relaxed when facilitators emphasized at the outset that the game was a judgment-free environment, encouraging participants to share without fear of criticism. When participants were encouraged to be "as authentic as they were comfortable," rather than feeling pressured to

demonstrate authenticity, they seemed more inclined to share genuine experiences. Conversely, when authenticity was enforced, some participants exhibited discomfort and questioned the degree of authenticity expected, which hindered their willingness to share.

When prompted as part of the game challenges to demonstrate empathy towards challenging situations, participants generally exhibited empathetic behavior. However, there were instances where younger participants found it challenging to empathize with situations commonly encountered by older participants, such as experiencing a mid-life crisis or harboring fears of being replaced by technology.

Some quotes from the participants that demonstrated the game provides a safe space are:

"It could be played with anyone and encourage people to be more human."

"It was fun and it helps us understand one another better."

"I think is a very interesting game and there's not many games in this kind of topics or subjects. So yeah, I think it will be quite interesting to actually play with a close friend for a start."

This finding was corroborated by 13 out of 17 respondents to the post-game survey who answered "yes" to the question: "Do you think this tool helps you empathize with others better?" However, among the 23.5% who responded "no" to the question, feedback indicated that some participants found the game environment to be "a bit artificial."

9 out of 17 respondents to the post-game survey expressed interest in playing the game with their workmates, while the remaining respondents did not share the same enthusiasm. Reasons provided by participants for their interest in playing the game with their workmates included:

"It hopefully helps to build bonds."

"...I would want to play this game with someone I am pissed off with, so we can see each other's perspectives on the issues"

"To learn their emotions/emotional behaviour during different professional situations and share mine. However, the game situations need to be more of a professional setting."

For those who do not want to play the game with their workmates, the reasons are:

"Don't want workmates to be too personal with me."

"Don't see how it can help with the relationship with my colleagues."

"If my colleague happens to be my supervisor, I will feel uncomfortable."

"I'm not sure about playing with colleagues yet though. Like just now a few of the questions that we took for work right, because I'm not very close to my colleague or if there's already a very tricky situation at work, I'm not sure whether it would be it

would add fuel to the fire at that point in time, even though it's just a casual game already."

Some participants remarked that they would feel more comfortable playing with strangers rather than with people they know, as they perceive it as safer to authentically share their experiences with strangers without fearing offense. Additionally, 58.8% of respondents indicated in the post-game survey that they believe this tool can enhance teams' communication about emotional and challenging situations. These insights raise doubts about the suitability of deploying the toolkit in the workplace to address emotional labor in organizations.

# H2: Leveraging on "Definition" Process Can Help Users Develop Awareness Through Identifying the Emotions That Were Being Triggered in Different Situations

At the beginning of the game, participants were each dealt 7 emotion cards, which they could either accumulate or discard throughout the game. Given that the game's objective is to have the most milestones and the fewest emotion cards, participants were observed to play creatively to "discard" their emotion cards rather than authentically engage with the situations. While this outcome may seem contradictory to fostering emotional authenticity, it prompted participants to engage in cognitive reappraisal of the situations, influenced by the cards they held.

"I would say there's a lot of potential for this. I'm definitely feeling a lot of people are looking for ways to express themselves and this one definitely provide an experience, especially because it's more fun, but at the same time because it's emotions and is gamified, sometimes you might feel a little superficial. Like it disconnect within self and personal experience like this one, and also like I'm trying to convince the other person, Oh, this emotion is what feeds this situation. So, yeah, do I be real or do I just trying to have fun."

It was observed that the lack of emotional words to describe feelings in certain scenarios brought on some frustrations for the participants:

"I am annoyed...when I don't have the emotional word to describe my emotions in the situation."

"Don't understand some of the (emotion) words and its meaning."

This observation aligns with affect labeling ability as one of the emotion regulation strategies. Research suggests that individuals who struggle to label their emotions tend to have poorer emotional regulation abilities (Gratz & Roemer, 2004; Lieberman, 2011).

