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Master's Thesis
Academic Year 2025

Like Peas in a Pod: Supporting the Psychological
Needs Satisfaction of Foreign Residents in Tokyo
through a Card-Based Social Experience



Keio University
Graduate School of Media Design
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A Master's Thesis
submitted to Keio University Graduate School of Media Design
in partial fulfillment of the requirements for the degree of
Master of Media Design

Christopher Paul Clayton

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Abstract of Master's Thesis of Academic Year 2025

Like Peas in a Pod: Supporting the Psychological Needs
Satisfaction of Foreign Residents in Tokyo through a
Card-Based Social Experience

Category: Design

Summary

Urban loneliness is a growing concern among foreign working residents in Tokyo, where language barriers, cultural distance, and demanding work schedules often make it difficult to form and maintain relationships. This thesis explores how small-scale social group configurations can foster connection and mutual support within this population. It presents *Peapod*, a multi-week, card-based group experience designed to help participants socialize more intentionally by co-creating a shared purpose and set of activities. Grounded in Self-Determination Theory (SDT), the study examines how the experience influenced participants' core psychological needs (autonomy, competence, and relatedness) within the broader context of their social lives. Using a mixed-methods approach that includes pre- and post-intervention surveys, interviews, and observational data, the research finds that Peapod helped participants engage more confidently in their social circles, develop interpersonal skills, and experience deeper connections. The study offers insights into how intentionally designed small-group formats can function as valuable social infrastructure in urban contexts where meaningful relationships are often hard to nurture.

Keywords:

small scale social groups, foreign working adults, design, psychological needs satisfaction, Self-Determination Theory, card-based intervention

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Chapter 1

Introduction

1.1. Searching for Connection in Tokyo

In recent decades, Tokyo has experienced significant transformations characterized by accelerated urbanization, demographic shifts, and dynamic economic transitions [1]. As Japan's most populous metropolitan area, Tokyo's dense urban environment has long presented challenges related to loneliness among residents, a situation notably intensified by the COVID-19 pandemic [2]. Working professionals, navigating demanding occupational environments, are particularly susceptible to experiences of loneliness and decreased social connection [3].

This sense of loneliness is notably pronounced among Tokyo's expanding community of foreign working adults. The increased global mobility and internationalization of Japan's labor market have resulted in a growing number of foreign residents encountering unique barriers such as language difficulties [4], cultural dissonance [5], and limited personal networks [6]. These obstacles exacerbate the challenges of effectively integrating into local communities.

In response to similar challenges faced in other places around the world, novel forms of social experiences and alternative approaches to community building aimed at alleviating loneliness within atomized urban environments have begun to emerge. Amid declining availability and accessibility [7] of traditional 'third spaces', [8] informal public spaces that include community centers, libraries, and neighborhood cafes where people gather and socialize regularly, grassroots initiatives have been taken to fill these gaps. Although interventions implemented by local governments and nonprofit organizations exist, such volunteer-driven initiatives have increasingly taken the lead in social innovation around creating spaces for community connection [9]. Examples that have personally inspired this re-

search include Midnight Cafe¹, a grassroots group in New York City that provides unconventional community gatherings, and the emerging 'microsolidarity' framework (developed by community practitioners, particularly in Europe and the Americas), which emphasizes building intentional small groups to create robust networks of belonging.

Within the English-speaking social landscape of Tokyo, grassroots community-building efforts remain notably limited. Although the city hosts a wide array of social networking groups, many tend to center around surface-level or transactional interactions, such as language exchange, professional networking, or hobby-based events, rather than fostering deeper forms of connection. Recognizing this gap and drawing on the researcher's own positionality as an English-speaking foreign resident of Tokyo, the present research emerged in parallel with the co-founding of Kizuna Collective: a community initiative aimed at cultivating authentic and meaningful relationships between diverse backgrounds through regular public gatherings. Over the past year, ongoing participation in organizing and stewarding this community has shaped the research motivation: to investigate how intentionally designed, small-scale social formats might respond to experiences of disconnection common among foreign urban residents.

1.2. Problem Statement

This inquiry focuses particularly on foreign working adults, a demographic shaped by two intersecting vulnerabilities. First, as foreigners in Japan, they often encounter the aforementioned cultural and linguistic barriers that impede social integration and access to local networks. Second, unlike students, working adults typically lack built-in social infrastructure such as university communities, which can otherwise provide a consistent basis for interaction. As such, they must actively seek out or construct alternative pathways to sustained social connection, given that existing outlets tend to be superficial or transactional. The present study responds to this challenge by developing and testing a service called *Peapod*:

1 Midnight Cafe is a grassroots group organizing events centered around connection and curiosity. Their website: <https://www.instagram.com/midnightcafe.nyc/?hl=en>

a card-based multiweek experience designed to support foreign working adults in co-creating intentional social groups.

1.3. Research Question

This thesis is guided by the following research question:

- How does participation in Peapod affect the satisfaction of core psychological needs within the social lives of foreign working adults in Tokyo, specifically across the dimensions of autonomy, competence, and relatedness, as defined by Self-Determination Theory?

1.4. Goal and Contributions

The primary goal of this research is to explore how the 'Peapod' small group experience could support the satisfaction of the psychological needs of foreign working adults in Tokyo in their social contexts. This thesis makes two key research contributions. First, it offers a design contribution through the development of a novel card-based group experience that empowers users to form social groups without requiring expert facilitation. Second, it provides an empirical contribution by applying Self-Determination Theory to a real-world intervention among foreign residents in Japan.

1.5. Thesis Structure

This thesis is organized into five chapters as follows.

- **Chapter 1: Introduction (current chapter)** outlines the background, research motivation, problem statement, research questions, goals, contributions, and thesis structure.
- **Chapter 2: Literature Review** outlines the conceptual foundations of the study, focusing on the social challenges faced by foreign working adults in Tokyo, the role of psychological need satisfaction, design principles for small-group cohesion, and the use of card-based tools to scaffold interaction.

- **Chapter 3: Concept Design** details the development of the Peapod intervention, including design principles, card mechanics, and facilitation strategies. It also describes how the intervention aligns with the study's conceptual and theoretical goals.
- **Chapter 4: Proof of Concept** presents the implementation of the intervention, outlining the participant experiences and data gathered. It provides a mixed-method analysis of psychological need satisfaction and group dynamics.
- **Chapter 5: Discussion and Conclusion** reflects on the key findings in light of the research questions, discusses their implications, notes limitations, and suggests future directions for research and application.

Chapter 2

Literature Review

This chapter reviews the key bodies of literature that inform the design and evaluation of the intervention. It begins by examining the social realities of foreigners in Japan, emphasizing the need for accessible formats that support meaningful connection. Next, it introduces Self-Determination Theory as the analytical lens used to understand how social experiences affect psychological need satisfaction. The chapter then turns to design-oriented perspectives on small-scale group formats, identifying core dynamics that support social cohesion. Finally, it explores card-based interventions as a flexible tool for scaffolding interactions. Together, these domains reveal both conceptual foundations and practical gaps that this research seeks to address.

2.1. Social Realities of Foreign residents in Japan

Foreign residents in Japan face a variety of structural and interpersonal barriers that complicate efforts to form social ties. A substantial body of research highlights the role of language proficiency and cultural distance in shaping these challenges. Limited Japanese language skills restrict access not only to essential services, but also to informal social spaces and spontaneous communication, reducing opportunities for connection [4]. In addition, cultural differences in norms surrounding friendship and social behavior often create a sense of misalignment, even among long-term residents. Japan’s cultural tendency towards well-defined in-group / out-group boundaries can contribute to perceptions of exclusion [10], and many foreigners report an ‘invisible wall’ [5] that separates them from deeper forms of social belonging with local populations. This sense of exclusion is echoed in workplace settings, where foreign professionals - particularly during the shift

to remote work - have reported increased isolation and limited opportunities to build informal connections with Japanese colleagues [11].

These challenges are further intensified in major urban centers such as Tokyo, where the scale and pace of city life can reinforce anonymity and transient relationships [12]. Although cities offer greater diversity and more opportunities for social contact, they also tend to weaken the density of close social ties [13].

This dynamic often results in fragmented social networks and increased feelings of loneliness. According to the FY2023 Basic Survey on Foreign Residents conducted by the Ministry of Justice, 30.6% of foreign respondents reported experiencing loneliness ‘frequently’ or ‘sometimes’, with adults of working age comprising the majority of this group [14]. Experiences of loneliness were predictably exacerbated by the COVID-19 pandemic [15]. While these figures underscore the prevalence of social disconnection, they also point to a need for preventative and community-oriented approaches that address the underlying lack of social integration pathways.

A growing body of literature emphasizes the protective role of social networks and community belonging for international migrants. Miller et al. (2019) find that social ties and cultural identity significantly buffer against psychological distress among foreign residents in Japan [6]. Urakawa (2018) [16] similarly demonstrates that social capital, defined as the resources embedded in interpersonal relationships, is positively associated with self-reported health and life satisfaction among migrant workers. These findings align with broader research on social determinants of health, which places community connection as a key factor in well-being [17].

Despite this evidence, there remain a limited number of interventions for foreign residents in Japan that intentionally support social connections. While some local government¹ and civil society initiatives [18] have emerged in response to increased awareness of isolation post-pandemic, most are oriented toward integration into Japanese society and do not adequately address the nuanced social needs of foreigners themselves. In particular, there is a notable lack of interven-

1 For example, the Shinjuku government initiative ‘Shinjuku Multicultural Plaza, a multipurpose space aimed at fostering Japanese and non-Japanese residents having friendly exchanges and deepening their understanding of each other’s culture and history.

tions that support foreigner-to-foreigner interaction, despite evidence that such peer networks can serve as a critical foundation for broader social adaptation. As Ager and Strang (2008) [19] argue in their integration framework, ‘social bridges’ with the host population often emerge more successfully when supported by strong ‘social bonds’ within one’s own demographic. For many migrants, especially in early or transitional stages of residency, building trust and solidarity with other foreigners offers an accessible entry point into local social life and a buffer against isolation. This gap underscores the need for low-barrier community-based interventions within and between migrant communities.

2.2. Psychological Needs Satisfaction

Given the demonstrated importance of social connections for foreign residents, it becomes essential to understand the mechanisms underlying effective social interventions. To this end, Self-Determination Theory (SDT) provides an analytical substrate. SDT is a comprehensive psychological framework to help understand human motivation and well-being [20]. This research adopts the Basic Psychological Needs (BPN) sub-theory of SDT, as articulated by Deci and Ryan (2017) [21], which posits that humans possess innate tendencies toward growth, connection, and flourishing. From an organismic perspective, these tendencies are supported by the satisfaction of three core psychological needs: autonomy, competence, and relatedness.

Autonomy refers to the experience of acting with a sense of volition and wholeheartedness, where one’s actions feel aligned with authentic values and interests. Crucially, autonomy is not synonymous with independence; a person can be autonomously dependent or interdependent, so long as their behavior is self-endorsed rather than driven by internal pressure or external control. In contrast, actions that feel coerced, conflicted, or incongruent with one’s values signal a lack of autonomy, even if they are intentional on the surface. Competence involves the innate need to feel effective, capable, and masterful in one’s activities. It is expressed through curiosity, learning, and the desire to meet challenges in all domains of life, from solving problems to creative exploration. This sense of effectiveness supports intrinsic motivation, but is easily undermined in environments

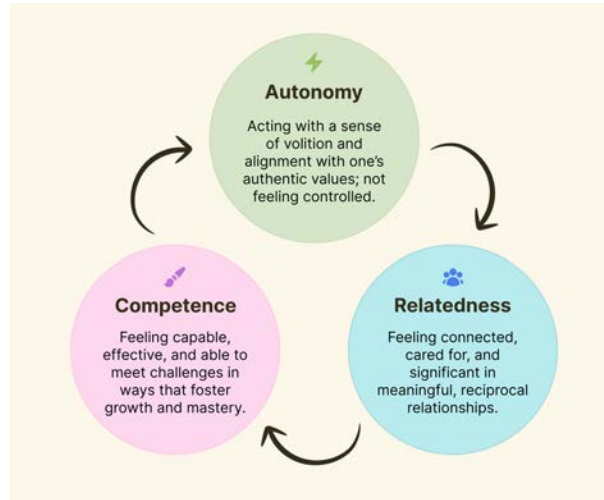


Figure 2.1: SDT Core Psychological Needs

where feedback is overly negative, tasks feel unmanageable, or social comparison erodes one's confidence. SDT views competence not as perfection, but as the felt sense of progress and impact in one's actions. Relatedness is the need to feel connected, cared for and significant to others. It encompasses not only being accepted and supported, but also contributing meaningfully to relationships and communities. Relatedness involves belonging both at the level of close interpersonal bonds and broader social participation, feeling integral to something larger than oneself. In this way, relatedness includes receiving and giving care, affirmation, and recognition. [22–24]. These needs feed into and mutually reinforce each other, as intimated in Figure 2.1, and their fulfillment is framed in the SDT literature as not only essential for optimal development and sustained well-being, but also protective against psychological distress when frustration occurs [25].

While originally developed to study intrinsic motivation, SDT has since expanded into diverse domains and has been widely applied in group-based contexts. In education, peer learning environments show that when students experience autonomy and relatedness within group settings, they demonstrate stronger cohesion and improved learning outcomes [26]. In the workplace, supportive environments for needs - where managers foster autonomy, encourage the development of competence, and express understanding - can improve the sense of volition, capacity,

and belonging of employees [27]. In community settings, inclusive and participatory environments have been found to satisfy members' needs for autonomy and relatedness, leading to greater engagement and a willingness to take initiative [28]. Community-based programs, such as volunteer groups or youth sports, are particularly effective when they intentionally foster warm social climates and provide meaningful opportunities for self-directed participation [29]. Across these varied contexts, the satisfaction of these three psychological needs consistently emerges as a critical predictor of psychological well-being, motivation, and adaptive functioning².

SDT has been extensively applied in these structured domains, yet its application in informal social group contexts remains comparatively underexplored. Much of the existing literature centers on dyadic relationships [30], such as those between romantic partners, friends, or hierarchical pairs like teacher–student or manager–employee, rather than collective group dynamics. For instance, La Guardia and Patrick (2008) [31] explicitly frame SDT as a “Fundamental Theory of Close Relationships,” focusing predominantly on dyadic designs to examine how need support operates within partnerships. Even when social groups are the unit of analysis, as in studies that predict well-being from group-based need satisfaction [32], these often assess static need levels rather than investigating how group processes dynamically shape autonomy, competence, and relatedness over time. Thus, it is new territory to explicitly use psychological need satisfaction as an evaluative framework for social group design. This thesis contributes to the growing, yet still limited body of work applying SDT in peer-based social settings.

2.3. Designing for Small-Scale Social Cohesion

As this study focuses on a social group intervention, small group design plays a central role. Research across community studies [33] has long highlighted the

2 To clarify, this study does not aim to make claims about well-being outcomes. Although there is ongoing debate within Self-Determination Theory regarding whether basic psychological needs contribute to or constitute well-being, this research focuses specifically on the satisfaction of these needs as defined within the SDT framework. It does not extend to measuring or interpreting broader well-being indicators.

distinct benefits of small groups for fostering connection. By crafting a structured small group experience, this project aligns with broader traditions in social design, which often involve working on small community scales and employing diverse artifacts of design [34]. Within and adjacent to this field, small-group cohesion has received particular attention. Small groups, typically defined as 2 to 20 individuals, allow for face-to-face exchanges, a high degree of mutual recognition, and the co-construction of group norms [35]. Their design is thus a crucial unit of analysis. In informal (including social) contexts, small groups often serve as entry points into wider communities by fostering social identity [36].

Although many small groups arise organically, recent research highlights how intentional design can shape the conditions for cohesion and longevity. One fundamental element is the size of the group. Studies show that smaller groups (between 3-8) enable richer and more reciprocal interactions [35]. Limited size increases the likelihood that participants can engage directly with one another, accelerating familiarity and strengthening group trust. Another key factor is shared identity or similarity among members. In diverse settings, homophily (shared traits, interests, or life contexts) emerges as a reliable predictor of initial bonding and smoother group dynamics [37]. Interaction frequency also plays a critical role – regular high-density communication fosters emotional investment [38]. Finally, small groups often develop emergent roles and norms, even without formal structure. Informal leadership tends to arise organically, influenced by the initiative of individual members, communication skills, or perceived social standing [39]. Although these roles are not assigned, they shape how the group functions day-to-day.

While existing literature on small-group design offers valuable insight into long-term cohesion, the present research explores a less examined terrain: the design of time-bound groups. This approach draws inspiration from an emerging practice-based framework called *microsolidarity* [40], developed by community practitioners around the world. *Microsolidarity* is defined as “a small group of 3 or 4 people connecting regularly to get to know each other and support each other in pursuing their developmental goals.” Its primary aim is to create structures for belonging by cultivating new intentional kinship networks. These groups are designed to counteract the isolating effects of individualism by fostering mutual care, accountability, and growth. A key feature of the *microsolidarity* approach is its emphasis

on temporality: the group is framed as a time-bound experiment from the outset. This boundedness reduces the social risk of participation by giving members a clear exit route - an expected end point that makes it easier to leave the group without awkwardness or guilt. At the same time, the approach acknowledges that ongoing group life is possible when the right ‘chemistry’ emerges, when shared values, schedules, and social rhythms align. These adaptations are often decided through lightweight retrospective conversations. Unlike many formal models of group cohesion that assume indefinite duration or require sustained buy-in, microsolidarity leverages short-term structure as a way to build trust quickly and make group experiences more accessible.

