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Bridging the Community-Institution Divide: Multi-Level Community-Based Participatory Design for Migrant Health in China

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Abstract: Co-design with marginalised communities in developing settings—and their experiential knowledge—often collides with expert rationalities and hierarchical logics in public health institutions, undermining power-sharing, sustained participation, and institutionalisation. This paper explores how co-design mediates these competing logics to bring structurally produced health injustices back into the formal institutional field of vision. Based on seven months of immersive fieldwork in Shenzhen, China’s largest migrant city, the paper analyses a social design case addressing rural–urban migrants’ psychological well-being in an informal settlement. It integrates community-based participatory research (CBPR) and co-design to initiate the process of returning public health concerns to the institutional domain through four stages: relational trust-building, macro-meso-micro social analysis, asset-based co-design, and public inquiry. Findings indicate that integrating multi-level empirical evidence with experiential knowledge enables a more persuasive response to the concerns of diverse stakeholders, thereby mitigating the community–institution divide within co-design for marginalised health issues.

Keywords: Co-design for health; Social design; CBPR; Marginalised communities

1. Introduction

Within global public-health policy agendas that seek to address structural disparities and social injustice (as reflected in the theme of this conference), co-design has emerged as a key research and practice pathway. It employs more equal participation to empower and include service users—particularly marginalised communities—in shaping interventions, services and policy (Donetto et al., 2015; Swann, 2017). As a vehicle for epistemic justice, co-design acknowledges and validates lived-experience knowledge, challenging traditional expert-led



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paradigms. It advocates inclusive engagement by multiple stakeholders, especially those persistently overlooked (Bircanin et al., 2021; Macdonald, 2025). Accordingly, it tends to centre experiential evidence in the design process, enabling co-exploration of more situated and inclusive health interventions.

While co-design advocates the ideas of empowerment and democratisation, its practice—particularly with marginalised populations confronting structural health inequities—faces substantial obstacles. Within developing settings characterised by rigid social stratification, uneven resource distribution and hierarchical decision-making (Poulsen et al., 2024; Singh et al., 2023), tensions between two knowledge and power paradigms intensify. These are: the community-rooted, “informal”, experience-based knowledge; and the institutionalised “professional” knowledge and bureaucratic logic dominating public health policies. Professional gatekeepers and routine policy processes frequently question, and even exclude community voices deemed “overly subjective” (Moll et al., 2020; Slattery et al., 2020). Accordingly, co-design requires focus on community participation. But it must also focus on the extent to which the generated experiential knowledge can access existing institutional agendas and power structures.

There remains a paucity of studies on operational strategies for combining theory and empirical evidence with experiential data. This is despite advocacy to integrate multiple rationalities and diverse evidence forms to bolster co-design’s credibility in public health (Carr et al., 2011; Morley et al., 2024). Accordingly, this study aims, within a developing setting, to employ co-design to bring marginalised communities’ structural health injustices to the formal institutional vision. The guiding question is: ***How can integrating empirical and experiential evidence promote the public legitimacy of co-design for marginalised health?*** In responding, the study clarifies how co-design can ease tensions between communities’ experiential knowledges and the health institution’s evidence-based knowledges, thereby supporting more comprehensive research–action and robustly improving structural health inequities.

Therefore, the paper first reviews how co-design operates in public health—most notably in marginalised settings—and discusses the tensions between everyday, experiential knowledge and professional, evidence-based logics within institutions. It then explores the CBPR–co-design relationship, drawing on CBPR’s extensive application in community and public health. We examine how CBPR, as an overarching framework, structurally strengthens partnership-building, method configuration and ethical control in co-design. The paper proceeds to integrate CBPR and co-design into a social-design study focused on the psychological well-being of young rural–urban migrants in an informal settlement in Shenzhen, China. Based on seven months of immersive fieldwork, we implemented a four-stage research–action framework: (1) partnership formation with the migrant community and multi-level institutions through varied trust relations; (2) macro-meso-micro social analysis to uncover the determinants of health equity; (3) reconfiguring community assets in corresponding co-design workshops; and (4) using these research and design results to respond to public inquiries. Lastly, this multi-level approach enabled the community’s health concerns to re-enter formally institutional vision.