In the post-game survey, 10 out of 17 respondents indicated that the tool helped them identify their emotions better, while 9 out of 17 respondents felt that the tool helped them express their emotions more confidently.

# H3: Leveraging on 'Ideation' Process to Generate Cognitive Reappraisal as a Form of Emotion Regulation Strategy

This challenge emerged as the most engaging for participants, as they competed to generate innovative solutions to the challenging situations. Creativity plays a significant role in cognitive reappraisal, as highlighted in research by Beaty et al. (2016). Moreover, the ideation process facilitated the expansion of perspective-taking, as reflected in quotes from the participants:

"The understanding that there are different emotions to every situation, help to empathise with others better and see a solve a situation with different emotional approach."

"It opens my perspectives. It didn't occur to me that others may feel differently over the same situation."

In the post-game survey, 14 out of 17 respondents (82.4%) provided positive responses when asked if the tool helped them become more creative with emotions, particularly in leveraging emotions to overcome challenges when feeling stuck.

# Interpretative Phenomenological Analysis (IPA)

During gameplay, participants engaged in discussions spanning various topics, from specific challenging scenarios to game design and mechanics. Consequently, the voice recording transcript encompasses a broad spectrum of data across different areas. For this research, our focus is on addressing the overarching research question: "How might design thinking enable emotional authenticity and aid deep-acting emotion regulation in the workplace safely and effectively?" We specifically sifted through the data to extract information related to the three hypotheses while filtering out discussions regarding board game design and technical mechanics. However, conducting a further analysis of the feedback on game design and mechanics data may yield additional insights that could complement the thematic discoveries from this IPA study.

The hierarchy of themes uncovered are depicted in the Figure 3 below:

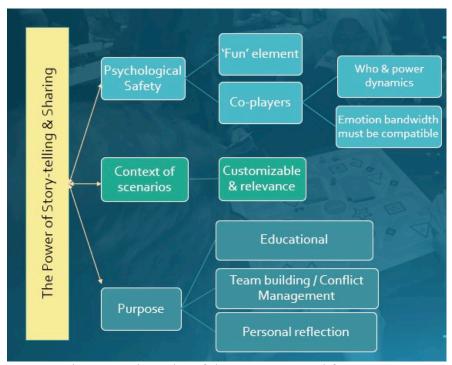


Figure 3: Hierarchy of themes uncovered from IPA

Three primary themes emerged regarding the gamification aspect of a tool aimed at fostering deep-acting abilities: Psychological Safety, Contextual Scenarios, and Game Purpose.

Psychological safety remains a significant concern for the participants, with the term "fun" frequently mentioned when expressing comfort and engagement with the game. Fun activities often foster trust and contribute to a culture where individuals feel valued and accepted. Therefore, enhancing the fun element in the game could promote a more positive and supportive atmosphere, encouraging participants to feel more at ease expressing themselves (Edmondson, 1999). Concerns were also raised regarding the identities of co-players, particularly in the context of playing with workmates. Participants expressed apprehensions about how power dynamics within the playing group could influence emotional authenticity and participation. Further examination of how the dynamics and relationships between players impact the effectiveness of this toolkit is warranted.

In addition to power dynamics, concerns were raised regarding disparities in life experiences and emotional bandwidth among players. Emotional bandwidth encompasses an individual's capacity to effectively experience, understand, and manage a diverse range of emotions (Davis, 1983). It includes the ability to recognize and regulate one's own emotions, as well as empathize with the emotions of others. A broader emotional bandwidth enables individuals to navigate complex emotional situations, demonstrating flexibility in their emotional responses (Richins, 1997). When players with differing emotional bandwidths are grouped together, it may impact psychological safety and hinder emotional authenticity.

In gamifying the toolkit for empathy development, it's essential to contextualize scenarios within common experiences that all players can relate to. Research indicates that some scenarios may feel too distant for certain players to empathize with effectively. By anchoring scenarios in familiar situations, game designers can ensure that players from diverse backgrounds can connect with the emotions and perspectives portrayed within the game (Yannakakis & Hallam, 2006). This approach enhances the effectiveness of empathy-

building games by fostering deeper emotional engagement and facilitating broader empathy development across player demographics.