Although microsolidarity has not yet been fully theorized in the academic literature, it offers a compelling set of design principles for creating informal, peer-based group experiences. This study aims to take a preliminary step towards adapting and testing some of these principles (primarily the time-bound nature of the approach) in the context of the Peapod service. By evaluating how temporary social group structures can support core psychological needs, this research hopes to contribute both a novel application of practitioner knowledge and a new line of inquiry within the broader literature on group design and social connection.

2.4. Card-Based Interventions as Social Scaffolding

The use of a card-based format in this project was not derived from theory at the outset but rather emerged organically during the iterative design process described later in Chapter 3. As will be discussed then, through early prototyping and user feedback, physical materials such as cards proved to be an effective medium for structuring group interactions and prompting reflection. In line with an abductive research approach, this practice-led insight later found theoretical support in the existing literature. A growing body of interdisciplinary work across psychology, human-computer interaction (HCI), and education affirms the potential of card-based tools to scaffold social connection.

Card-based tools offer a unique set of affordances that make them well-suited for facilitating social connection. Their tangible, modular and constrained nature

provides a sense of structure without being too rigid. Cards also offer just enough constraint to reduce social ambiguity: each prompt serves as a bounded stimulus, making personal reflection feel manageable and socially sanctioned [41]. Because cards can be shuffled, drawn randomly, or intentionally selected, they allow both serendipity and intentionality, creating a blend of playfulness and depth [42]. Furthermore, the physicality of cards allows for a kind of 'social presence' even in digitally mediated environments, as shown in hybrid tools such as Proteus Deck, which uses E-Ink cards to restore co-presence in remote interaction [42]. These affordances make cards particularly effective in settings where emotional safety, turn-taking, and co-creation are essential to the experience design.

Card-based experiences are increasingly used in various domains. Van Bogart et al. (2023) [41] report on the design and evaluation of *Connections*, a cooperative card game designed to reduce loneliness and foster interpersonal closeness. The game draws on theories of self-disclosure and serious game design [43], incorporating prompt cards that invite players to reflect on values, experiences, and emotions. A pilot study showed that players of *Connections* reported statistically significant reductions in loneliness and qualitative reports of increased intimacy and comfort with others. These results affirm the utility of cards not only as conversation starters, but also as structuring agents for shared vulnerability and trust building. Recent card toolkits such as *Analogia*, developed at the MIT Media Lab [44], combine AI-generated images, tactile card components, and storytelling rules to create environments that 'inspire emotion-rich conversations'. The design principles that emerge across these examples, including usage of structured prompts, turn-taking rules, and thematic constraints, offer a transferable logic for designing any card-based social intervention.

In sum, while the use of cards in Peapod emerged from iterative experimentation rather than theoretical prescription, the intervention aligns with a larger body of research demonstrating the efficacy of card-based tools in facilitating trust, reflection, and connection in group contexts. As such, they provide a valuable design grammar for peer-led social experiences.

This chapter has explored the multifaceted social realities of foreign residents in Tokyo, characterized by urban loneliness, language barriers, and fragmented social networks, highlighting a need for accessible formats that support mean-

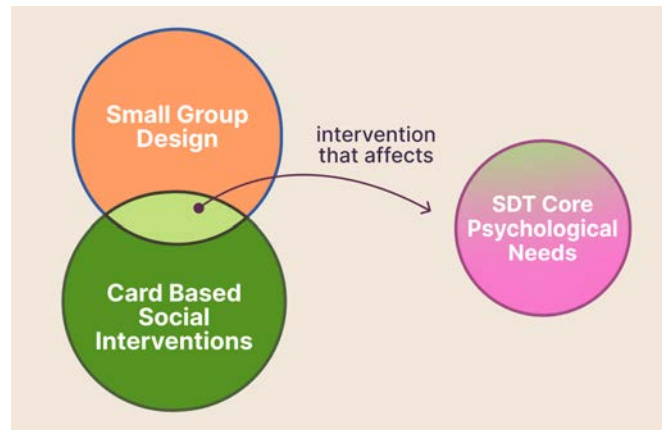


Figure 2.2: Focus Intersection for the Study

ingful connection beyond surface-level interactions. Against this backdrop, Self-Determination Theory was introduced as a robust framework for understanding the psychological needs for autonomy, competence, and relatedness, noting its comparatively underexplored application in informal social group contexts and as an evaluative framework for social group design. The review also delved into design principles for small-scale social cohesion, emphasizing the benefits of small, intentional groups and drawing inspiration from the emerging community praxis of time-bound microsolidarity to foster rapid trust and reduce commitment risk. Finally, the utility of card-based interventions as social scaffolding was presented, affirming their potential to structure interactions, prompt reflection, and build emotional safety.

In response to these identified gaps, the following chapter will outline the design of an intervention explicitly designed to support foreign working adults in Tokyo with their core needs satisfaction through intentional social groups. To do this, the intersection between literature on card interventions and social group cohesion will be consulted, as represented in Figure 2.2. By applying SDT as both a generative and evaluative lens to this intervention, the research aims to provide both a design contribution and an empirical contribution to the application of SDT.

Chapter 3

Concept Design

3.1. Chapter Overview

This chapter outlines the process and rationale behind the design of a time-bound, card-based group experience called Peapod, developed to support participants' satisfaction of autonomy, competence, and relatedness in social settings. It is divided into two main sections: the first details the iterative design process that shaped the development of the intervention, while the second presents the final version of the experience and its key components.

The project adopts a Research-through-Design (RtD) approach, in which design is treated not only as a communication or implementation method, but as a primary mode of knowledge production [45]. Within this framework, design artifacts act as epistemic tools that allow researchers to explore complex situated phenomena through iterative making and reflection [46]. RtD is particularly suitable for open-ended and context-dependent problem spaces, where the goal is not to test a hypothesis in isolation but to generate insights through lived engagement and reflective practice [47]. Rather than beginning with a fixed solution or predictive model, this project unfolded through cycles of prototyping, testing, reflection, and redesign — a characteristic mode of inquiry in RtD [48]. In this process, the service itself, such as the present card-based social experience, acted as both the outcome and the method: a structured intervention and a lens through which to understand how group-based formats might meet psychological needs.

In parallel, methods and tools from service design were used to shape the user experience at a systemic level. These included mapping the user journey and embedding co-creation as a core principle of value co-production [49]. Participants were also regarded as coauthors of the group experience who shaped norms,

content, and facilitation style. This aligns with both participatory design traditions and contemporary service design thinking, which view value as emergent and relational rather than fixed or delivered [50].

3.2. Iterative Design Process

3.2.1 Initial Exploration: Social Pain Points Workshop at KMD

The origins of this project can be traced to an exploratory workshop held at Keio University’s Graduate School of Media Design (KMD), designed as an early scoping exercise to surface pain points within existing social contexts for foreign residents in Tokyo. This session functioned as a generative phase within the broader RtD process, where situated engagement and exploratory making form the basis for investigations [51].

The workshop involved eight international participants from diverse cultural backgrounds, all graduate or doctoral students enrolled at KMD. Although the workshop sample consisted of graduate students and may not reflect the full spectrum of foreign working adults in Tokyo, it functioned effectively as a generative framing device. As emphasized in RtD, early participatory engagements are less about identifying final answers and more about revealing the contours of the problem space [52].

The structure of the session was based on service design methodologies. Drawing from tools such as user journey mapping [53] and future scenario ideation [54], participants engaged in an activity centered around a fictional character navigating various urban environments in Tokyo over the course of a typical day. At each hypothetical location, such as cafes, parks, co-working spaces, or social venues, participants collaboratively imagined what the character would do, how they might feel, and what social interactions (or absences) might occur, the outcome of which is shown in Figure 3.1. They were then asked to articulate both emotionally fulfilling moments and specific limitations or frustrations the character might encounter in those settings. These included factors such as social awkwardness, lack of emotional safety, cost barriers, or spatial design constraints.

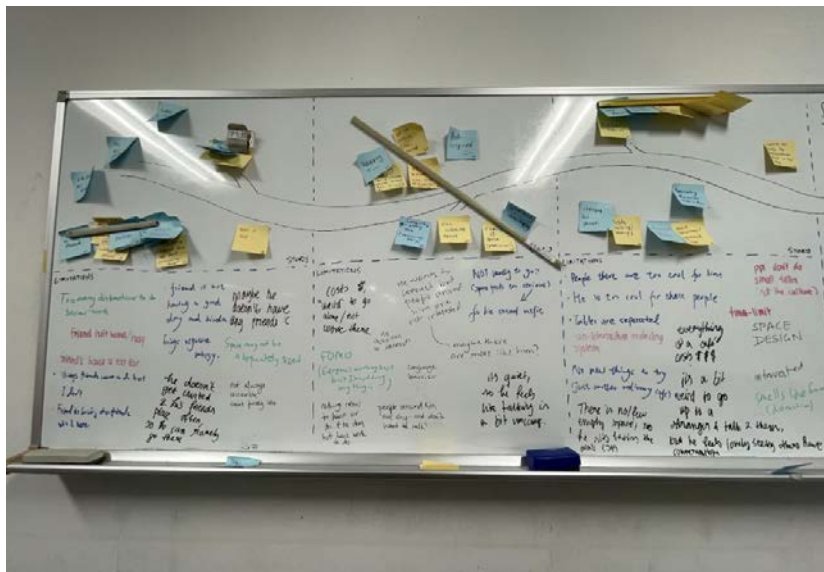


Figure 3.1: Outcome of the User Journey Mapping from the KMD Workshop

This empathetic storyline mapping allowed participants to externalize their own experiences while reflecting on common challenges in forming meaningful connections in the city. Following the mapping, a divergent brainstorming session invited participants to imagine characteristics of ideal social spaces that would better meet emotional and relational needs.

Guiding questions included:

- What makes current social settings unsatisfying or inaccessible for foreign working adults in Tokyo?
- Where are the connection or continuity breakdowns?
- What would an ideal social environment feel like?

The analysis of the workshop surfaced a set of consistent and layered challenges around how social connection unfolds - or fails - in urban Tokyo. One major theme was the shallowness of typical social events within English-speaking circles. Many participants described frequenting spaces such as language exchanges, co-working cafés, or community meetups that were enjoyable on the surface but ultimately unfulfilling. These environments often foster merely casual and/or transactional

interactions with little infrastructure for follow-up or deepening connection over time. There was a sense that even when people attended with good intentions, the design of the setting itself (e.g., time-limited, open-door, lacking continuity) made it difficult to move beyond small talk or to feel invested in the relations there-in.

A second theme was scheduling friction and logistical burnout. Participants noted that even when they found people they genuinely liked, maintaining contact proved difficult. Long commutes and irregular working hours create a constant logistical challenge for group-based socializing. While many expressed interest in spending more time with others, they also felt that arranging and sustaining meetups involved disproportionate effort—especially when the group did not have a shared structure or rhythm. Related to this was a strong desire for emotional continuity: spaces that allowed people to build familiarity, comfort, and trust throughout multiple encounters. The participants reflected on how rare it was to experience a social setting that “picked up where you left off”, as most spaces required starting from scratch each time. They wanted environments where a sense of psychological safety could accumulate and where deeper conversations did not feel out of place or risky.

At the same time, a key tension emerged: participants wanted new ways to connect, and they also didn’t want to feel locked into indefinite or overly intense commitments. There was a general fatigue around group chats that fizzled out, ambiguous community “networks” with no clear purpose, or volunteer roles that quietly ballooned in responsibility.

3.2.2 Design Iterations

Following the initial exploratory workshop at KMD, it became clear that the issue was not simply a lack of opportunities to socialize, but a structural deficit in the kinds of social formats available in urban Tokyo. The participants voiced clear frustration with existing events and spaces that felt surface-level and irregular. The emerging hypothesis was that the same is true—if not moreso—for foreign working adults. Unlike these student participants, who encounter peers regularly through classes, clubs, or shared spaces on campus, it could be posited that working adults navigate a fragmented social landscape where it is difficult

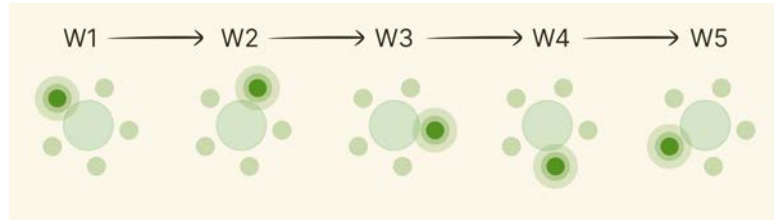


Figure 3.2: Iteration 1 Flow – One Pod with a Fixed Activity and Rotating Hosts

to consistently encounter the same people. Rather than designing yet another social event or platform to address this, the project turned toward reimagining how people gather, focusing on small-scale, time-bound, and intentionally structured formats.

The next phase of the design process therefore involved prototyping small group social experiences to test different facilitation models and group configurations. Each iteration functioned as a design experiment [55], aimed at generating situated knowledge about the relationship between structure, agency, and connection in social settings to address the above-hypothesized issues for foreign working adults.

Iteration 1 – Case Clinic Pod with Rotating Host Model

The first prototype of the service tested what would happen if a small group of mostly strangers committed to a lightly facilitated, recurring process of peer support. This version took the form of a 5-week pod, a deliberate design decision based on insights from an earlier workshop where participants expressed hesitation toward open-ended community commitments. Inspired by the time-bound structure of microsolidarity practices (see Chapter 2), the intervention aimed to provide a clear and clean end point. The group met weekly, with a small cohort of four to foster intimacy and ensure every voice could be heard. This was grounded in aforementioned literature around small-group cohesion. Meetings were held in quiet cafés across Tokyo, selected by the researcher for their comfortable and semi-private atmospheres. A rotating host model was used: the researcher facilitated the first session, and from there, participants took turns choosing the activity, setting the time and location, and coordinating via Instagram chat and LettuceMeet for scheduling. In the first session, participants co-created group

agreements to establish shared expectations for the space they wished to build together, as shown in Figure 3.3.

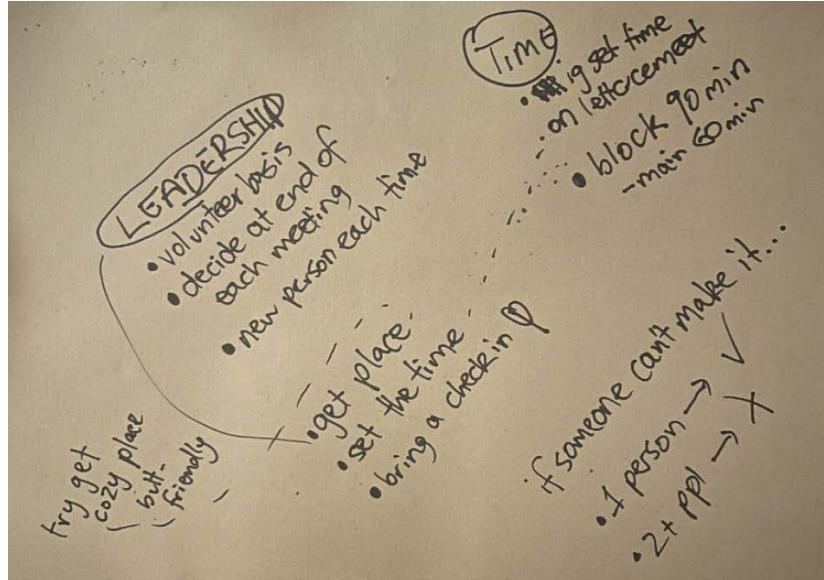


Figure 3.3: Co-created Group Agreements

The participants included four individuals from the researcher's personal network: a master's student, a Ph.D. candidate (both from the KMD program), and two working professionals. They ranged in age from 20 to 36 and came from Turkey, Russia, China, and India. All were fluent English speakers with varying levels of experience in reflective or peer support environments. Informed consent was obtained and semi-structured interviews were planned after the program to explore participants' motivations for joining and perceived outcomes. However, due to unexpected scheduling conflicts, only two interviews were ultimately conducted.

This prototype drew heavy inspiration from the Case Clinic method from the framework 'Theory U' [56], a structured conversational format in which one participant presents a personal or professional challenge each week, while the others take on the role of active listeners, offering reflective questions and insights. Listed as a suggested format on the microsolidarity website, the method emphasizes deep listening, open presence, and peer-generated wisdom, temporarily shifting group dynamics to foreground vulnerability, empathy, and shared meaning-making. An

official facilitation guide sourced from the Theory U website provided a step-by-step structure for each session, outlining phases such as check-in, case presentation, generative dialogue, and closing reflection. To complement the verbal process, a sheet of paper was placed in the center of the table during each session, inviting participants to doodle, sketch metaphors, or jot down phrases that resonated with them as the conversation unfolded. This informal visual practice helped externalize thought and allowed quieter forms of engagement to emerge.

One of the key reasons for adopting the fixed weekly format was to reduce ambiguity for the rotating host, particularly in a group where facilitation responsibilities were shared. By removing the need to decide what to do each week, the Case Clinic method served as a stabilizing structure that made the experience more accessible—even for participants without prior facilitation experience. The underlying hypothesis was that this kind of structure, combined with recurring meetings and distributed leadership, could enhance relatedness and psychological safety, especially for those unaccustomed to this kind of setting.

