



## Work-In-Progress—Exponenself: Exploring and Strengthening Cultural Identity from Virtual Reality to Reality

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**Abstract.** This Work-In-Progress introduces *Exponenself*. It is a virtual reality (VR) platform designed to help individuals in exploring and strengthening their identity through embodied self-dialogue. This tool has the potential to help reduce the risk of mental health issues, particularly among Asian Americans who may face racial/cultural identity crises, as well as experiencing a lack of safe spaces to process microaggressions. Through self-dialogue sessions, users can take on different roles, including therapist, past self, and parent, to facilitate identity development and cultural heritage preservation. The design of *Exponenself* is grounded in the assumptions that role-playing games can provide a safe and immersive space for individuals to explore their identity through avatar creation, and that self-dialogue, especially with avatars that resemble oneself, can be advantageous for identity development. *Exponenself* is intended to serve as a preventative and educational tool before therapy sessions and a companion and maintenance tool after treatment. Its underlying principles are based on the theories of perspective taking [1], Solomon's paradox [2], the Proteus effect [3], and the Empty Chair Technique [4]. The use of avatars and non-player characters (NPCs) to facilitate identity talk in VR aims to help users build internal confidence and resilience to manage real-life challenges and increase understanding and appreciation of cultural diversity. By offering a safe and engaging space for users to explore their identity and cultural heritage, *Exponenself* has the potential to aid in reducing mental health risks and to provide support to those who may not have access to safe spaces for processing microaggressions.

**Keywords:** Virtual Reality, Identity Development, Mental Health.

### 1 Problem

Immigrants living in the United States face numerous difficulties linked to their racial and cultural identity, which can result in higher rates of mental health problems [5]. One major issue for Asian Americans is the challenge of reconciling their ethnic heritage with American culture [6]. This cultural conflict can lead to confusion about one's own identity, which can result in feelings of marginalization, alienation, and disorientation [7]. Studies have shown that having a solid sense of identity is associated with better mental health, greater psychological well-being, and decreased participation in risky behaviors [8].

Conversely, a lack of a clear identity can contribute to mental health issues such as anxiety and depression [9]. Asian Americans may also face discrimination and microaggressions due to their intersecting identities, such as being perceived as perpetual foreigners or experiencing colorism within their own communities [10]. Therefore, it is crucial to recognize the intersectional experiences of Asian Americans to provide culturally responsive mental health support and promote holistic well-being.

## 2 Research Foundation

The Sigmund Freud virtual reality counseling paradigm uses virtual reality technology to create a therapeutic environment where individuals engage in embodied self-dialogue and explore unconscious thoughts, leading to greater self-awareness and insight [9]. The Empty Chair Technique is a form of role-playing in Gestalt therapy where individuals imagine a significant person and express their emotions and desires to gain new insights and process unresolved conflicts [11]. Both techniques are influenced by Solomon's paradox, where individuals give better advice to others than themselves, and perspective-taking or body-swapping can help gain a new perspective to enable this paradox [2]. The Proteus effect shows that an individual's behavior can be influenced by their avatar in a virtual world, suggesting the potential of virtual reality for personal growth and behavioral change [10].

It is a common observation that individuals are more skilled at providing advice to others than to themselves, even though individuals are the most knowledgeable about their own selves. By using virtual reality, one can detach their mind from their body and view things from a unique vantage point. This ability is particularly valuable when individuals experience stress and wish to converse with someone who shares their background. This phenomenon is thoroughly studied in medicine and is referred to as "cultural competency."

## 3 Solution

I suggest a two-part self-dialogue solution to help immigrants enhance their confidence and resilience in real life and feel more comfortable with themselves. This approach will allow users to engage in a therapeutic internal conversation with different parts of themselves, providing a safe and controlled environment for self-reflection and exploration of their thoughts, feelings, and experiences. The goal is to help individuals gain a deeper level of self-awareness and insight, leading to a stronger sense of identity and the ability to overcome challenges more effectively.