2. Co-design for Public Health

2.1 *Co-design in public health of marginalised communities*

Many pressing public health challenges originate in human behaviour, positioning design—particularly as a driver of behaviour change—as a key lever for intervention. In this regard, PD & co-design employ participatory approaches that bring patients and other stakeholders into decision-making, thereby strengthening the health understanding and risk appraisal of users lacking voice and information, and reconfiguring expert-led power relations within public health systems (Donetto et al., 2015; Swann, 2017). Participatory and collaborative approaches also help to address the disjuncture between health research priorities and end-users’ actual needs, reducing wasted public health funding and improving the use of limited resources (Slattery et al., 2020). However, marginalised groups—often publicly weaker and labelled as “vulnerable”—are readily framed as awaiting rescue by policymakers or experts, which obscures their capacities, knowledge, and agency. Vulnerability here is not solely individual or intrinsic; it also reflects unequal power relations that generate systemic obstacles and structural vulnerability (Micsinszki et al., 2022). Co-design positions marginalised and sensitive populations as design partners or co-researchers, and thereby re-empower their agency and adaptive practices within public-health settings.

This empowerment is facilitated by a more patient, relational mode of working that fosters safer, more accessible spaces for the articulation of situated knowledge and embodied experience. This includes contextual preparation, such as providing familiar venues and support personnel (Raman & French, 2022). In an earlier systematic review, Mulvale et al. (2016) targeted the “hard-to-reach” population of children and young people in mental health. They showed that collecting and sharing personal narratives, producing trigger films, and hosting joint events foster physical and emotional safety in participation and yield more authentic experience and trust. In a co-design study with severe intellectual disabilities, Bircanin et al. (2021) used sustained micro-interactions (e.g., bodily movement, eye contact, posture) as forms of embodied knowledge to grasp participants’ lived experience and pursued co-creation through active support. These co-design practices aid the externalisation of users’ cognitive processes, producing context-rich experiential evidence that is readily visualised, debated and made public (Macdonald, 2025). Consequently, this experience-based, participatory and empathic approach has been used in sensitive and marginalised health domains, including oncology, mental health care and Indigenous maternal–child health (Donetto et al., 2014; Mulvale et al., 2016; Raynor et al., 2020).

Moreover, such situated and experiential knowledge enables co-design to help marginalised communities reframe “vulnerability” into adaptive and actionable frameworks. Micsinszki et al. (2022) argue that vulnerability must be operationalised and stratified to inform targeted interventions. Through mapping a socio-cultural vulnerability framework, classifying vulnerability across groups, and eliciting narratives of everyday lived experience, co-design acts as an interdisciplinary translator, converting complex data into actionable content. In another study (Porche et al., 2022), although marginalised youth and families encountered multiple barriers when using mainstream mental-health services. However, joint participation enabled digital interventions to respond to real-world contexts, making the design more accessible, engaging and effective. Therefore, co-design provides situated

inputs and operational adjustments. This renders public-health designs and interventions more needs-aligned and acceptable to participants, thereby enhancing sustainability.