Several themes emerged from the post-interviews and observational notes. A common pattern was the contrast between the typical social lives of the participants – characterized by unstructured interactions and conversations at the surface level – and the intentional depth offered by the Case Clinic pod format. Many participants described how, even with close friends, it felt awkward to propose a more meaningful dialogue. “You can’t just tell your friends, ‘Let’s meet and talk about something deeper,’” one participant explained. “To me it feels weird

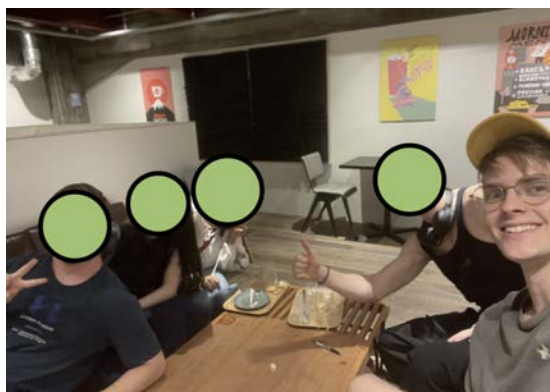


Figure 3.4: The Final Session of the Case Clinic Cohort

to bring that up.” In contrast, the group’s explicit purpose created an unusual permission to move beyond small talk. Discussions ranged from burnout and relationship dilemmas to cultural identity and self-doubt, anchored by the Case Clinic method, which focused each session on one person’s real-life challenge. The small group size was frequently cited as essential to the sense of cohesion. As one put it, “It was really nice that it was a small group. You felt like your voice mattered. In bigger spaces, I think I would have just stayed quiet.”

Another recurring theme was the difficulty of forming new friendships post-university, where shared classes and repeated encounters are no longer built-in. The pod, by contrast, offered a setting with sustained interaction and a sense of shared trajectory. One participant reflected, “It didn’t feel like a meetup or casual hangout where you just show up and leave. It felt like we were building something together.”

However, several structural limitations emerged. The turnout fluctuated from week to week - only the first and last sessions had full attendance - due to the logistical burden of coordinating the schedules without a fixed day and the variability of the commitments of the participants. Hosting responsibilities rotated, but asynchronous scheduling often proved tedious. In addition, participants entered with different levels of comfort in peer-led or emotionally vulnerable formats. One person joined expecting a discussion circle and expressed uncertainty when the focus shifted toward personal storytelling. Although the group was diverse in nationality and background, there was limited similarity in age, stage of life, or prior experience with group reflection formats. As discussed in Chapter 2, research highlights the importance of shared identity or context (homophily) as a key factor for cohesion. Because participants were somewhat randomly selected from the researcher’s extended networks, there was little intentional alignment beyond availability and general interest. This likely contributed to uneven expectations and engagement.

Still, moments of co-creation emerged organically. Participants began to adapt the format in innovative ways: some brought check-ins that could be done on paper, like an improvised activity using napkins to express mood and energy levels (Figure 3.5); others suggested changes to the reflection round. This sense of co-creation was reinforced by rotating facilitation, which several participants

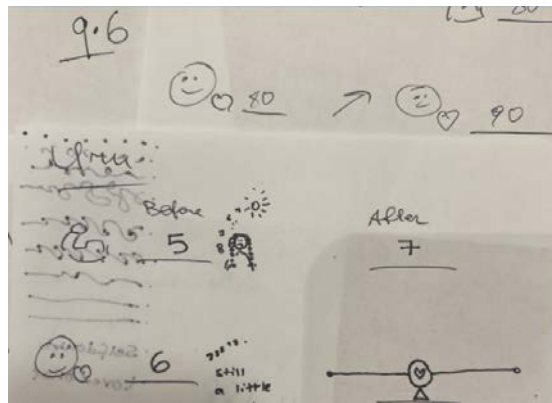


Figure 3.5: Improvised Check-in Activity by Participant

said made the group feel 'shared' rather than led by a single person.

These reflections informed several design considerations for the next iteration. First, establishing the full schedule in advance was identified as a way to reduce logistical friction and enhance participant commitment, both mentally and practically. Second, while the rotating host model in this prototype encouraged distributed responsibility, the following iteration aimed to explore how a fixed facilitation structure might influence group rhythm and cohesion across sessions. This comparative approach was intended to surface differences in participant engagement and perceived group safety under varying leadership models. Finally, self-selection into interest-aligned groups was introduced as a means of fostering initial resonance and shared framing, particularly in response to the variation in expectations and experience levels observed in this iteration.

Iteration 2 – Theme-based Pods with Fixed Host

The second iteration served as a proof-of-concept to explore a more scalable, interest-aligned model. Implemented within Kizuna Collective, the aforementioned grassroots community co-organized by the researcher, this prototype was positioned as part of community programming rather than formal research. Participants were not asked for consent, and thus no individual-level data was collected or analyzed; the focus was on developmental insight while also serving as a source of social value for that community. To align with research ethics standards,

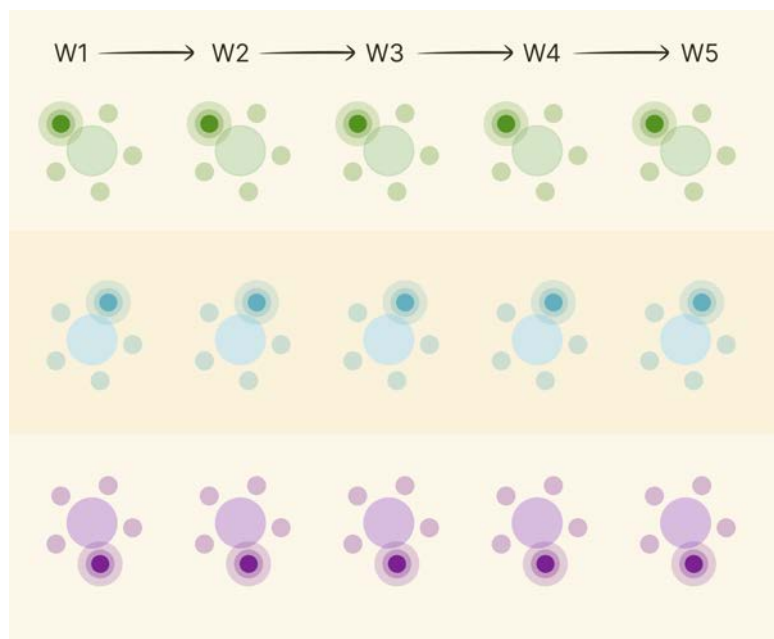


Figure 3.6: Iteration 2 Flow – Three Simultaneously Running Pods

the findings of this iteration were drawn only from aggregated group observations and organizer reflections, with no identification or evaluation data carried forward.

Three separate pods ran concurrently over a six-week period, with 4 to 6 participants per group, each hosted by other co-organizers within Kizuna Collective. An open call was shared within the community and across broader platforms like Meetup, inviting individuals to voluntarily join a pod based on thematic resonance. This self-selection process was designed to improve attendance, align expectations, and create a shared foundation for group dialogue. The session schedule was also fixed during the first session to address prior issues with weekly coordination and attendance, and to encourage early commitment.

Each pod centered on a different theme selected by its host, based on their personal interests and facilitation strengths: co-working on passion projects (facilitated by the researcher), unblocking creativity through journaling, and speculative design for social life in Tokyo (each facilitated by other Kizuna co-organizers). Unlike the rotating leadership model of the first iteration, the hosts were responsible for holding space for all the sessions within their respective pods. Meeting spaces

were arranged by each host and varied across pods, taking place in quiet cafés and small rental venues in the city. Costs for space rentals were shared among participants, allowing for flexibility in choosing environments that matched the tone of each group.

This diversity of topics marked a departure from the first iteration, which had used a uniform method (the Case Clinic process) across all sessions. In iteration two, there was no pre-existing framework guiding facilitation. Instead, the three hosts independently developed the structure and content for their respective activities, drawing on what they felt would best serve the theme and participant energy. Although a shared weekly rhythm emerged: opening check-ins, a central activity or discussion, and closing reflections, how that rhythm was enacted varied widely. The researcher’s pod used a simple format: a period of quiet coworking on passion projects, followed by a round of personal sharing about progress, challenges, or intentions for the week ahead. The speculative design pod took a more cumulative approach, with structured activities that built across the sessions, starting with brainstorming then gradually developing those ideas into speculative artifacts that participants shared at the final session. The unblocking creativity pod emphasized emotional exploration and reflective dialogue; each week centered on a new journaling prompt, with time for solo reflection, paired sharing, and group discussion. This diversity in session design reflected not only the different themes but also the facilitation styles and instincts of the hosts, allowing each group to find its own style.

This iteration yielded several valuable insights. Thematic alignment appeared to create an immediate sense of cohesion. Because participants opted into a pod based on a particular interest or life season, conversation flow was more organic, and groups had a stronger sense of mutual understanding early on. Compared to iteration one, attendance improved significantly: while the first version saw frequent absences with only 2 out of 5 sessions reaching full attendance, the second iteration saw a majority of participants attending at least 5 out of 6 sessions, with some pods achieving full attendance for multiple weeks. This suggests that upfront scheduling and commitment around a theme of mutual interest helped to strengthen engagement and follow-through.

However, the fixed host model also introduced new challenges. Although it



Figure 3.7: Iteration 2 Cohort Photos

provided consistency in terms of who was ‘leading’, hosts informally reported difficulties and pressure around the need to generate ‘engaging’ content week after week. Without facilitation templates, some sessions defaulted to miscellaneous conversation, which varied in quality depending on participant energy. Furthermore, some participants expressed interest in co-creating the weekly experience, for example, suggesting activities, but there was often hesitation about whether and to what extent such contributions were welcome. This highlighted a subtle power dynamic: even in a peer-led environment, having a designated facilitator for the whole time can unintentionally establish a sense of authority, making others less likely to initiate change.

These results pointed toward the need for some kind of co-creation mechanism that could invite participant contribution more explicitly. Moreover, while having pre-set topics for the pods improved engagement and fixed facilitators brought rhythm, it became clear that the long-term sustainability of the model would require scaffolds that decentralize responsibility without sacrificing structure. In response, the next iteration focused on developing a toolkit that embedded facilitation into tangible materials, enabling groups to co-create the content and direction of their sessions collaboratively.

Synthesis of Insights

In sum, across both prototype iterations, several key insights emerged that shaped the final version of the service. First, participants responded positively to elements that introduced rhythm and predictability, such as pre-scheduling the sessions, and check-ins and check-outs in each meeting. However, there was a simultaneous desire to shape the group experience; Whether by suggesting prompts, choosing themes, or taking on small facilitation roles, many wanted to move beyond passive attendance. However, when too much responsibility fell on a single host - or when the roles were unclear - this openness became overwhelming. The design challenge thus becomes: how to scaffold co-creation in a way that distributes agency without increasing cognitive burden?

Second, somewhat unexpectedly, physical materials, such as check-in activities on paper, played a significant role in cultivating presence. Participants described these low-tech tools as grounding, warm and ritualistic, especially in contrast to ambient digital fatigue in other areas of their lives. This illustrated the value of tactile interaction in creating resonant experiences and offered a compelling direction for a physical, paper-based artifact.

One of the most consequential shifts in insight was recognizing that participants were often drawn to the context of the group—the shared intentions, atmosphere, and quality of presence—more than to any specific content. In other words, the cohesion of a pod did not depend solely on the format or topic, but on the sense of shared relevance. While early prototypes relied on pre-determined session formats (e.g. Case Clinic, or the theme-based pods), it seemed that participants wanted more freedom to define what the group was for. This pivot opened the door to rethinking facilitation not as delivery of content, but as cultivation of conditions—inviting the group to set its own intentions and topics based on shared needs.

These learnings directly informed the development of the final service: a small-group social experience designed to balance structure and flexibility, enable co-creation, and foster emotional safety. At the center of this service is a physical artifact, a modular card deck, that functions as a facilitation guide.



Figure 3.8: Flow of the First Peapod Session

3.3. Final Designed Service: Peapod

Peapod, the final design, builds on all insights from the previous iterations. It takes the form of a five-week peer-led group experience, accompanied by a modular card-based tool, intended to be experienced by small groups of around 3-5 people. The experience consists of one orientation session followed by four weekly sessions, each hosted by a different group member, hosted at various cafes and rental spaces in central Tokyo.

3.3.1 Flow of the Peapod Experience

First Session

The first session is designed to be foundational, introducing participants to the experience and giving them tools to shape it. It opens with a series of icebreaker prompts drawn from a custom deck designed to move beyond surface-level introductions. Rather than standard name-and-job queries, the questions invite participants to share personal reflections; for example, "What's something you wish more people asked you?", "When do you feel most like yourself?", or "What's a belief or idea you're currently rethinking?" These prompts are intended to establish early emotional presence and vulnerability in a low-stakes way, setting the tone for the rest of the experience.

The core component of the session is the "purpose buffet," (Figure 3.9) an exer-



Figure 3.9: 'Purpose Buffet' Exercise

cise designed to help the group converge on shared intentions for their upcoming collective experience. The buffet consists of 60 cards, each printed with a statement reflecting a possible motivation for joining a group—such as “I want to carve out time for reflection,” “I want to work toward a goal with others,” or “I want to be surprised by something new.” These were colour-coded into six categories: reflection, adventure, growth, play, learning, and transition¹. The structure is meant to support clarity and resonance without being overly prescriptive. The categories themselves are not revealed until after the activity to avoid influencing participants’ choices. Each person selects five cards that feel most relevant to them, followed by a short period of silent reflection. The participants then share their picks in pairs or small groups, initiating a conversation about current values

1 These categories were developed based on the researcher’s prior experience hosting small-group events and workshops, where these six themes consistently surfaced—either explicitly or between the lines—as the underlying reasons people were drawn to participate. Of course, this approach constrains the range of possible intentions. A future iteration could explore even more open-ended or co-created methods.

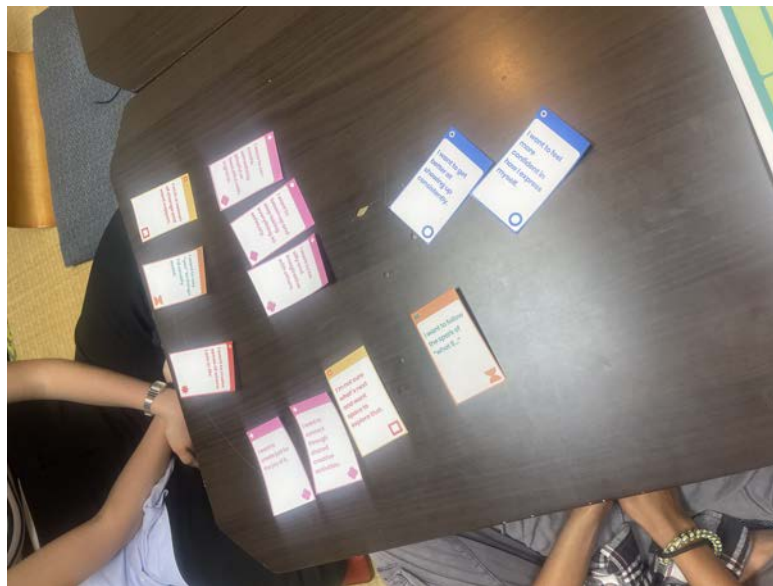


Figure 3.10: Grouping Purpose Cards to Align on Collective Purpose

and life seasons that begins to surface common ground between them.

From there, the session moves into a synthesis process facilitated by the researcher. Participants are asked to lay out their chosen cards and look for thematic overlaps with their group members, discussing where their motivations align (Figure 3.10). These small group conversations are fed into a full group round where shared themes are identified collectively. The facilitator then prompts the group to cluster their cards according to emerging patterns and, based on consensus, to identify 1-2 purpose categories that feel the most resonant for the group as a whole. Only after this decision are the category names revealed, along with short summary statements for each purpose (e.g., “Reflection: We’re here to slow down and notice what’s going on beneath the surface — in ourselves, and in each other. this might be a space to untangle thoughts, describe our inner worlds, or just speak honestly about where we’re at.”). A brief consent round follows to ensure all members indeed feel aligned with the selected directions.

With the pod’s shared purpose established, participants are then introduced to the ‘activity inspiration deck’ designed to help spark ideas for the upcoming sessions, each of which would be hosted by a different group member. Organized into six categories aligned with the purpose themes, the deck includes 10 cards per

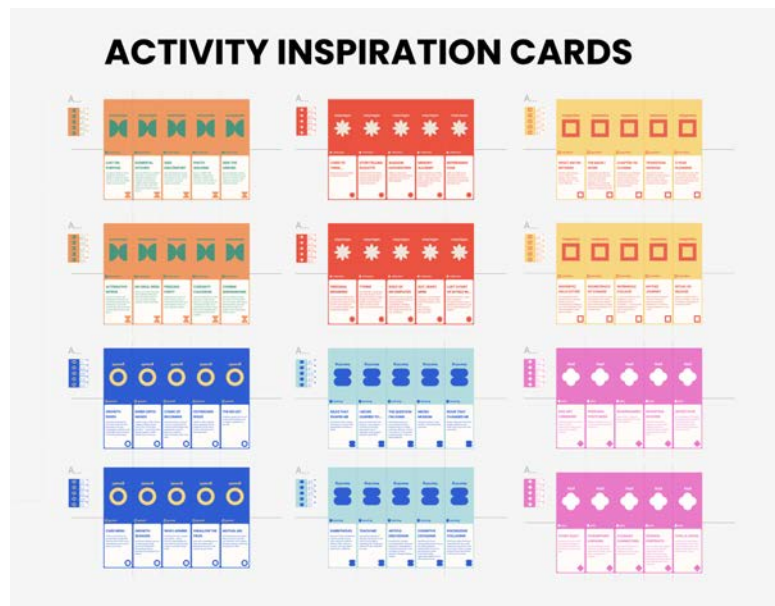


Figure 3.11: Design Stage of the Activity Inspiration Card Deck

category, each proposing a potential activity (Figure 3.11). Rather than displaying the full deck, however, only the sets of activity cards corresponding to the group's chosen purpose themes are presented. For example, if the group aligns most strongly with 'adventure' and 'reflection,' then only the 10 activity cards from each of those two categories—20 in total—are laid out. The activities range from introspective practices like solo journaling or guided partner walks, to more energetic formats like collaborative challenges or experiential games. Participants are then invited to browse the cards and each select two to three that stand out to them, either because they feel personally excited by the idea, or because they thought it might suit the group. These activities, developed by the researcher based on insights from previous iterations, facilitation literature, and community-based models, are not meant to be prescriptive. Instead, they function as modular scaffolding: prompts that could be used as is, combined, remixed, or completely reimaged by each week's host.