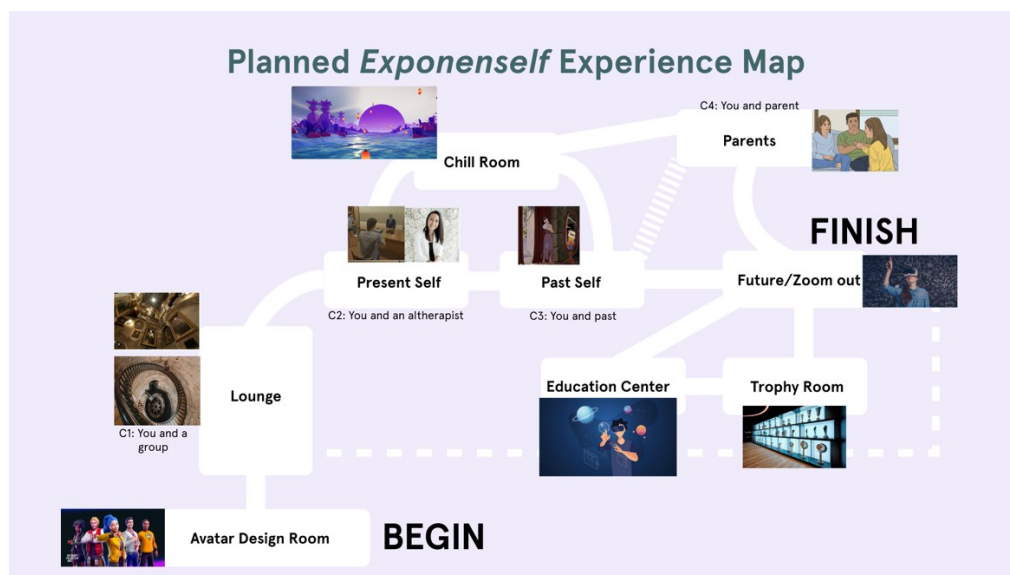


Fig. 1. Planned Exponenself Experience Map.

The proposed self-dialogue solution for helping immigrants build confidence and resilience to deal with real-life challenges and become comfortable with themselves involves two parts. First, the users will create their own avatar, a digital twin representation of themselves, using Ready Player Me SDK integration.

Once they have designed their avatar, users will enter a virtual lounge where they can hear other avatars' perspectives on identity or personal stories. The main part of the self-reflection session then begins, where users will conduct a self-dialogue session in the role of a therapist, aiming to resolve any current problems they may be facing.

Next, users will use timeline therapy techniques to revisit their past, by having a conversation with their younger self, and then switching roles to talk to their present self. The goal of this exercise is to clear the past and empower their future.

An optional chapter dealing with relationships with parents is available for users who wish to participate. They will engage in a back-and-forth role-playing conversation with their imagined parents, with the aim of developing empathy for their parents and restoring parent-child relationships.

At the end of the self-dialogue sessions, participants will be encouraged to reflect on their experience and write a personal note. They have the option to share their thoughts with other users in the lounge, along with their avatar.

For those who may find it difficult to address past traumatic experiences in the present/past/parent chapter, there is a chill room available where they can relax and meditate in virtual reality. Moreover, after the future/zoom out chapter, users can visit the education center to learn more about mental health and cultural heritage. This self-dialogue journey is not just a one-time experience. Users can earn badges and trophies that can be displayed in the trophy room as a recognition of their progress and achievements.

## 4 Evaluation Strategy

To Asian Americans, mental discomfort and mental illness are two separate issues with unique impacts on their racial and cultural identity. Mental discomfort involves feelings of unease, confusion, and dissonance due to navigating between two cultures and balancing ethnic heritage with American culture [12]. Mental illness, on the other hand, refers to a diagnosable disorder that impairs cognitive, emotional, and social functioning [13].

To minimize potential risks and ensure the efficacy of the project, this project will focus specifically on mental discomfort among Asian Americans, while leaving the treatment of mental illness to clinical professionals. The eligibility of participants will be assessed using PHQ-9 and GAD-7 screening tools, and those who reach the threshold for clinical help will not be eligible for participation. The program is designed to last between 15-30 minutes per session, with evaluations conducted every 3-6 sessions. Participants will be asked to complete pre- and post-experiment questionnaires, including the Asian American Identity Scale, PSS-4 (stress about identity), and BRCS (resilience and coping mechanisms), and a follow-up assessment will be conducted one month after the program to further evaluate its effectiveness and efficacy.

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