It is imperative for the toolkit to ensure that players engage with a clear sense of purpose. Participants' suggestions frequently center around three main areas: Education, Team Building or Conflict Management, and Personal Reflection. Whether the aim is to acquire new skills, promote teamwork, or address conflicts, aligning the game's purpose with participants' objectives enhances motivation and engagement (Hamari et al., 2014). By offering clear objectives and meaningful challenges, gamification initiatives can encourage active participation and foster positive outcomes across educational settings and workplace environments.

An overarching theme emerged regarding enhancing psychological safety, contextualization, and purpose: Storytelling. Storytelling fosters psychological safety by providing a platform for individuals to express themselves authentically and share personal experiences without fear of judgment (Edmondson, 1999). Contextualizing challenges through storytelling narratives that resonate with participants can facilitate empathy and connection (Yannakakis & Hallam, 2006). Additionally, storytelling imbues purpose by weaving meaningful narratives that inspire reflection, learning, or action (Brown, 2008). By enhancing psychological safety, contextual relevance, and purpose, storytelling enriches the overall experience and impact of the toolkit.

### Limitations

While the research findings provide valuable insights into the effectiveness of leveraging design thinking for a deep-acting tool in the form of a board game, it's important to acknowledge certain limitations that may affect the generalizability of the results. Firstly, the small sample size raises concerns about the representativeness of the findings and limits the ability to draw broader conclusions. Additionally, the participants who voluntarily signed up for the event and research may inherently possess a more positive disposition towards gamification, potentially biasing the sample towards favorable outcomes. Their enthusiasm and willingness to engage may skew the results towards a more positive perception of effectiveness. Therefore, caution should be exercised when extrapolating these findings to broader populations or contexts, as they may not accurately reflect the attitudes and experiences of individuals less inclined towards emotional authenticity in a gamified context.