Finally, a co-scheduling activity closes the session. Using precollected general availability data from a Google Form sent in advance, the facilitator (researcher) introduces a shortlist of viable time slots. Participants used cardboard 'Yes' and



Figure 3.12: Cardboard Signs and Host Kit

‘No’ signs to vote on their availability for each slot, turning what could otherwise be a tedious administrative task into a lightly gamified decision-making process. Once the schedule is set, a host kit is assigned to one group member. This toolkit includes a guide on planning and running a session, suggestions for venue selection, a checklist for inclusive facilitation, reminders for circulating final plans to the group, and some blank custom cards that provide the option to come up with a completely different activity (provided that it aligns with the co-decided purpose). The process set the expectation that each member would take a turn leading a session, while being well supported with clear guidelines.

Throughout the whole process, an A3-size paper ‘map’ (Figure 3.13) is present on the table and gradually populated over the course of the gathering. As each activity unfolds, key decisions and group inputs are recorded directly onto the map. After the purpose buffet, the chosen purpose categories and their corresponding statements are attached to the central area. As participants browse and select cards from the activity inspiration deck, the ten most resonant ideas are added next, forming a shared menu of possibilities. Finally, once the group collectively decides on the meeting schedule through the playful yes/no sign activity, the agreed-upon dates and times are also added. This map serves as a living

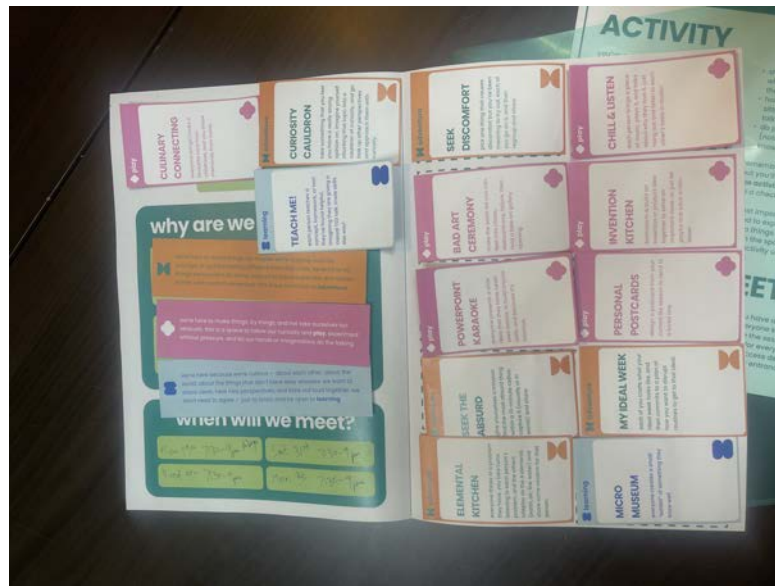


Figure 3.13: Central Map Showing Group's Scheduling and Activity Decisions

record of the group's foundational agreements and creative direction, and is later included in the host kit as a reference. By embedding the group's own intentions, ideas, and commitments into a tangible artifact, the map functions both as an anchor and a guiding compass for the sessions ahead.

Subsequent Sessions

From the second week onward, each session is hosted by a different participant, rotating among the other members of the group, as depicted in Figure 3.14. Hosts are given the freedom to select both the activity and the location for their session—whether it be a home, café, or public space, using the guidelines provided in the host kit. This design builds on the rotating leadership model seen in Iteration 1, which had successfully fostered ownership, but now offers additional scaffolding to address the cognitive load challenges observed in Iteration 2. The host kit includes reminders about timing and accessibility, making it easier for first-time facilitators to confidently lead a session.

Each weekly session follows a familiar arc, supported by three supplemental card decks—rituals, vibes, and dynamics—that were designed to bring consistency,

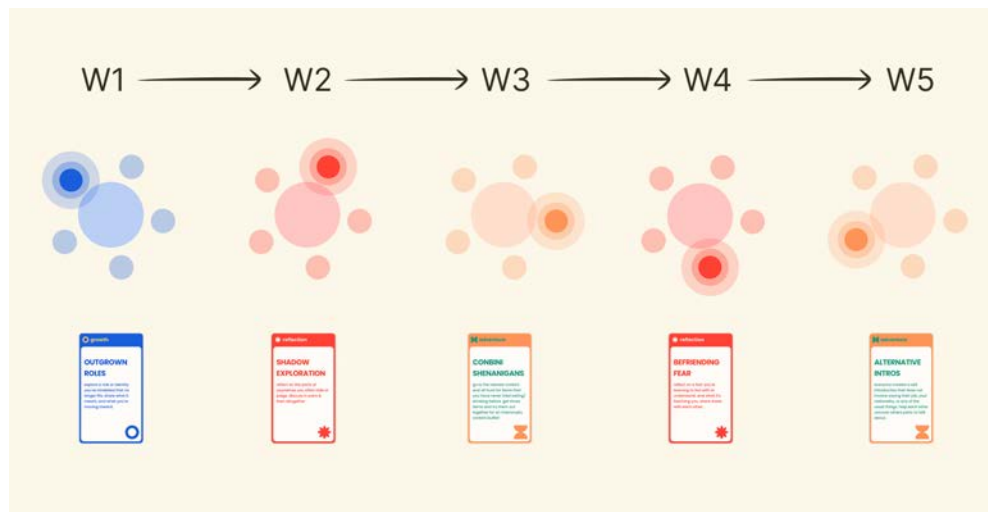


Figure 3.14: Flow of Subsequent Peapod Sessions with Different Activities and Rotating Host

playfulness, and depth to the social experience. At the start and end of each session, the group uses the rituals deck (Figure 3.15), which includes a curated set of check-in and check-out questions designed to ground people into the meeting together. Participants draw from the deck and take turns answering prompts such as “What’s something you’ve been holding in?” or “What made you feel most alive this week?”

Two rotating roles are also introduced at the start of each session: the vibe checker and the trickster (accompanying card decks showing in Figure 3.16). Each week, these roles are assigned to different participants either randomly or based on who was feeling drawn to it. The vibe checker draws three cards from the vibes deck and is instructed to use one or more of them throughout the session. These cards contain light, often sensory-based suggestions such as “stand (or stay seated) and do a gentle spinal twist to each side,” or “notice one sound in the room you hadn’t registered until now.” The intent is to shift attention toward embodied experience and provide a chance to check in to their bodily energy. Meanwhile, the trickster takes on a more subversive role, drawing three cards from the dynamics deck and using them at random points to introduce an unexpected social intervention. These cards encourage gentle disruption of group

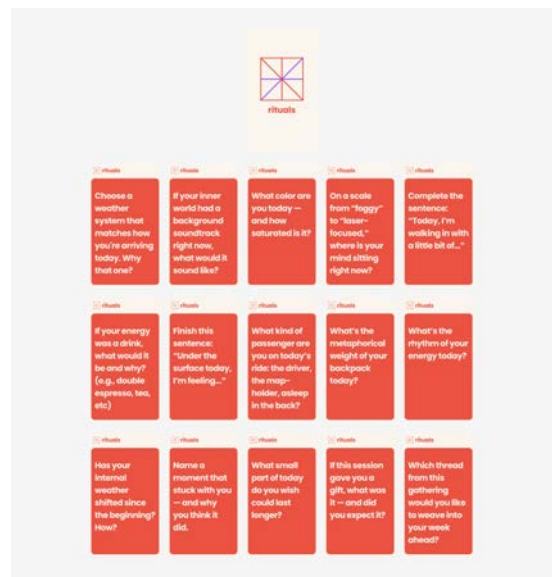


Figure 3.15: Rituals Card Deck

interaction—for example, “be unfiltered right now. What are you really thinking?,” or “invite someone who hasn’t spoken in a while to share an observation.” Inspired by improvisation games, the trickster role is designed to challenge habitual social patterns, support quieter members by noticing who hasn’t spoken and gently drawing them in, as well as help to manage different comfort levels in participation. To close the session, the host kit is then ceremonially passed on—usually by random selection or volunteer—to the next participant who will take on facilitation duties the following week.

Together, the overall experience and paper-based tools are designed to provide enough structure to guide each session, while leaving ample space for participant agencies to do their own thing. By embedding light constraints and playful social roles, the service aims to foster a sense of intentional unpredictability, encouraging both facilitators and participants to stay present, responsive and engaged with one another. Further, unlike digital social tools, Peapod is intentionally made as a low-tech, screen-free experience. This decision drew from earlier iterations, where physical materials were consistently associated with increased emotional presence.



Figure 3.16: Vibes and Dynamics Card Decks

3.3.2 Service Design Integration

Throughout the design process, key principles of service design were incorporated. Prior to launching the final prototype, a comprehensive user journey map [53] was created to visualize the full lifecycle of participation: from invitation and onboarding, through each weekly session, to the closing session, as visualized in Figure 3.17. This mapping helped anticipate both friction points (e.g., confusion around how to start, lack of facilitation experience) and emotional milestones (e.g., the awkwardness of session one, the intimacy of session four, the closure of the final meeting).

Furthermore, in the design, co-creation is central not only in content, through participants planning activities and taking on playful social roles, but also in purpose, as groups collectively decide why they are meeting. This design choice directly responds to patterns observed in Iteration 2, where participants often joined more for the context and connection than for pre-defined content. Within Peapod, value is not delivered to participants; it emerges through their participation. In this sense, the final design intentionally moves away from predetermined formats and instead offers modular scaffolding that allows each group to set its own trajectory. This reflects service design theories of value-in-use, where the “service” is not a fixed entity but a continuously evolving interaction shaped by those who take part [57].



Figure 3.17: User Journey Map

3.3.3 Mapping onto SDT Psychological Needs

The final service is designed to support the three core psychological needs identified by SDT: autonomy, competence, and relatedness. Rather than addressing these needs through explicit instruction, the experience aims to foster them through its rhythm, materials, and norms.

Autonomy will be supported through the co-creative structure. Participants will collaboratively shape the group’s purpose and weekly activities. The rotating host model distributes leadership between members, while facilitation materials function as scaffolding rather than rigid instructions - offering prompts that preserve room for improvisation. The card decks are written in non-prescriptive, accessible language to encourage choice, self-expression, and participant authorship throughout the experience.

Competence will be nurtured through tools that lower the barrier to participation. Even those without facilitation experience will be able to contribute meaningfully. The host kit provides clear but lightweight guidance, and playful roles and their associated card decks such as ‘vibe checker’ and ‘trickster’ will invite participants to shape the session in low stakes ways, supporting the development of social-emotional fluency and offering safe entry points into new interaction patterns.

Relatedness is a central aim of the design. Recurring weekly meetings, shared rituals, and the collaborative process of defining group purpose will create repeated opportunities for connection and mutual investment. Tactile materials, including a shared map and physical transmission of the host kit, will help foster a sense

of symbolic cohesion, even when sessions are held in neutral spaces. The card-based components are especially designed to promptly fast track the group beyond the often-dreaded small talk phase, creating space for reflection, play, and shared vulnerability. Through these layers of interaction and care, the experience seeks to cultivate a sense of being seen, supported, and meaningfully connected to others.

Chapter 4

Proof of Concept

4.1. Chapter Overview

This chapter presents the evaluation of the Peapod service. To recall, the central research question that guides this study is as follows:

How does participation in Peapod (a time-bound card-based social experience) affect the satisfaction of core psychological needs within the social lives of foreign working adults in Tokyo, specifically across the dimensions of autonomy, competence, and relatedness, as defined by Self-Determination Theory?

To address this question, the chapter describes the evaluation methods used to assess the experiences of the participants, followed by a comprehensive analysis of the findings.

4.2. Evaluation Approach: Mixed-Methods Design

To validate the impact of the Peapod service, a mixed-methods approach was adopted. This decision reflects both the nature of the research question and the theoretical framework underpinning the project. SDT offers measurable constructs that can be captured through psychometric scales. At the same time, these psychological needs are lived experiences, shaped by the nuances of interpersonal dynamics and personal background. A mixed methods design allows both aspects to be explored in tandem.

Further, as opposed to testing a fixed hypothesis, the evaluation was exploratory in nature. The goal was not to isolate variables or produce statistically generalizable results, but to generate situated insights into whether and how the design supported participants' needs satisfaction. Quantitative data provided one lens on change over time, while qualitative data helped surface how participants made sense of their experience, what they valued, and where the design could be improved.

In a mixed-method context, the term 'validation' refers not to statistical inference, but to the design research goal of understanding whether the service functioned as intended. Specifically, the evaluation sought to understand: Did the service support the psychological needs it aimed to address? Which components worked well, and which presented friction? And how did participants interpret and navigate the experience? This layered understanding forms the foundation for the findings presented in the following sections.

4.3. Data Collection Methods

Participants, Setting, and Ethical Considerations

Participants in this study were non-Japanese working adults residing in Greater Tokyo, listed in Table 4.1. The final sample consisted of seven participants, divided into two cohorts: four in the first group and three in the second¹. Participants with a '*' in the table were those in the second cohort. Ages ranged from early 20s to early 30s, with a near-even gender balance and a range of nationalities including Colombia, the United Kingdom, Pakistan, Brazil, the United States, Germany, and India. All participants were fluent in English and had varying levels of Japanese language proficiency.

Participants were recruited in April 2025, and data collection took place during May and June 2025. The recruitment was carried out through informal and organic channels, such as community spaces, word of mouth, and direct outreach by the researcher through existing networks. The selection process followed a

¹ While the first cohort completed the full five-week program, the second cohort met for only three sessions. This was due to the smaller group size (three participants).

Name	Age	Nationality	Gender	Time in Japan / Tokyo	Profession
Samuel*	31	Colombia	Male	5 years / 1 year	Freelancer teacher/advisor
Luna	25	British	Female	9 months / 9 months	PhD student
Ulysses	28	Pakistan	Male	14 months / 14 months	English conversation trainer
Ferguson	31	Brazilian	Male	9 years / 1.5 years	Payroll consultant
Annie	31	USA	Female	1.5 years / 7 months	Software engineer
Hollie*	25	UK/US/German	Female	1 year / 1 year	PhD student
Jessica*	24	Indian	Female	20 years / 20 years	Teaching coordinator/teacher

Table 4.1: Demographic Characteristics of Peapod Participants

maximum variation sampling strategy [58], aiming to capture a wide range of perspectives, particularly with respect to age and the length of time living in Japan or Tokyo.

The eligibility criteria required that participants:

- Be non-Japanese adults currently living and working in Greater Tokyo²;
- Be fluent in English;
- Be available to attend all Peapod sessions;
- Be interested in the concept of forming a co-created group with an emphasis on intentional socializing with strangers.

Unlike prior iterations of the project where pod topics were predefined, the study prioritized participants’ interest in the social ‘container’ itself (i.e. a group in which one would co-create the purpose with others) over specific topics, emphasizing curiosity over demographic quotas.

The use of two cohorts was a pragmatic choice to maintain the intimacy required for mutual support. It also enabled iterative learning between rounds and allowed comparison across similar formats. The researcher also participated in

² While the criteria focused on working adults, two PhD students were accepted due to the full-time, self-directed nature of their academic programs, which aligned with the working patterns and life contexts of the other participants. Their inclusion was also a practical response to recruitment constraints during the study period.

both groups, but took on a minimal facilitation role after the first session, functioning primarily as a participant-observer. This approach aligns with Research-through-Design principles, where the researcher becomes part of the context of use, in order to observe group dynamics experientially and to maintain ecological validity in a peer-based context.

The sessions were held in quiet, comfortable settings conducive to open conversation, including rented spaces (paid for by the researcher) and selected quiet cafes. These physical contexts were chosen with intention, aligning with literature on the role of space and environmental affordances [8] in shaping psychological safety and interpersonal openness. Attention was paid to ensure that spaces allowed for a sense of informality and warmth while minimizing external distractions.

All participation was completely voluntary, and informed consent was obtained prior to involvement (consent form shown in Appendix B.1). Survey responses were anonymized to protect the privacy of participants. Data from earlier, non-consented iterations of the project were excluded. Any identifying details shared during interviews were altered or abstracted in analysis and reporting. This research was designed with an attention to ethical integrity, with the aim of protecting the dignity, agency, and confidentiality of all participants throughout the process.

Survey Instrument: BPN-R

To quantitatively assess changes in the satisfaction of psychological needs of participants during the course of the intervention, this study used an adapted version of the Basic Psychological Need Satisfaction in Relationships Scale (BPN-R) developed by La Guardia et al. [59]. Originally designed to measure the fulfillment of autonomy, competence, and relatedness needs within close personal relationships (e.g., with a spouse, parent, or friend), the BPN-R was slightly modified to suit this study. In its original format, the BPN-R asks participants to reflect on their experiences with a specific person (e.g., “When I am with XXXXXX, I feel...”). For the purposes of this research, the wording was adapted to refer to participants’ broader social circles, allowing the survey to assess how psychological need satisfaction might be influenced in general social life rather than within a single dyadic relationship (which the original authors declare is a valid use case

of the instrument). For instance, the item “When I am with XXXXXX, I feel free to be who I am” was rephrased as “In my current social circles, I feel free to be who I am.”