2.2 The Challenges of Co-design for marginalised health

While co-design is gaining traction in addressing public health issues in marginalised settings, tensions between vulnerable groups (e.g., patients and service users) and existing health institutions (e.g., health experts, service providers and the public sector) render co-design highly uncertain and difficult. On the community side, key difficulties include insufficient representativeness, weak sustainability, and prolonged timelines. For vulnerable groups, barriers are typically greater, and those who are visible in participation are not necessarily the most disadvantaged. Numerous studies indicate that truly vulnerable populations often lack opportunities to participate due to economic, cultural or health-related constraints (e.g., limited physical or mental capacity), whereas those who can be recruited tend to be better educated, more vocal, and more digitally literate (Jiang et al., 2022; Mulvale & Robert, 2021; Ní Shé & Harrison, 2021). A recent study in a developing context further suggests that the digital divide and “pilotitis” may lead digital health to reinforce inequalities, thereby potentially excluding the needs of more marginalised groups (Poulsen et al., 2024). Participation can also inflict harm. While design often treats personal experience as core material, yet sharing experiences of illness, trauma or loss can impose emotional strain, retraumatisation, participation fatigue, and diminished willingness to continue (Ní Shé & Harrison, 2021).

Co-design projects in marginalised settings are time-intensive. They are frequently misconceived as low-cost innovation or volunteer-based participation, which ignores the heightened requirements for time, ethical safeguards, staffing and finance. Vulnerable groups require more time to express and adapt, while designers must invest substantial start-up time to build trust, define roles and establish consensus; accordingly, “slowing the pace” is considered part of systems transformation (King et al., 2022; Slattery et al., 2020; Tindall et al., 2021). In developing settings, historical mistrust and research fatigue foster a sense of power hopelessness towards existing health institutions and a general distrust of external researchers. This makes equal participation difficult short-term and necessitates greater time and resources to rebuild trust (Ní Shé & Harrison, 2021; Singh et al., 2023).

At the institutional level, health research often follows standardised, policy-led procedures. Its knowledge and operational logics can then conflict with the lived experiences of marginalised communities. Individual experience is frequently treated as “unscientific” or “overly subjective”, and when requests are made to alter study designs or add unvalidated indicators, methodological standards may be perceived as weakened and workloads substantially increased (Slattery et al., 2020). Institutional obstacles—most notably bureaucratic procedures, hierarchical power and fragmented governance—impede the establishment of long-term arrangements to integrate, operationalise and maintain co-design results. These effects are especially evident in low- and middle-income settings (Singh et al., 2023).

For co-design in public health to be sustained and incorporated into routine policy processes, organisational commitments of funding, time and leadership are essential; yet securing such support depends on evidence that co-design outperforms existing practice. Given resource and schedule constraints, such evidence is difficult to build (Moll et al., 2020), resulting in a

structural paradox between evidence and resources. In parallel, designers are rarely project leads, as health institutions control initiation, tempo and duration. Frequently, co-design functions as a compliance/branding device, with token patient inclusion late in the process, predefined agendas, and patient contributions used to validate rather than co-produce outcomes (Ní Shé & Harrison, 2021). These inherent power imbalances place co-design under immense operational strain between community and institutional interests in developing settings, including: loss of initiative at entry, unstable partnerships and distrust with communities, ethical concerns around participation, and insufficient empirical evidence to persuade institutional actors. These dynamics can ultimately exacerbate health inequalities in marginalised settings; after the erosion of initial trust, co-design may, in later stages, be excluded from the formal policy agenda.