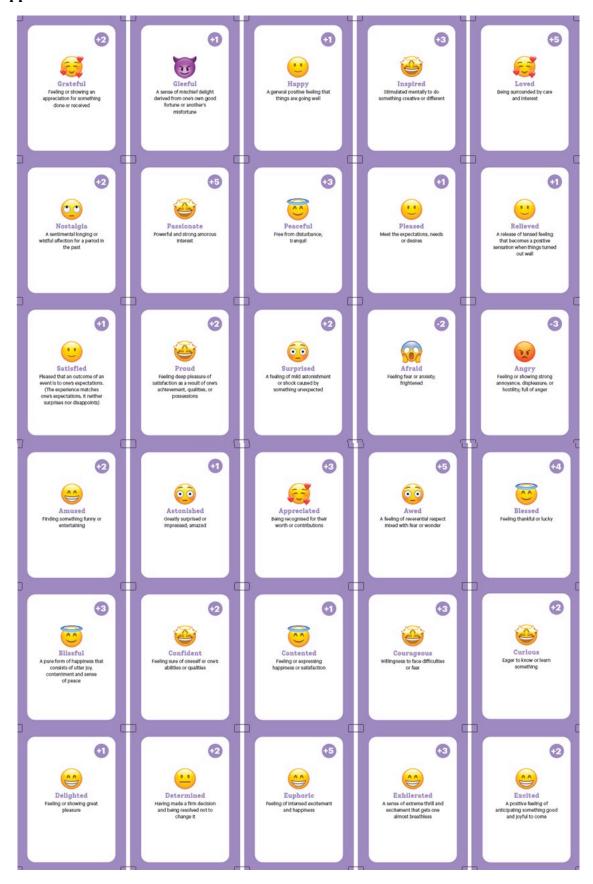
#### Recommendations

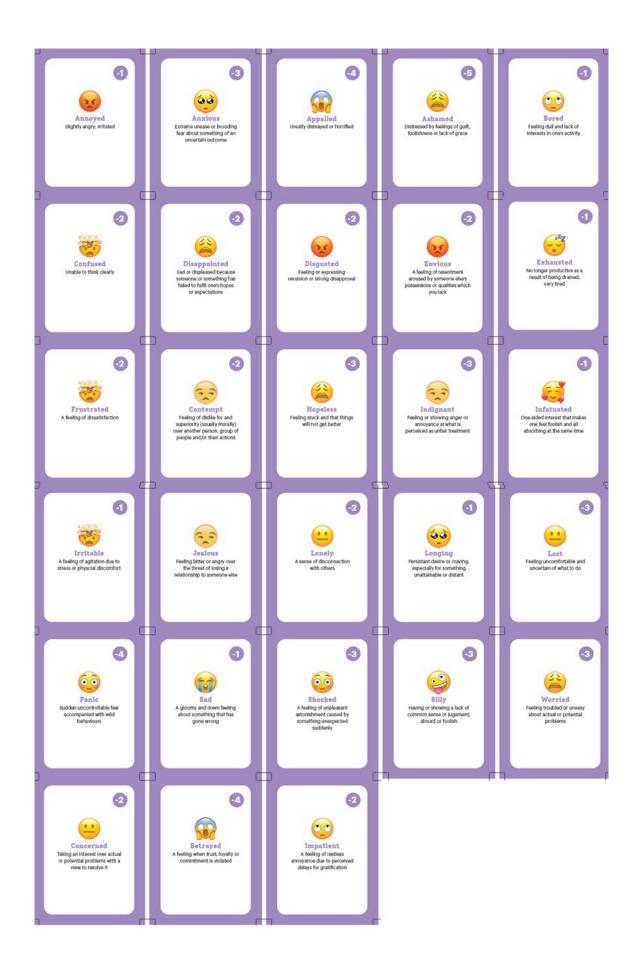
True to the iterative nature of design thinking, the next steps involve leveraging the research outcomes to inform a new iteration of gamification design, with a particular emphasis on incorporating storytelling elements. By infusing narratives into the gamification process, designers can enhance engagement, emotional resonance, and overall effectiveness. Furthermore, it is imperative to conduct further research using larger and more diverse samples. This expanded research approach will allow for a more comprehensive validation of the findings and provide a deeper understanding of how gamification impacts individuals with varying levels of familiarity and enthusiasm towards the concept. By embracing this iterative and inclusive approach, designers can refine and optimize gamification strategies to better meet the needs and preferences of diverse user groups, ultimately enhancing the potential for meaningful and sustainable impact of a deep-acting tool.

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### **Appendix A-1: List of Emotion Cards**





# **Appendix A-2: List of Milestone Cards**

Milestones	Description in the card	
Got my driving liscense	Beep Beep! The roads will never be safe again	
Started Dating	Love is in the air! It's time to find your life long partner.	
Got My Masters Degree	You took a risk to go back and study and it has totally paid off! The only way is up!	
Got my PhD	Congratulations on becomeing a Doctor, we just won't come to you when we are sick.	
Hired by my dream company	Dreams really do come true, and hard work really does pay off!	
Promoted to Manager	Through the blood, sweat and tears, your hard wark has paid off.	
Promoted to Director	You've sacrifised a lot to get here, but the hard work doesn't stop now, keep going!	
Promoted to Team Leader	You're a natural team leader, not just good at your job, but you also know how to inspire others to do their job better.	
Promoted to Regional Director	You've sacrifised a lot to get here, but the hard work doesn't stop now, keep going!	
Head-hunted to a new job	You are in demand! It feels good to be wanted, doesn't it?	
Made CEO	Everyone dreams of being their own boss, but not many become CEO of a huge organisation. Congratulations!	
First Car	Total freedom has arrived! It's time to explore.	
Upgraded Car	Upgrading the first car to a family car	
First Apartment	It's time to settle down and make your new house a home.	
House - upgraded!	Upgrading from studio apartment to 3 bedrooms apartment	
Bought a landed property	You are moving up in the world, you now own land! It's time to use those green fingers of yours.	
Got Married	Congrats! You just got married to your childhood sweetheart!	
Having a Child	Your family is growning! It's time to welcome this bundle of joy into the world!	
Won an award	WOW! You have been recognised for your amazing work! We can't wait to see what you do next.	
Long service award at company!	20 years at the same company is quite an achievement!	
Start my own business	You've taken a leap of faith, let's hope this new venture succeeds.	
Bought my own First class air-tickets to holiday	That recent bonus has been put straight to work in flying you first class around the world on your next adventure!	
Climbed Mount Everest	Yes the hard part is climbing up, but the hardest part is making it back down. This is an achievement you will never forget and has tought you lessons you will take into the rest of your life.	
Invited to speak on TEDx	Your voice matters and people clearly want to hear more of what you want to say!	
Published a book	You're now a published author! We can't wait to read your next book!	
Have a street named after me!	Next level unlocked. There aren't many people who can say they lived to see the day a street was named after them.	