The adapted BPN-R survey included nine items in total, three reflecting each of the SDT core needs. The full pre-survey and post-survey used can be seen in Appendix C.1 and Appendix D.1.

Examples of items included:

- “In my current social circles, I feel controlled or pressured to be a certain way” (Autonomy, reverse scored)
- “In my current social circles, I feel like a competent person” (Competence)
- “In my current social circles, I feel loved and cared about” (Relatedness)

The survey was administered twice: once at the beginning of the first session, and again after the final session, allowing for comparative insight into perceived changes across the five-week experience.

Semi-Structured Interviews

To complement the survey data and gain deeper insight into the lived experiences of the participants, semi-structured interviews were conducted before and after the intervention. Pre-interviews were conducted in the week leading up to the first session. These conversations focused on the existing social circles of the participants, their experiences in group settings, and their motivations to join Peapod. Post-interviews took place within one week of the final session, either via Zoom, Discord, or Google Meet depending on participant preference. Each interview lasted between 30 to 60 minutes and followed a flexible guide that allowed participants to elaborate freely on themes that felt most meaningful to them. The semi-structured format was chosen to balance consistency with openness, enabling unexpected insights to emerge while still covering core areas related to the research question. A full list of interview questions can be found in Appendix A.1. Informed consent was obtained prior to each interview. All sessions were audio recorded with permission and transcribed for analysis.

Participant Observation

In addition to surveys and interviews, observational data were collected to provide contextual insight into how participants interacted with the service and with each other. The purpose of these observations was to capture subtle interpersonal dynamics and nonverbal cues that might not surface in verbal feedback, offering a third perspective to triangulate with the survey and interview data.

During each session, the researcher took informal field notes, focusing on aspects such as emotional energy in the room, participant engagement (e.g., posture, eye contact, verbal participation, or silence), and standout moments of hesitation, laughter, conflict, or spontaneous cohesion. Special attention was paid to the first and final sessions of each cohort, which tended to show the most visible changes in the general 'mood' of the group and degree of psychological safety.

No video recordings or full transcriptions of sessions were made, in order to preserve a sense of informality and trust and not distort the group dynamic. Instead, light-touch notes were used to identify usability challenges, moments of apparent emotional resonance or dissonance, and emerging participation patterns. These observations were captured to enrich the interpretation of self-reported findings.

In this way, I intentionally adopted a 'naturalist' orientation, a grounded, embodied form of inquiry that centers on deep embedment within people's life-worlds [60]. Rather than observing from the outside, I moved with the participants, drawing insight from presence and participation as much as from structured data.

4.4. Data Analysis Approach

Quantitative Analysis

The quantitative component of the analysis focused on identifying changes in psychological need satisfaction across each subscale (autonomy, competence, relatedness) as measured by the BPN-R. Following the official scoring instructions [59], items that were negatively worded were reverse scored by subtracting the response from 8. This applied to one item in each subscale: Item 9 for autonomy ("I feel

controlled and pressured to be certain ways”), Item 4 for competence (“I often feel inadequate or incompetent”), and Item 6 for relatedness (“I often feel a lot of distance in our relationship”). Each subscale score was calculated by averaging the responses of its three corresponding items after reverse scoring where applicable. Specifically, the autonomy score was the mean of items 1, 5, and 9 (R); competence was the mean of items 2, 4 (R), and 7; and relatedness was the mean of items 3, 6 (R), and 8. Pre- and post-intervention scores for each subscale were computed for all participants to observe any changes over the five-week period.

The data were then descriptively analyzed. Pre- and post-intervention scores were visually compared for each participant across the three SDT subscales. Summary tables and bar charts were used to identify general patterns of change, while special attention was paid to individual variations - particularly in cases where a participant showed a marked increase or decrease in any of the need domains.

Qualitative Analysis

To complement the survey data, a thematic analysis [61] was conducted on interview transcripts and observational notes. This allowed for deeper insight into participants’ lived experiences, interpretations, and emotional responses to the Peapod experience.

Quote	Codes	Theme
“I was surprised how deep we went so fast... that just doesn’t happen in most of my other relationships.”	Depth of connection; Emotional openness; Contrast with everyday norms	Psychological safety
“Getting a chance to host really boosted my confidence in holding gatherings.”	Empowerment; Confidence building; Ownership of group space	Autonomy through participation
“I feel like I’m being a bit more intentional with who I spend my time with now.”	Social intentionality; Post-program spillover; Redefining social habits	Expanded social confidence

Table 4.2: Outtake from Thematic Coding: Example Quotes, Codes, and Resulting Themes

The coding process followed standard qualitative steps:

- Transcription of interviews and review of field notes.
- Initial coding using a hybrid approach:
 - Deductive codes based on core need categories (autonomy, competence, relatedness).
 - Inductive codes for emergent themes that extended beyond SDT, such as moments of discomfort, creative flow, role negotiation, or unexpected group bonding.
- Clustering of codes into higher-level themes, identifying both shared and divergent experiences across participants, as seen in Table 4.2
- Triangulation of themes with observation data to check for consistency or dissonance between self-report and behavior.

Coding was conducted using a combination of LiGRE, a free qualitative analysis software, and supplementary analytic memos. The goal was to surface recurring emotional patterns and contextual nuances that could help explain or complicate the patterns observed in the quantitative data.

4.5. Pre-Experience Findings

The following sections present the findings from the two cohorts. It begins with this section, with insights from pre-experience interviews, which help establish participants' starting points and connect their lived experiences to themes in the literature introduced in Chapter 2. The post-experience subsection looks at changes in satisfaction of each core need one by one, combining survey results and post-interview reflections. This is followed by a summary of observational insights that offer contextual cues on group dynamics. The chapter concludes with an evaluation of key design characteristics, highlighting the aspects of the intervention that the participants found most impactful.

Autonomy

Among participants, the general experience of autonomy in social contexts in Tokyo emerged as nuanced and situational. Although most of the participants expressed a desire for more social encounters that matched their authentic interests, their ability to assert personal preferences was often shaped by group dynamics.

A recurring theme was the tendency to defer to group consensus, even when personal preferences diverged. Several participants noted that they often go along with what others want to do, citing a desire to maintain group cohesion. Annie explained that she usually compromises because her interests are “not at all in common with [her] friends” but she is “usually okay with what everyone else wants to do anyway.” Jessica similarly said she doesn’t mind “going with the flow” but acknowledged an “interest mismatch” with some friends—particularly those she grew up with in Japan—that limits the range of activities she feels comfortable suggesting. Ulysses described his approach in larger groups as intentionally non-confrontational, choosing to follow consensus to avoid “ruining the mood.”

The activity itself also played a role in either constraining or enabling participants’ sense of autonomy in how they expressed themselves within group settings. Luna observed that task-oriented activities like climbing tend to restrict conversational flow, making it harder to connect socially in a flexible way. For her, slower, more open-ended activities—such as crocheting—created space for “more natter,” allowing people to engage at their own pace. Jessica echoed this sentiment, noting that within some of her social circles it was often difficult to go beyond conventional activities like drinking, which she felt was a default mode of hanging out that limited the range of expression and connection.

Competence

Most participants described themselves as generally confident in their social abilities. However, that confidence was often tied to structured or familiar settings. Annie explained that her comfort is “case by case,” adding that in unstructured events with people she doesn’t know, she feels “very socially inept” and unsure what’s expected. Hollie similarly described feeling “unsure all the time,” especially in Japanese environments where social rules around politeness and formality are

hard to read. Samuel described how he oscillates between over-trying and shutting down entirely: “I either overthink it and try to do too much, or I overthink it and just avoid the whole thing.” Ferguson mentioned losing his footing a bit when social dynamics turn awkward, especially when “people get too drunk too fast” in environments involving alcohol consumption, at which point he feels a loss of control and opts to withdraw. Jessica, meanwhile, highlighted the emotional toll of socializing with “circumstantial friends” from her local Indian community in Japan—people she didn’t actively choose to befriend and often doesn’t connect with in an authentic way. “It’s not that I can’t talk to them,” she said, “but it’s like, I don’t always know how to show up as myself.” These moments paint a picture of social competence as something highly dependent on affordances within the given social environment.

To mitigate the challenges with ambiguity, participants tended to seek out social settings built around structure or shared interest. Annie shared that she’s most comfortable in spaces with a defined context; “something that’s centered on things I care about,” which helps reduce anxiety and gives her a sense of how to participate. Ulysses emphasized the usefulness of discussion-based formats, noting that “structured conversation lets people know what they’re doing... it takes the pressure off.” Luna said she intentionally seeks out environments “set up around a theme or discussion,” which make it easier to engage more openly and connect beyond small talk.

Relatedness

A central theme in the interviews was the persistence of loneliness, often experienced not as a dramatic absence of people, but as an undercurrent in the daily lives of the participants. For this particular sample of international people who often had lived in numerous places globally, this feeling was neither new nor surprising. Hollie reflected, “I’m very familiar with loneliness,” attributing it to her transient upbringing, and describing it as an emotion she’s long been acquainted with. Ulysses echoed this, saying, “I still feel lonely... I’ve been lonely everywhere I’ve lived.” What stood out in this study, however, was not the presence of loneliness alone, but how the specific conditions of life in Tokyo shaped its texture—prolonging it, isolating it, and making it harder to break.

For many, Tokyo's scale and pace meant that spontaneous connection was rare. Scheduling required advance planning, and travel distances often created logistical barriers to maintaining social momentum. Samuel described this challenge plainly: "Everything has to be pre-planned... there are no interactions on the go." Luna noted that reaching out to someone can feel like "imposing," given how full people's calendars tend to be. Even when friendships exist, the effort to coordinate across the city can wear down the desire to connect. As Annie proclaims: meaningful hangouts are "far and few between." These reflections align with insights garnered in Chapter 2 regarding increasing rates of loneliness among foreigners.

This difficulty in maintaining connections was further compounded by the transient nature of being foreigners who carry visas that often have an inevitable expiry. Samuel questioned: "Should I even try to connect with someone who might leave soon?" The high turnover among Tokyo's international population creates a sense of relational fragility where the investment of energy into new friendships is often weighed against the likelihood of those connections lasting.

Participants also pointed to cultural differences and social norms as factors that limited the ease of building deeper relationships. Annie missed the "community feel" of her small hometown in the US, where casual interactions were baked into the everyday social fabric. Samuel also juxtaposed his time in rural Awaji (where he lived for his first 4 years in Japan) in which spontaneous conversations with strangers were common, with the isolating rhythm of Tokyo, where "everyone is really in their own bubble." Jessica, who previously lived in Canada, found it "harder to plan to meet or connect" in Japan despite growing up in Tokyo, attributing it in part to work-life balance and cultural reserve.

Even within familiar cultural contexts, several participants reported a divide between surface-level acquaintances and the kinds of emotionally resonant friendships they longed for. Jessica described this difference clearly: she felt "drained" by friends from her Indian community in Japan, saying, "I didn't choose [those friendships]... I don't connect with them on half the things." What she sought were deeper friendships where she could be authentic and feel energized. Ulysses similarly reflected that while he feels "intellectually connected" in many spaces, emotional connection is rarer. He longed for "dependability," something he found

more easily in university settings, where time and shared rhythms allowed for bonds to grow. In addition to emotional depth, some participants highlighted the importance of playfulness and low-pressure interactions as essential to feeling socially fulfilled. Hollie, for instance, expresses a desire for “a sense of relaxed-ness” in her social life, where she doesn’t have to be “on” or “energetic,” but can instead giggle and enjoy “being really stupid.” This points to a longing not just for intimacy, but for spaces that allow for unstructured, joyful silliness, which are forms of connection often absent in the hyperstructured routines of adult urban life.

These reflections align closely with initial design hypotheses after early workshops and prototyping discussed in Chapter 3. Namely: that surface-level interactions dominate adult social life in Tokyo, at least in English-speaking circles, and that scheduling social life can lead to logistical burnout.

4.6. Post-Experience Findings

Autonomy

Quantitative Results

Scores for the autonomy subscale increased from an average of 4.64 to 5.5, representing the largest average gain across the three core psychological needs (+0.86)³. Hollie showed the most substantial increase (+2.6), followed by Annie (+2) and Ferguson (+1.7). However, Luna’s score decreased from 6.3 to 5.6 (−0.7), driven by declines in two specific items: “In my current social circles, I feel I have a say in what happens and can voice my opinions” and “In my current social circles, I feel controlled or pressured to act in a certain way” (reverse scored). This decline will be deconstructed further below.

Qualitative themes

3 To reiterate, this and the subsequent subscale results refer to participants’ perception of need satisfaction within their *general* social lives, not specifically within the Peapod group, as that is the focus of the research question.

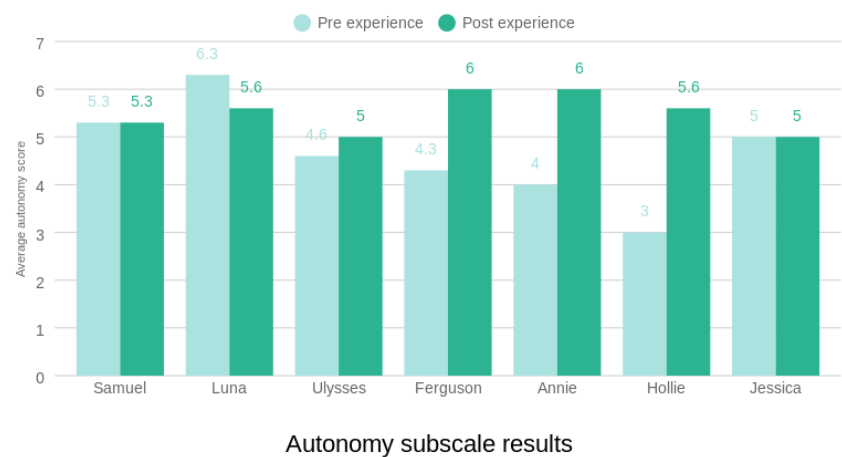


Figure 4.1: Autonomy Subscale Results for Each Participant Pre- and Post-Experience

Common Patterns during Peapod

Across both cohorts, participants commonly described a growing sense of autonomy as sessions progressed, particularly in terms of feeling free to be themselves and contribute authentically. Although this progression could be expected in any recurring group, the notable insight was how quickly it emerged. Within even 1-2 meetings, participants in both cohorts described the environment as being conducive to candid expression.

In Cohort 1, Luna reflected on feeling “really able to be open in a way that I don’t actually feel even in like other relationships,” particularly during the second session, which she facilitated. In that session, Luna had chosen to build off of the activity inspiration card “Questions We Are Living” from the activity menu, designing a lightly structured discussion in which participants were invited to articulate a personal dilemma that they had no clear answers to and receive non-advice-based responses from the group. This activity prompted unexpected levels of sharing: Annie described being able to be “really honest, not just in my experience, but also like my commentary to everyone else”.



Figure 4.2: Jessica’s Painting Session

Cohort 2 experienced a similar shift. During the third session, hosted by Jessica, participants rotated canvases every few minutes while responding to a series of prompts she had prepared—such as “paint a feeling you are avoiding right now,” “paint using your non-dominant hand,” and “paint your soul” (results of which are depicted in Figure 4.2). The rapid switching and open-ended nature of the prompts invited participants to let go of making something ‘good’ and instead embrace childlike play and spontaneous creative expression – an attitude that spilled over into the conversations as participants also engaged in playful banter and humour. Samuel observed that his “authenticity grew with the latter sessions,” noting that while he had been “more nervous or more cautious” early on, by the point of this painting session he was “genuinely looking forward” to each gathering.

Participants also highlighted the feeling of ease in having open-ended guidance that allowed them to get creative with coming up with session structures of their own. Ferguson noted that the process was “not fixed” and appreciated the “possibility of remixing” activities from the activity inspiration menu, describing the cards and suggestions as “a general guideline, but if you want to just throw everything and do your own thing, you can also do that.” Ulysses similarly remarked

that the activity inspiration cards were helpful not because they dictated the content, but because they “helped us narrow down the things that we could do”, making his decision around what he could do for his session feel more focused.

In this way, the design addressed the theme that emerged in pre-interviews about how activities often dictate social dynamics, making it difficult to deepen interactions beyond the activity itself (whether that is drinking at an izakaya, or rock climbing with friends – each which often come with certain fixed scripts that mediate what kinds of interactions are possible). Consequently, the design upheld a central tenet of autonomy within the SDT literature: the importance of ensuring people feel free from control or undue pressure in their actions. This is because the activity formats themselves were open to reinvention. The cards served as springboards rather than rules, creating permission to experiment with the structure of interaction, and proving to be a viable antidote to falling into default social modes or habits.

This flexibility in design was most clearly illustrated in cohort 2. For example, Hollie created an elaborate murder mystery role-play session (since one of the group’s co-decided purposes was ‘adventure’ in the sense of getting out of comfort zones and trying new things), inventing all characters and clues from scratch with the help of AI, as partly shown in Figure 4.3. She remarked that she would “never have done that with [her] own friends or family,” but the Peapod context felt safe and creatively permissive. The following week, Samuel hosted a walking discussion, with questions of an increasingly personal and deep nature discussed in rotating pairs, followed by a reflective activity where each person wrote a letter to their future self. In a final twist, they exchanged letters with another member, with the agreement that the partner would mail it to them in a year’s time. He mentioned that it felt very possible in Peapod to “mix and match” these ideas together, which he had wanted to try in other social contexts but felt limited because of the “inherent nature of those friendships”.

Another notable pattern in autonomy was a growing sense of agency among the participants. Several noted that the opportunity to design and lead a session gave them a stronger feeling of shaping the group’s experience. A particularly strong example of this was Hollie, who hosted the very first session in Cohort 2. She set a creative and ambitious tone with the murder mystery roleplay experience; this

contribution helped establish a sense of energy that rippled into later sessions as it made other members want to put more effort into the planning of their respective ideas.

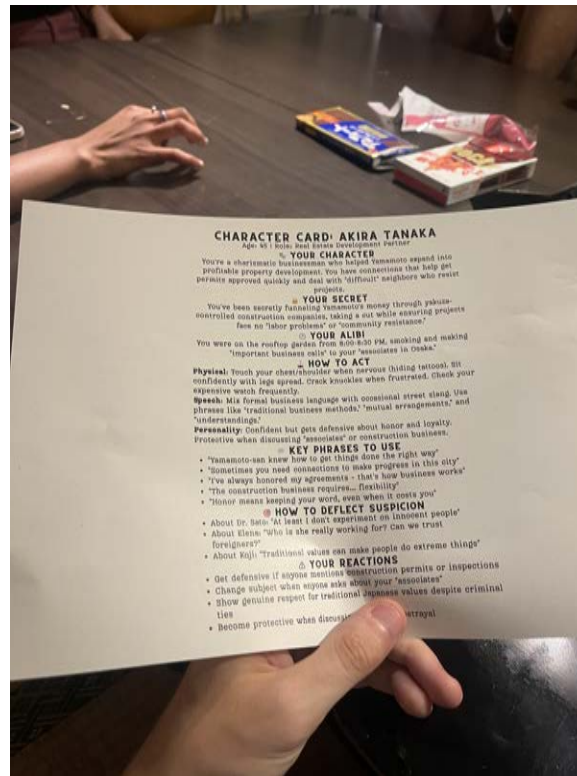


Figure 4.3: Outtake from Hollie's Murder Mystery Improv Roleplay Session

This dynamic directly addressed a concern raised in the pre-interviews, whereby many participants described frequently deferring to group consensus or “going with the flow,” often suppressing personal preferences in the name of harmony. By giving each person a turn to lead, Peapod redistributed the opportunity to express personal interests without requiring consensus in every moment. However, this sense of impact was not universal. While hosts tended to feel more empowered, some described how being a participant didn’t involve giving much input outside of the trickster and vibe checker roles. Jessica reflected on this: “I don’t think I made a major difference [as a participant] to be honest,” though she acknowledged that “every person added their own little touch” to the atmosphere

each time.

Post-Intervention Autonomy Changes in General Social Life

A clear post-intervention theme was the emergence of greater intentionality in the approach of participants to their larger social circles, reflecting the general quantitative increase in autonomy satisfaction. Ferguson reflected that after Peapod, he felt “more intentional with the kind of stuff that I talk [about], the kind of people that I want to hang out [with],” noting that the experience gave him “a different perspective on how to engage with people.” He expressed a renewed desire to be “more clear about my needs” and more active in organizing social gatherings, recognizing he had become “too accustomed to other people organizing stuff” during his time in Japan. These reflections align with his quantitative post-survey score increase of 1.7.

Samuel traced an adjacent shift in agency, observing that the experience “reminded [him] how valuable... continuity” is in relationships. Realizing he had passively relied on others to initiate plans, he noted, “I think I grew too accustomed to other people organizing stuff and inviting me... I realized I had lost the agency.” Now, he intends to be “more open to just invite people to do stuff,” reclaiming initiative in his social life.

Similarly, Luna described how being able to be open to the extent she was led her to re-evaluate the intentionality of her existing connections. However, her autonomy score decreased by 0.7 points in the post-survey. One possible explanation for this is that the Peapod experience served as a contrast, making her more aware of the limitations of her existing social environments. For instance, she reflected on the connections she had “with [her] housemates and stuff,” noting that while they shared daily experiences and “house drama”, the relationships lacked the intentionality and reflective depth that characterized the Peapod sessions. This juxtaposition may have contributed to a diminished sense of autonomy in her general social life, as she became more conscious of the relative lack of influence she had over the structure and quality of those more circumstantial bonds.

Competence

Quantitative Results

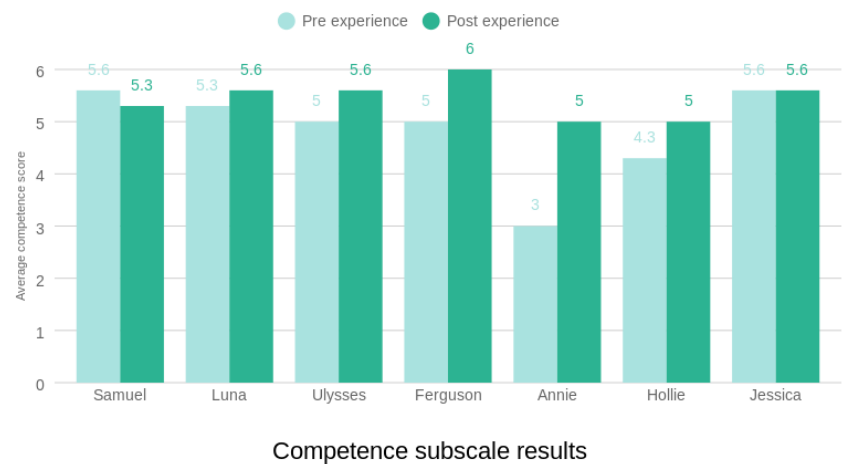


Figure 4.4: Competence Subscale Results for Each Participant Pre- and Post-Experience

Competence subscale scores also showed moderate general increases across participants, with an average gain of +0.61. Annie showed the largest improvement, rising from 3 to 5 (+2), followed by Ferguson (+1), Hollie (+0.7), and Ulysses (+0.6). Samuel was the only participant whose score decreased, slightly from 5.6 to 5.3 (-0.3), due to a change in his response to 'In my current social circles, I often feel inadequate or incompetent' (reverse score).

Qualitative Themes

Common Patterns during Peapod

Many participants reported a tangible boost in confidence when it came time to host a session. Although initial nerves or logistical challenges were common, the act of leading - choosing an activity, planning logistics, and storing space for others - allowed participants to experience themselves as capable and adaptable,

even in an unconventional social setting.

Luna described her hosting experience as a key turning point: “Definitely hosting my own event, and getting to choose which prompt I wanted to use... I was able to, like, say, I want this to happen. Here’s what my event is going to look like, and then it really delivered.” She also recalled a spontaneous moment of time management: combining the discussions of two people so the group could end on time, which she framed as “a very competent moment”. Samuel echoed this, saying he “felt [confident] strongly” when it was his turn to host. The positive group response and availability of backup support from the researcher made him feel “more trust in creating an event,” even when things didn’t go perfectly. He noted, “People were very flexible,” which helped ease the pressure and built his confidence to try new things. Annie, too, spoke of a sense of readiness and capability: “I felt very capable and prepared and able to lead the session in the moment,” even though her original plan for her session had to be adjusted due to a busy working week. Across these reflections, competence was not characterized by flawless execution but by the sense of adaptability participants developed when stepping into temporary leadership positions.

Growth in soft-skills also emerged as a common theme. One of the most widely mentioned design elements in this regard was the check-in and check-out ritual cards. This consistent check-in activity appeared to help participants anchor themselves in the sessions and stood in contrast to the unstructured nature of typical social spaces, which several participants had previously identified as challenging. Samuel and Luna both mentioned how these rituals were especially helpful for grounding the group and transitioning into more intentional modes of interaction. Luna became a “huge believer in the check-in question,” and plans to bring it into her teaching practice in the future, describing it as a tool that allows people to “set their own emotional boundaries” and “force people to go off the script of just asking ‘how are you?’” Samuel similarly observed its ability to “center people on the moment,” allowing space for emotional calibration before diving into the activity. From the researcher’s observational perspective, check-outs often functioned as thresholds that helped close sessions with a sense of reflection and completeness.

Other forms of skill development emerged through subtle social challenges em-

bedded in the experience. Ferguson shared that he gained “emotional intelligence” by talking to new people at a deeper level than usual and made a conscious effort to “listen more” instead of “yapping non-stop.” Luna also noted the value of being able to “be unsure together and talk about it,” highlighting how rare it is to find social spaces that allow for not-knowing and nuance. Ulysses pointed more generally to “being committed to something” and deliberately carving out time for the sessions as a kind of social practice in itself—building the habit of follow-through in social connection. This comment reflects the initial goal of creating structured environments that reduce ambiguity and support active engagement.

That said, not everyone experienced a shift in social skill. Jessica noted that she didn’t feel she “grew in social skills” because she already enjoys meeting new people and feels “very socially competent.” For her, the learning came more from content than process—exchanging stories and absorbing perspectives she might not encounter otherwise.

Participants also demonstrated and developed their competence through their ability to navigate novel and uncertain social contexts, many of which would typically provoke hesitation or discomfort. Several participants described arriving at unfamiliar spaces or engaging in unusual activities they wouldn’t have tried alone, but ultimately finding themselves more capable than they had expected. Hollie described the experience of showing up to new places without knowing what to expect as “nerves-inducing,” but emphasized how she grew more at ease with this uncertainty over time. Similarly, Samuel spoke about overcoming the “initial bump” of unfamiliar formats, like acting out characters in the murder mystery session or doing abstract painting in Jessica’s session, which helped him feel “more confident” in handling unpredictable group dynamics.

These comments align with researcher observations across both cohorts: many of the sessions invited participants into low-stakes unfamiliarity, prompting them to adapt. Ulysses’ first session, for example, involved going to a South Asian supermarket as a group to try unfamiliar snacks—an activity that was both culturally rich and socially novel for all present.

Post-Intervention Competence Changes in General Social Life



Figure 4.5: Ulysses' Session – A Cultural Culinary Adventure to a South Asian Grocer

The experience appeared to catalyze shifts in competence outside the scope of the service too. Some participants described moving from passive or hesitant patterns toward more confident and proactive strategies to initiate connection in their social circles. Luna, pondering her turn as a session host, shared that she now feels “more confident” to organize gatherings in the future, having practiced facilitation in this low-stakes environment. Similarly, Annie reported she was now more at ease “inviting people to just do random things,” no longer feeling that unconventional social plans (like those featured on the activity inspiration menu) required a specific level of closeness or being a “third-meet sort of thing.”

Samuel's case seemed a bit more complex. He previously tended to “overthink” joining new communities, but now adopts a more exploratory mindset: “just going one time” to see if a group feels like a good fit, rather than preemptively talking himself out of it. This marks a shift from avoidance to experimentation, supported by new strategies he developed during Peapod, such as inviting others to join activities he would typically do alone. However, his post-survey results actually exhibited a slight decrease (0.3) in perceived competence. This may reflect his transitional context, as he is preparing to leave Japan for a graduate pro-

gram in Europe and orienting toward integration into those future communities. His growing confidence around joining new spaces thus appears aimed more at forthcoming environments than his current one. At the same time, Peapod may have heightened his awareness of existing social challenges: in his pre-interview, he mentioned struggling with “follow-ups” and relying on others to initiate social plans. His post-interview reflections suggest active efforts to improve in these areas, but this increased consciousness may have temporarily lowered his self-assessment of competence, reflecting a deeper understanding of what growth still remains.

For Hollie, the most surprising insight was the role of logistics in building trust. She noted that prior to Peapod, she often focused solely on the conceptual appeal of a gathering—the “idea itself”—but through this experience came to appreciate how “boring factors” like scheduling and clarity of purpose are key to creating sustainable social contexts. She now feels “more confidence in instigating social things,” mirroring her post-survey quantitative increase of 0.7. This also correlates with something she reflected on informally after a session: that people often struggle with friendships without knowing what is wrong or how to improve things. Peapod helped her realize that friendship is not just a matter of compatibility but a set of relational skills and environmental conditions that can be shaped.

Relatedness

Quantitative Results

Relatedness scores increased for most participants, with an average change of +0.57. Annie showed the largest gain (+3), followed by Ulysses (+1) and Samuel (+0.7). However, Ferguson’s score declined slightly (-0.3), and Hollie showed the largest decrease (-1). These declines were primarily due to lower post-intervention scores on questions related to emotional closeness and connection. In Hollie’s case, this included drops in “I feel loved and cared about,” “I often feel a lot of distance between me and others” (reverse scored), and “I feel a sense of closeness and intimacy.” Ferguson’s decline was similarly linked to a decrease in his score on “I often feel a lot of distance between me and others” (reverse scored). Despite these individual fluctuations, the groups demonstrated a moderate overall improvement

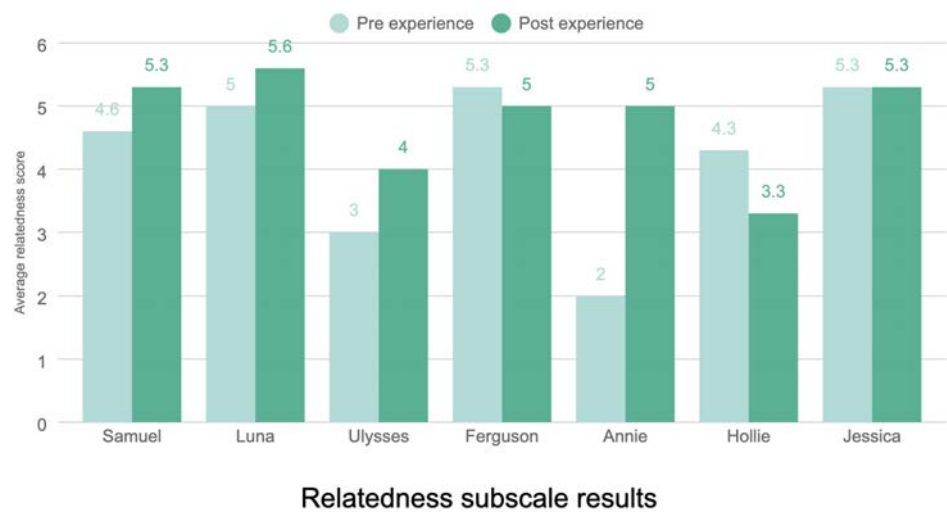


Figure 4.6: Relatedness Subscale Results for Each Participant Pre- and Post-Experience

in feelings of relatedness.

Qualitative Themes

Common Patterns during Peapod

Firstly, a consistent pattern across both cohorts was the rapid emergence of a sense of psychological safety, even though participants began as either acquaintances or strangers to each other. Several noted feeling more accepted, understood, and emotionally free than in other areas of their social lives.

Annie described feeling genuinely “received” in the group — a contrast to experiences outside Peapod where she sometimes felt her contributions in conversations were “dodged or left hanging.” Within the group, she sensed that what she shared was “taken in by other people,” signaling an environment of active listening and respect. Luna appreciated the freedom to speak in nuance, something she finds lacking in both online and offline spaces: “The internet severely lacks nuance... and even offline, it’s hard to express it without feeling like you have to package

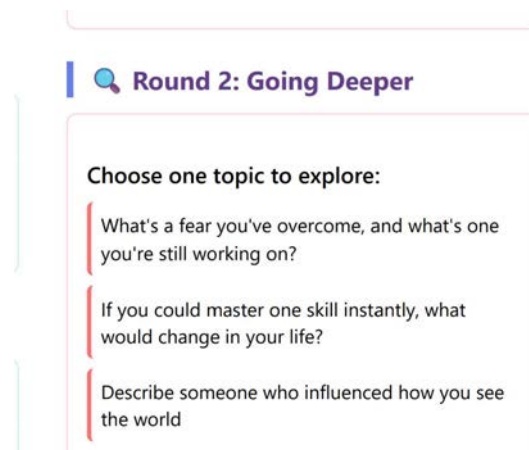


Figure 4.7: Questions Created by Samuel for Walking Discussion Session

it in a pretty bow and say, ‘Here’s my conclusion.’” In Peapod, she felt she could sit with uncertainty and still be heard.

This sense of interpersonal safety was particularly salient in multiple sessions across both cohorts. Following Cohort 1’s second session led by Luna around sharing big questions that they were grappling with, multiple participants expressed that it had helped normalize their inner struggles and prompted a sense of shared humanity. Moreover, in Cohort 1’s fourth session, participants brought articles to discuss — some on potentially sensitive or intellectually charged topics. Nevertheless, the conversation was characterized by curiosity, nuance, and mutual respect, avoiding debate or defensiveness. Similarly, the future self-letter writing activity in the second session of Cohort 2, in which participants wrote personal messages to themselves (after discussing the questions that Samuel had created, shown in Figure 4.7) and then exchanged them with another member, involved a notable degree of vulnerability.

This sense of interpersonal trust and openness suggests that a major theme from the pre-interviews was addressed: the desire for more emotionally resonant friendships beyond superficial interactions.

Second, participants mostly agreed that the structured nature of the first session facilitated greater relatedness. Luna emphasized that this session’s flow had a significant impact on her experience: “Setting the intentions at the beginning was a really huge part of feeling like everyone’s on the same page.” Jessica similarly

noted that “creating a group with some sort of clear purpose. . . it’s so different” compared to her other social groups that default to casual hangouts like eating out. For her, the presence of shared focus and direction enabled a different kind of presence in conversations.

The positive reaction to the first session was observable in both cohorts. Although it began with some awkwardness, unsurprising given that most of the participants were strangers and uncertain about the format, this “productive uncertainty”, as Hollie described it, gradually gave way to comfort. The designed progression of session elements, from the “purpose buffet” to the “activity inspiration menu,” helped participants orient themselves and each another. Several noted that this modular and tactile approach reminded them of childhood creativity. Luna, for example, appreciated the low-tech physical nature of the experience, describing it as “reminiscent of childhood craftiness”.