Overcome cancer!	You may have won the battle, but you couldn't have done it without your friends and family. Here's to many more years with them!
Starting over again	Your business had gone bust but you managed to convinced some investor to start over again
Starting over again	Got over your divorce and start dating again
Proud parent	My child won the best student award in school
Wedding Anniversary	Celebrating 20 years of marriage and still passionately in love!
Stood up to bully at work	Enough is enough! Well done for being courageous and standing up to the bully.
Wedding Again!	Just because it didn't work out the first time, doesn't mean this isn't the one.

# **Appendix A-3: Situation Cards Scenarios**

Situation Cards Scenarios	Description in the card	
Stolen credits	My colleague took credits for the work that I have done	
A Bad Day!	The day that everything went wrong	
Swindled	I've got scammed \$100,000!	
Unrecognised efforts	I have been working very hard the whole year, but still being by-passed for promotions	
Overworked	I have been working 15hours every day for the past month!	
Discriminated	You are in the "out-group" because of your gender, race or anything!	
Back-stabbed	I thought she is my best friend, but she is spreading malicious gossips about me in the office	
Obnoxious colleague	I have an obnoxious colleague who keeps correcting my grammar	
Automation is coming	I am being replaced by a robot	
Dead End Project	Your project is put ————on hold indefinitely,	
	once again.	
Fickle Minded Bosses	Management keeps changing their minds.	
Living on the office's couch	Your team stays late and ————————————————works long hours regularly, lowering moral and productivity.	
I Don't Have a Crystal Ball	Uncertainty about the future means making plans is difficult	
No trust here	The bosses and senior management can't stop micro-managing.	
Covert bullying at work	My supervisor have been piling work unfairly on me and also constantly criticised my work with sacarsm	
Mid-life crisis at 40!	You have hit mid-life crisis, at the cross road of don't know what to do	
Looking for a job	Sent in 100 job applications but heard back from none.	
Retrenched	I have been retrenched	
Back to school	Decided to go back to school, to do a part-time postgrad certification.	
Imposter Syndrome	I don't feel I deserve the promotion or recognitions others have given me	
Technologically challenged	Can't catch up with all the new systems and softwares implemented in the office.	
Debts Pilling-Up	Just can't seem to clear my debt even after the promotion and increment	
To go or not to go	Being offered my dream job overseas, but means leaving my family, friends and partner behind	
Routined life	Have been doing the same job, same routine in the same company for last 10 years	
Lonely work life	We don't socialise in my office and no one lunches with me	
Affairs in the office	I found out that my colleague is sleeping with the boss.	
2nd Career	Burnt out from my job. Want to try something new but don't know where to start.	
Resignation or not	Hate my job, but it pays the bills	
Indecent Proposal	My boss made me an indecent proposal in-return for my promotions at work	

Appendix B: Study Equipment - First Prototype of the Board Game & Cards Design





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