Third, ‘structured novelty’ surfaced as an unexpectedly enriching characteristic of the service. Samuel articulated this most directly, describing the value of the juxtaposition of “wonder and discovery” with progressive social familiarity. For him, Peapod’s sequence of varying, participant-led activities was an ideal way to keep things fresh without undermining the emerging group cohesion. This sense of playful unpredictability within a trusted container allowed for ongoing engagement. Ferguson echoed this sentiment, noting that “the fact that we always had to, like, have something to look forward to” generated a consistent feeling of anticipation. He described it as fostering a mindset of “positive expectation” towards the upcoming sessions.

Fourth, a recurring point of friction across both cohorts was the limited session duration of 90 minutes, which often was a non-negotiable constraint due to the use of rental spaces (i.e., it was hard to casually extend the meeting as we had to vacate those spaces). Several participants expressed a desire for more time, particularly during moments of deeper discussion or when using certain the Vibe and Dynamics decks. Ulysses felt that the time constraint “inhibited [him] from expression,” remarking that conversations often felt like they were “just beginning” as the session neared its end. However, this concern also suggests a form of positive engagement. Luna remarked that her “main gripe” with the experience was simply that she “never wanted the sessions to end,” and believed they could have “easily

gone on for another hour.” Rather than signaling disengagement, the frustration with time limits points to a considerable level of emotional investment and a desire for further interaction.

In relation to this, a key divergence emerged in the perspective of Ulysses on the nature of intimacy. He expressed slight skepticism about the efficacy of structured formats alone in cultivating deep connection among strangers, stating that “intimacy does not really come out of structure.” For Ulysses, authentic closeness was more likely to emerge through repeated informal contact over time, rather than through co-constructed activities. He suggested that Peapod card tools might be better suited for “already existing groups” who have an established rapport, and who could use the materials to explore novel ways of connecting, rather than to form new bonds from scratch. This view stood somewhat in contrast to the majority of participants. Ulysses’ reflections offer a valuable counterpoint, highlighting the importance of ongoing organic contact for certain individuals or relational styles.

Post-Intervention Relatedness Changes in General Social Life

One of the most prominent post-study changes observed in both cohorts was a marked decrease in the reported feelings of loneliness by participants in their general social contexts. Annie, for example, explicitly stated that she felt “less lonely” following the experience, attributing this change to both the group interactions themselves and a newfound confidence in reaching out to others in more aligned ways. She now perceives “the opportunity for connection is there in a way that it wasn’t before,” and has embraced her preference for structured forms of interaction as a legitimate and effective mode of socializing. As she put it, “I really enjoy getting to know people in a structured way,” and now feels more at ease initiating casual outings like museum visits, which she previously perceived as requiring a deeper level of intimacy. This development maps clearly onto her stark leap from an average relatedness score of 2 to 5 by the end of the experience, and also more broadly highlights improvement on the pervasive loneliness front, which was a theme evident in the pre-interviews.

For some participants, Peapod also helped to reframe the broader emotional

toll of social transience. Hollie had initially spoken of the heartbreak that comes with “having to kind of let go” of friendships – a recurring experience shaped by frequent moves and life in global cities like Tokyo. Despite finding Peapod “hope inducing,” and recognizing that “you can also create that [sense of group dynamic] in a pretty short space of time,” she showed a notable 1 point decrease in her relatedness score. This shift may reflect the deeper emotional complexity that surfaced during the experience: while the intervention provided a glimpse into what is possible, it also sharpened her cognizance of what is missing (or difficult to sustain) in her broader social life. The contrast between the depth achieved in Peapod and the realities of transience in her day-to-day environment may have thus underscored a lingering challenge in maintaining consistent, close connection outside structured group settings.

For Samuel, who was initially hesitant to invest emotionally in relationships that might be short-lived given his own uncertain timeline in Tokyo, Peapod helped him appreciate that “even if I’m going to spend time with this person just for one more month, it is worth a while to give it a try.” He further emphasized that “a small group of people can always have a big impact, even if it’s not, like, long term forever friendships.” Most notably, Samuel recognized that “deep connections can be forged in a few meetings” when framed by “well-designed interactions,” challenging his prior belief that intimacy required prolonged timeframes to cultivate. These developments illustrate the promising potential of structured formats in counteracting the alienation of transient urban environments.

Finally, a note on Ferguson, who showed a 0.3-point decrease in his relatedness satisfaction score: he described a growing caution toward new social interactions in his broader life after a recent experience being deceitfully targeted by a pyramid scheme by someone he thought might be a new friend. The experience made him “a little bit more wary of people,” particularly in assessing the sincerity of others’ intentions. Hence, he has recently approached new connections with more scrutiny, asking himself whether “this person is actually interested in being friends, or just using friendship as an excuse to do something else for their gain.” While this discernment would no doubt lead to more honest and reliable relationships in the long term, it may also reduce the ease and spontaneity with which he forms casual connections in the short term. In this way, his slightly lower score could be

reasonably understood not as a decline in social engagement, but a shift toward greater selectivity in whom he builds relatedness with.

4.7. Observational Insights

Observational data from across the two cohorts corroborate the above shifts in autonomy, competence, and relatedness. For one, perhaps the most striking observational indicator of increased autonomy was participants' desire to transpose elements of the experience into their other relationships. Multiple participants requested copies of the icebreaker prompts and activity inspiration cards, with the explicit intention of using them in other group contexts. This indicated not only a perceived value in the tools themselves but also a growing confidence in shaping their own social dynamics.

Across both cohorts, participants also began contributing to the experience in spontaneous, non-instructed ways. One particularly illustrative example was the consistent emergence of snack sharing, whereby people brought treats from convenience stores to sessions to share around. This informal generosity served as a relational cue, signaling investment in the group and a desire to contribute to the atmosphere of care and conviviality. Coinciding with this, participants exhibited an increasingly visible sense of appreciation for the space and each other. Facial expressions, body language, and verbal cues seemed to indicate growing comfort, particularly in later sessions. There was a noticeable transition from initial uncertainty or reservation to open expressions of gratitude, praise, and laughter — particularly during check-outs and in post-session walks back to the nearest stations.

Another observation was how the diverse activities seemed to function as different “entry points” through which the pod members could engage with each other. While some engaged most through verbal discussion or emotional sharing, others found resonance in creative or sensorial dimensions such as music. For example, in one session, participants curated and shared a collaborative music playlist as a post-activity artifact, which was then used in later sessions. Since each cohort had a mixture of these types of events, there ended up being something for everyone.

By the latter sessions, both cohorts exhibited signs of having developed a

nascent shared ‘culture’. This was evidenced by the emergence of inside jokes, running references, and shared resources, including the aforementioned playlist, collaboratively taken notes, and the casual exchange of articles or podcast links relevant to past discussions. These banal acts of shared meaning-making reinforced the respective senses of identity of the groups in small ways.

4.8. Evaluation of Key Design Features

The post-survey also shed light on which aspects of Peapod’s design participants felt had the most impact on needs satisfaction within their social lives outside of the service. The most frequently cited design feature in this regard was the small group size, mentioned by six out of seven participants. This affirms the early-stage design decision to cap cohorts at around four people during the prototyping phase (as well as literature on small group cohesion), such that one shared conversation could be shared without fragmenting into subgroups. As Hollie mentioned in the subsequent survey question regarding her selection of group size: “it was very cosy and relaxing and there was a really nice positive shared energy of engagement.” Another highly influential design feature was the co-creation of group purpose, mentioned by five participants. The collaborative intention-setting activity in Session 1, where members selected shared values and goals from a menu, appeared to support participants in seeing how social groups can be collectively shaped rather than passively accepted. Annie described this moment as “a fun way to break the ice and establish familiarity with everyone early on,” and suggested that it gave her tools or models for initiating shared purpose in other settings as well. Three other design elements each received four mentions: the high-commitment meeting format, rotating facilitation, and the activity inspiration cards – these elements were also echoed in the post-interviews as features that participants either wanted to replicate in their broader social lives or that changed their mindset about how group time could be structured, as discussed at length in Section 4.6 herein.

By contrast, the element with the least influence, with zero responses, proved to be the vibes and dynamics card decks and the associated rotating roles (e.g. vibe checker). Qualitative feedback suggests that while participants understood their

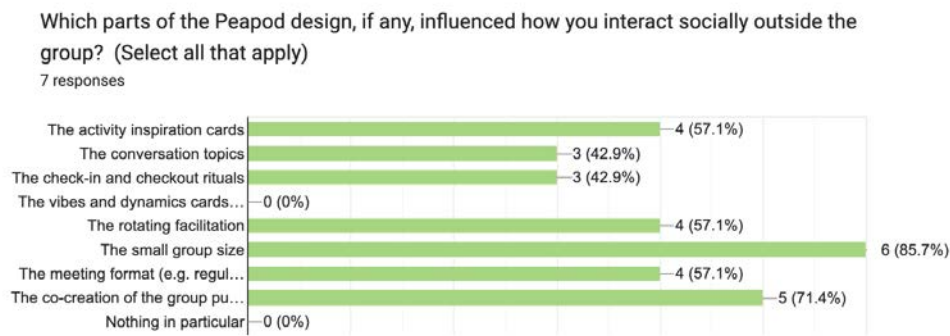


Figure 4.8: Design Elements Evaluation (Post-Survey)

intended function—to support meta-level group reflection and emotional check-ins—they were often skipped or underutilized due to time constraints or a desire not to disrupt the natural conversational flow. Annie noted that she hesitated to use the vibe cards when it was her turn as vibe checker because it felt like it might interrupt a good discussion. Ferguson described them as “a good reset mechanism... you can just be random at will,” adding that the idea of “controlled chaos” was something he resonated with; however, he felt that he “didn’t really have time” to use them and would have preferred more space in the session to experiment with the extra tools.

Chapter 5

Conclusion

This thesis explored the central research question: How does participation in Peapod affect the psychological need satisfaction of foreign working adults in Tokyo—particularly in their broader social lives—through the lens of SDT? Drawing from a combination of pre- and post-intervention surveys, interviews, and in-situ observations, the triangulated analysis suggests that Peapod contributed to qualitatively meaningful changes in how participants experienced the core needs of autonomy, competence, and relatedness outside the service. The following is a discussion of some key broad insights from the study’s findings from the researcher’s perspective, and offers some implications for the design of future interventions.

5.1. Discussion

5.1.1 Addressing Loneliness on a Small Scale

Although this study did not set out to explicitly address loneliness through the intervention, feelings of disconnection, particularly in relation to the need for relatedness, surfaced continuously as a salient theme in participant interviews and preintervention responses. Several participants described a sense of isolation in their broader social lives in Tokyo and the lack of avenues to address it, and post-intervention reflections pointed to a perceived reduction in this loneliness. This aligns with prior literature reviewed in Chapter 2, which identified loneliness as a prevalent challenge among foreign residents in Japan. Despite not being directly measured through survey metrics, the recurrence of this theme and its connection to participants’ satisfaction of relatedness suggests that Peapod’s design may hold promise as a loneliness intervention.

Multiple elements of the design appeared to facilitate this. The small group

format—cited by six out of seven participants as the most impactful feature for their social lives—lowered the entry barrier for deeper connection and made the experience more approachable. Furthermore, the light scaffolding reduced social ambiguity and created conditions for psychological safety, particularly for those who may struggle with initiating or deepening social ties on their own. These qualities were not only observed but articulated by participants in both interviews and post-survey reflections. These findings point to a potential new avenue for how loneliness can be approached in both policy and design research. Rather than focusing solely on broad-scale social initiatives, interventions could benefit from focusing on smaller, time-bound group configurations that are accessible to the target demographic. Macro-level policy efforts might similarly benefit from shifting attention toward supporting social infrastructures that make it easier to self-organize or join small purpose-driven social groups, especially in dense urban areas where traditional community ties are weaker.

5.1.2 The Social Benefits of Structure

Participants consistently compared their Peapod experiences with 'default' modes of social interaction, which tended to focus on unstructured gatherings or unfulfilling routine exchanges. In contrast, they described how the presence of gentle structure, such as curated prompts, shared agreements, and rotating roles, created an atmosphere of intentionality that encouraged openness, presence, and mutual attentiveness. This structure did not feel rigid to them; rather, it offered a (somewhat paradoxically) liberating framework within which more emotionally honest and reflective conversations could unfold. This suggests that in many contemporary urban settings, where social life is often polarized between casual informality and highly formalized events, light scaffolding may be key to unlocking deeper forms of connection.

5.1.3 Embracing Transience through Time-Bounded Formats

The 5-week arc of the Peapod experience proved to be one of its most effective design choices. It directly addressed a key barrier identified in early testing that

many individuals, particularly in transient or high-pressure urban contexts like Tokyo, are hesitant to commit to open-ended groups or communities. Participants noted that the short, clearly defined timeframe made them more willing to join and experiment, offering a sense of safety and manageability. The quality of connection that emerged within this limited timeframe challenged the often held assumption that deep social bonds require long periods to grow organically. Participants described feeling surprised by how quickly trust and emotional intimacy were established, suggesting that shared intention may help accelerate the pace of group cohesion. This has important implications for the design of future social interventions like this. Rather than resisting transience, formats might embrace it, offering meaningful experiences that are explicitly time limited. For working adults navigating complex schedules and fluctuating priorities in particular, such time-boxed models may be more approachable than ongoing, indefinite commitments. Future research and urban social design might consider how to frame these short-term spaces as legitimate containers for connection in their own right.

5.2. Methodological Limitations

This study bears several important limitations that shape how its findings should be interpreted. Most notably, the small sample size ($n = 7$) limits the generalizability of the results. Although the number of participants was appropriate to explore the qualitative depth, it precluded the use of statistical analyzes such as t-tests or significance tests of p-values. Future research with a larger sample size would be required to make such quantitative claims. Furthermore, although the participants came from culturally diverse backgrounds, the age range was relatively narrow (24–31), meaning the study does not capture how the satisfaction of autonomy, competence and relatedness could vary between different stages of life or generational experiences. Additionally, while some participants were more experienced with personal development and group processes, others were entirely new to these formats, introducing variability in how the intervention was received. In this sense, the study is best understood as exploratory and qualitative-first. Its purpose was not to establish statistical significance but rather to surface lived experiences through narrative accounts, reflective quotes, and observable shifts over

To what extent do you feel that participating in Peapod contributed to your above answers about how satisfied you generally feel in your social life? (1 = Not at all, 4 = Somewhat, 7 = Very much)

7 responses

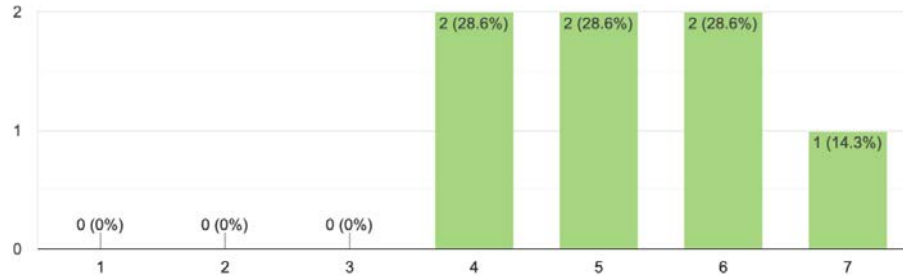


Figure 5.1: Perceived Extent to which Participants Felt Peapod Contributed to Changes in Psychological Needs satisfaction (Post-Survey)

time. These findings thus offer preliminary insights into how small-scale social group design may influence key psychological needs and provide a foundation for further study at a broader scale.

This service allowed for an exploration of need satisfaction in informal group settings, but it also introduced complexities in interpreting results. For example, while many participants reported qualitative growth in areas like social agency or intentionality, these shifts were not always reflected in (and indeed, were sometimes in contradiction with) post-survey numerical changes. As noted in both literature and participant accounts, perceived change may not always be linearly represented through Likert scale data. Some decreases, such as in autonomy or competence, may reflect a deepening awareness of existing social gaps or a reevaluation of relationships—a seemingly negative change that could, in fact, indicate meaningful insight.

The absence of a control group¹ further complicates claims regarding correlation. To mitigate this complication, participants were asked in the post-survey to rate the extent to which they felt the experience contributed to their psychological

¹ Both cohorts followed the same structure, and statistical analysis revealed similar trajectories in psychological need satisfaction across the two groups. As such, they offer limited comparative value for this particular study.

need satisfaction across the three subscales. As can be calculated through looking at Figure 5.1, the average response was 5.29 out of 7—indicating a generally high perceived impact. In an optional follow-up question, participants were asked to identify which survey items they felt were most affected by the experience. All responses in this field pointed to items linked to relatedness and/or competence, reinforcing these as the key areas of impact. Triangulating this with qualitative and observational data further supports these findings. For instance, Annie rated Peapod’s contribution at the maximum score of 7, writing that it helped with her “sense of belonging and sense of comfort being myself.” Her quantitative results reflected this sentiment: her autonomy satisfaction score rose from 4 to 6, and her relatedness score from 2 to 5. These changes align with her aforementioned post-interview reflections about feeling “more comfortable with the idea of inviting people to just do random things,” and realizing that she thrives in settings where she can get to know people “in a structured way.”

Next, while post-interviews indicated changes in participants’ broader social lives, the relatively short duration of the intervention (approximately five weeks) limits the ability to assess long-term effects. It is plausible that Peapod served as a catalyst, planting ‘seeds’ of change that may take more time to manifest. Some participants explicitly framed the experience as offering new frameworks or tools they intended to carry into future interactions, suggesting that the full impact may unfold gradually over time, particularly in how individuals shape and initiate social engagement beyond the cohort.

Further, while participants were recruited through an open call, the final sample involved a degree of informal curation that may have introduced selection bias. Given that the researcher was embedded in some of the same communities where recruitment occurred, many participants were either known to or loosely connected with the researcher. Their inclusion was thus influenced not only by eligibility but also by perceived fit with the group context. While this likely supported group cohesion and commitment, it may have skewed the sample toward individuals already predisposed to engage in this kind of experience. Although the selection process was conducted with a high degree of reflexivity around these concerns and aimed to follow a maximum variation sampling strategy [58] to ensure diversity in age, nationality, and length of time in Japan, future research is needed to

examine how the intervention performs with a fully randomized sample of eligible participants, particularly those with no prior connection to the researcher or their networks.

Finally, the dual role of the researcher as both designer and in-room observer can also be interrogated. While the sessions were designed to be largely self-facilitated, relying on the card deck and peer leadership, the researcher's presence as a backup facilitator and participant may have subtly influenced the dynamics of the group. Participants may have felt an implicit pressure to engage "correctly" or positively, or to mirror what they perceived to be the intended purpose of the experience. Such presence effects, while difficult to quantify, warrant consideration when interpreting the findings.

In sum, these limitations suggest that further study is needed to build on the initial findings of this exploratory research. Future work could benefit from a larger and more demographically varied sample, extended longitudinal tracking, and the incorporation of additional feedback methods—such as third-party observation or anonymous journaling—to mitigate researcher influence.

5.3. Future Work

Building on the insights from this study, future research could explore how the Peapod model adapts to different contexts, scales, and populations. One area of interest is testing the format with non-English-speaking groups or more varied demographic compositions, to examine how cultural and linguistic diversity shapes group dynamics and need satisfaction. In a similar vein, this study focused exclusively on urban Tokyo, where conditions like density, pace, and anonymity may shape both loneliness and the demand for social infrastructure. Comparative studies across different geographic contexts such as suburban or rural areas could lend insight into how the need for, and impact of, small-group social formats vary by environment.

Second, the role of physical space in shaping group experience and service efficacy would be important to consider. In this study, attention was paid to securing high-quality and quiet environments to ensure a consistent baseline, often by renting appropriate venues, but spatial variables were not the focal point of analysis.

The emphasis remained on the social programming that occurred within those spaces. However, literature on sense of place and community suggests that the design and feeling of physical environments can significantly influence interpersonal connection and group dynamics, almost functioning as the 'hardware' of social interactions. Future research could investigate how different kinds of spaces (whether cozy, public, private, natural, or institutional) impact the psychological outcomes of small group interventions like Peapod.

Third, given that Peapod was designed for and tested with foreign residents, future work could explore the potential for this kind of service to support cross-cultural connections in a more general way. In the context of Japan, a promising next step would be to examine whether the same small-group model could facilitate more inclusive interaction between foreign and Japanese residents. This aligns with the government's emerging *tabunka kyōsei* (multicultural coexistence) initiatives, which seek to improve integration and social cohesion across diverse populations. Exploring this intersection between grassroots group formats and macro-level policy could offer both theoretical and practical value.

Further studies might also extend the intervention over a longer period of time or incorporate follow-up assessments to understand the durability of the observed effects. Exploring how participants carry the experience into their broader social lives over time would provide valuable information on lasting impact. In addition, different experimental variations could be analyzed, such as comparing facilitated versus self-led groups, or testing different forms of group co-creation, to better isolate which design elements are most influential.

Finally, while this study focused on autonomy, competence, and relatedness, subsequent research could investigate adjacent outcomes, such as belonging, social well-being, self-confidence, or stress reduction, to better understand the broader well-being enhancement potential of peer-based mutual support modalities. These directions offer promising opportunities to deepen and extend the work initiated here.

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Appendices

A. Interview Guides

Pre-Interview Guide: Figure A.1

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B. Participant Consent Form

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C. Pre-Survey Questions

Pre-Survey (Part 1): Figure C.1

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D. Post-Survey Questions

Post-Survey (Part 1): Figure D.1

Post-Survey (Part 2): Figure D.2

Peapod Cohort Pre-interview Question Guide

Part 1: Social Life in Tokyo

Goal: Understand their current sense of connection, belonging, isolation, etc.

- How would you describe your current social life in Tokyo?
- Who are the people you spend time with socially? (e.g., friends, colleagues, community groups)

Part 2: SDT Needs in Current Social Life

Autonomy (feeling free to be oneself)

- In your social life right now, how free do you feel to be your authentic self?
- When you make choices about how to spend your social time (e.g., who you see, what you do), how much of that feels like your own choice?

Competence (feeling effective and capable)

- In social situations, how confident do you feel in your ability to connect with others?
- Are there social situations where you often feel unsure of how to act or where you feel awkward?
- Do you feel like you are able to contribute something valuable when you're in social groups?
- Are there any social skills or ways of connecting that you feel you're good at?

Relatedness (feeling close and connected)

- How emotionally close do you feel to the people in your current social circles?
- Do you feel understood and supported by the people around you?
- Are there relationships where you feel distance or disconnection?

Part 3: Hopes and Intentions

Goal: Capture what participants are hoping for.

- What would you most like to experience more of in your social life in Tokyo?
- Are there any ways you hope participating in Peapod might impact your social life?

Figure A.1: Pre-Interview Question Guide

Peapod Cohort Post-interview Question Guide

Part 1: Changes in General Social Life

- **Has anything changed in your social life over the past few weeks?**
(prompt: more social energy, new connections, more confidence, etc.)
 - Have you noticed any changes in how you relate to others — either within your group or outside it?
 - Do you feel any different about your ability to connect, belong, or contribute in social situations now?
 - Do you think Peapod played a role in any of those changes?
 - If yes: In what way?
 - If no: That's totally okay — could you say more?

Part 2: Core Needs (SDT)

Autonomy

- Did Peapod help you feel more in control, free, or able to express yourself authentically? In what ways?
- Was there anything that made you feel like your input or choices shaped the group?

Competence

- Was there a moment during Peapod where you felt especially confident, useful, or capable?
- Did you feel like you grew or practiced any relational or emotional skills during the experience?
- Did any part of the format help you feel more effective or socially competent?

Relatedness

- Did Peapod help you feel more emotionally connected to others?
(prompt: a moment of vulnerability, shared joy, or resonance)
- Did you feel seen, understood, or accepted by the group?
- Are there any relationships from Peapod you see continuing beyond the group?

Part 3: General feelings of loneliness now & Moving Forward

- Compared to before, how would you describe your sense of loneliness now?
(prompt: more supported, less isolated, no change?)
- I feel like I can build deeper relationships with others now than I could before Peapod.
- Has it changed how you want to approach relationships going forward?

Figure A.2: Post-Interview Question Guide

Social Group Cohort Participant Consent Form

Title of Study: Social Infrastructure for Wellbeing: Designing a social group service for foreign working adults in Tokyo

Researcher: Chris Clayton, ITOMA Lab, Keio Graduate School of Media Design (KMD)

Supervisor: Chihiro Sato, Associate Professor, KMD

Contact Information:

- Chris Clayton: chrisclayton@keio.jp
- Prof. Chihiro Sato: chihiro@kmd.keio.ac.jp

Purpose

Foreign working adults in Tokyo experience heightened loneliness despite the availability of social clubs and events in the city. Existing social infrastructures fail to provide sustained and meaningful relationships. This study explores the impact of structured small-group dynamics on social wellbeing by testing a mutual aid service, 'Peapod', that facilitates high-commitment social groups. Peapod is a multi-week, card-based social experience that incorporates co-creation and participatory decision-making mechanisms. Using self-determination theory (SDT) to measure wellbeing, this research will analyze how participatory decision making and co-creation of group norms & activities affects the SDT dimensions of autonomy, competence, and relatedness.

Procedures

If you agree to participate in this study, you will be involved in the following activities:

- Participation in a social group with 3-5 other foreign working adults in Tokyo that will meet in-person once a week for 90 minutes over the course of five weeks in May 2025, at different venues across Tokyo (Total 5 meetings).
- Completion of pre- and post-surveys assessing well-being, social support, and feelings of belonging.
- Participation in individual interviews before and after the cohort ends. The interview audio will be recorded.
- Allowing the researcher to take observational notes during the social group sessions.

Confidentiality

- All data collected, including survey responses, interview audio and transcripts, and observational notes, will be securely stored and accessible only to authorized personnel involved in the study. Conversations from within the sessions will not be shared or used in the research.
- Personal identifiers will be anonymized or pseudonymized to ensure your confidentiality.
- Electronic data will be encrypted and password-protected, while physical documents will be kept in locked storage.
- Only aggregate, de-identified data will be used for analysis and reporting purposes.
- Data will be retained for five years (until March 31, 2030) and securely stored by Professor Chihiro Sato on her lab's (ITOMA) university google drive, after which it will be securely disposed of in accordance with institutional guidelines.

Figure B.1: Consent Form (Part 1)

Risks and Benefits

- There are minimal risks associated with participating in this study. However, discussion of personal experiences may occur in the sessions, and this may evoke emotional responses in some participants. Support will be available if needed, and participants are encouraged to seek professional help if required. Further, engaging in group discussions might expose participants to differing opinions and perspectives, which could potentially lead to conflicts or disagreements. Clear guidelines for respectful communication will be established to manage such situations.
- Benefits of participation include gaining interpersonal skills, peer support, and potentially improved well-being and social connectedness.

Voluntary Participation

- Your participation in this cohort is entirely voluntary.
- You may withdraw from the study at any time without penalty or loss.

Contact Information

If you have any questions or concerns about this study, please contact Chris Clayton (chrisclayton@keio.jp) or Prof. Chihiro Sato (chihiro@kmd.keio.ac.jp)

Consent

By signing below, you are indicating that you have read and understood the information provided above, and you agree to participate in this study. You will receive a copy of this consent form for your records.

Participant Name: _____

Participant Signature: _____

Date: _____

Researcher Name: _____

Researcher Signature: _____

Date: _____

Figure B.2: Consent Form (Part 2)



Peapod Presurvey

Purpose: This pre-survey is part of Chris' research study exploring how participation in a multiweek, small-scale, co-created social group affects social wellbeing. Your responses will be kept confidential.

It should take around **10mins** to complete. Thank you in advance!

If you would like to review the research details, here is the [consent form](#).

* Indicates required question

1. Name *

2. Age *

3. Nationality *

4. Gender *

5. How long have you lived in Japan? And how long in Tokyo (or Kanto region)? *

6. Current career/job/profession? *

7. How would you (subjectively) rate your Japanese language proficiency? *
Mark only one oval.
☐ Beginner (N5/4) ☐ Intermediate (N3) ☐ Advanced (N2/J) ☐ Fluent / native (N1+) ☐ Other: _____

Section 2

Instructions: Think about your **current social life in Tokyo**—this includes friendships, colleagues, communities, hobby groups/clubs, or any other social contexts you engage with.

Please respond to each statement by indicating how true it is for you, **generally**.

8. In my current social circles, I feel free to be who I am. *
e.g., I can express my real thoughts or feelings without fear of judgment.
Mark only one oval.

1	2	3	4	5	6	7
Not						Very true
9. In my current social circles, I feel like a competent person. *
e.g., I feel socially skilled, or like I know how to contribute to group conversations or dynamics.
Mark only one oval.

1	2	3	4	5	6	7
Not						Very true
10. In my current social circles, I feel loved and cared about. *
e.g., I feel emotionally supported, or like others genuinely care how I'm doing.
Mark only one oval.

1	2	3	4	5	6	7
Not						Very true
11. In my current social circles, I often feel inadequate or incompetent. *
e.g., I sometimes feel socially awkward, unsure, or like I don't know how to connect well.
Mark only one oval.

1	2	3	4	5	6	7
Not						Very true
12. In my current social circles, I feel I have a say in what happens and can voice my opinions. *
e.g., I feel comfortable suggesting plans or giving my input in group decisions.
Mark only one oval.

1	2	3	4	5	6	7
Not						Very true
13. In my current social circles, I often feel a lot of distance between me and others. *
e.g., I sometimes feel like an outsider, or that others are close with each other but not with me.
Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

Figure C.1: Pre-Survey (Part 1)

14. In my current social circles, I feel very capable and effective. *

e.g., I can navigate group dynamics, help organize things, or support others.

Mark only one oval.

1234567

Not000000Very true

15. In my current social circles, I feel a sense of closeness and intimacy with others. *

e.g., I have deep or emotionally open connections, not just surface-level interactions.

Mark only one oval.

1234567

Not000000Very true

16. In my current social circles, I feel controlled or pressured to be a certain way. *

e.g., I feel like I need to act a certain way to fit in, or suppress parts of myself.

Mark only one oval.

1234567

Not000000Very true

17. Overall, how satisfied are you with your current social life in Tokyo? *

Mark only one oval.

1234567

0000000

Section 3 – Scheduling!

18. When would you generally be available each week for the meetups? (select check all time chunks that apply) *

note:

- this is just to get a **general** sense of your availability for now – it will help me a lot in making the scheduling process smoother during our first session!
- please check the box even if you are available for only part of that time slot (e.g., you are available from 7-9pm, so tick the 'evening (5-9pm)' box)
- you're not committing to any times yet, we will finalize the meeting schedule altogether in the first gathering.
- if your general schedule is irregular every week and you feel you can't answer this, just answer 'unsure' in each row

Check all that apply.

	morning (9am-12pm)	afternoon (12-5pm)	evening (5-9pm)	not available	unsure
mondays	☐	☐	☐	☐	☐
tuesdays	☐	☐	☐	☐	☐
wednesdays	☐	☐	☐	☐	☐
thursdays	☐	☐	☐	☐	☐
fridays	☐	☐	☐	☐	☐
saturdays	☐	☐	☐	☐	☐
sundays	☐	☐	☐	☐	☐

19. Is there anything in particular you hope to achieve or gain by participating in this peapod social experience? (optional)

20. Any other questions/comments/concerns? (optional)

Thank you for completing this survey! Look forward to seeing you for the meetups :D

- Chris

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Figure C.2: Pre-Survey (Part 2)



Peapod Postsurvey

Thank you so much for participating in the research!

Purpose: This post-survey is intended to help me understand how your experience in Peapod may have impacted your social life and satisfaction of core psychological needs of autonomy, competence, and relatedness. There are no right or wrong answers here, just your honest reflections. Your responses will be kept confidential.

It should take around **10mins** to complete. Thank you in advance!

If you would like to review the research details, here is the [consent form](#)

*** Indicates required question**

1. Name *

Section 1

Instructions:
Reflect on your **social life in Tokyo over the course of the last month**—this includes friendships, colleagues, communities, hobby groups/clubs, or any other social contexts you have engaged with (including the Peapod experience!)

Please respond to each statement by indicating how true it is for you **generally**.

Use the following scale:
1 = Not at all true | 4 = Somewhat true | 7 = Very true

2. In my current social circles, I feel free to be who I am. *

e.g., I can express my real thoughts or feelings without fear of judgment.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

3. In my current social circles, I feel like a competent person. *

e.g., I feel socially skilled, or like I know how to contribute to group conversations or dynamics.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

4. In my current social circles, I feel loved and cared about. *

e.g., I feel emotionally supported, or like others genuinely care how I'm doing.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

5. In my current social circles, I often feel inadequate or incompetent. *

e.g., I sometimes feel socially awkward, unsure, or like I don't know how to connect well.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

6. In my current social circles, I feel I have a say in what happens and can voice my opinions. *

e.g., I feel comfortable suggesting plans or giving my input in group decisions.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

7. In my current social circles, I often feel a lot of distance between me and others. *

e.g., I sometimes feel like an outsider, or that others are close with each other but not with me.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

8. In my current social circles, I feel very capable and effective. *

e.g., I can navigate group dynamics, help organize things, or support others.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

9. In my current social circles, I feel a sense of closeness and intimacy with others. *

e.g., I have deep or emotionally open connections, not just surface-level interactions.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

10. In my current social circles, I feel controlled or pressured to be a certain way. *

e.g., I feel like I need to act a certain way to fit in, or suppress parts of myself.

Mark only one oval.

1	2	3	4	5	6	7
Not						Very true

Figure D.1: Post-Survey (Part 1)

Section 2

11. To what extent do you feel that participating in Peapod contributed to your above answers about how satisfied you generally feel in your social life?
(1 = Not at all, 4 = Somewhat, 7 = Very much)
Mark only one oval.

1234567

Not ☐ ☐ ☐ ☐ ☐ ☐ ☐ Very much

12. Optional: are there any answers in particular that you feel were influenced strongly by Peapod? If so, which ones?

13. Which parts of the Peapod design, if any, influenced how you interact socially outside the group? *
(Select all that apply)
Check all that apply.

☐ The activity/inspiration cards

☐ The conversation topics

☐ The check-in and checkout rituals

☐ The vibes and dynamics cards (and associated roles of trickster and vibe checker)

☐ The rotating facilitation

☐ The small group size

☐ The meeting format (e.g. regular weekly meetings for 5 weeks, high commitment)

☐ The co-creation of the group purpose & structure

☐ Nothing in particular

☐ Other:

14. Optional: Why do you think the aspect(s) you selected had an impact on you?

15. Overall, how satisfied are you with your current social life in Tokyo? *
Mark only one oval.

1234567

☐ ☐ ☐ ☐ ☐ ☐ ☐

16. Any other questions/comments/concerns? (optional)

Thank you again so so so much for investing your time to be a part of this whole experiment! Hope to see you around the Tokyoverse soon <3
- Chris

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Figure D.2: Post-Survey (Part 2)