3. CBPR & Co-design

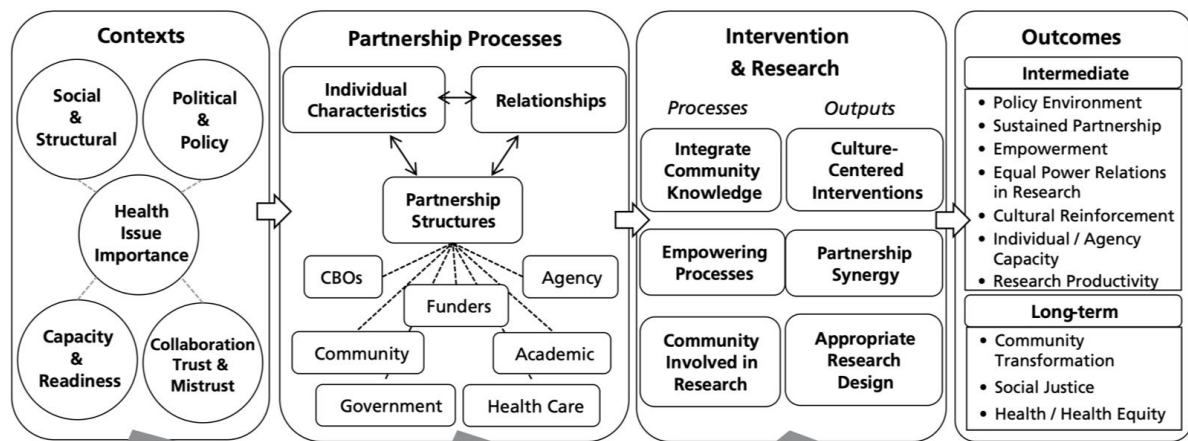
To mitigate the methodological and institutional challenges of co-design in marginalised community health, this paper integrates community-based participatory research (CBPR) to provide a more robust framework for partnership-building and evidence alignment. CBPR is defined as “collaborative efforts among community, academic, and other stakeholders who gather and use research and data to build on the strengths and priorities of the community for multilevel strategies to improve health and social equity” (Wallerstein et al., 2018, p. 3). Compared with co-design, CBPR targets community–institution power asymmetries and affords deeper, more autonomous participation. Research indicates that CBPR involves end-users earlier and balances power more evenly than PD (Unertl et al., 2016). Compared with experience-based co-design, it also more purposefully prioritises very vulnerable/minority groups while keeping inquiry and intervention community-centred (Moser & Korstjens, 2022). Consistent with this, CBPR has been adopted earlier and more broadly to advance health equity among marginalised and Indigenous communities and in developing settings (Collins et al., 2018; Revens et al., 2021; Vaughn et al., 2017).

CBPR commonly follows a four-component framework (Figure 1)—contextual analysis, partnership-building, research/intervention, and outcomes/evaluation (Kastelic et al., 2017)—offering structured advantages adaptable to co-design:

- Early power-sensitive work to chart the socio-political environment, identify trust and capacity gaps, and link community strengths, thereby correcting external assumptions and preventing imposed agendas (Collins et al., 2018; Jagosh et al., 2015). This work also foregrounds data access, ethical parameters, and feasibility (Jull et al., 2017; Sandoval et al., 2012).
- In partnership-building, CBPR specifies that the process of strategically shaping outcomes hinges on establishing robust relationships. Unlike co-design, CBPR more clearly requires researchers to adopt a specific interactional approach (individual-traits, relationships, partnership-structures) and to treat community members as producers of local knowledge (Israel et al., 2017; Ross, 2010).

- Methodologically, CBPR is flexible and mixed-methods, balancing scientific evidence with local experience and using strategic partnerships to ease power-sharing (Satcher, 2005). These attributes allow CBPR to support co-design in marginalised communities, integrating empirical and contextual evidence to improve intervention effectiveness (Zhang et al., 2024).
- For risk management, embedding CBPR ethics and principles within PD & co-design strengthens equity commitments and practical impact in low-resource settings (Benz et al., 2024; Racadio et al., 2014; Tseklevs, 2019).

Accordingly, Benz et al. (2024) propose CBPR–co-design pairing, with CBPR as an overarching approach that guarantees power-sharing and equitable participation, and creates safe, collaborative conditions for co-design (workshops, prototyping). CBPR is widely coupled with co-design in public-health interventions—homelessness (Tariq et al., 2023), breast-cancer training (Rodriguez et al., 2020), hearing health equity (Marrone et al., 2022).



Visual from amoshealth.org 2017

| Contexts | Partnership Processes | Intervention & Research | Outcomes | |
|--|---|--|---|---|
| <ul style="list-style-type: none"> • Social-Structural: Social-Economic Status, Place, History, Environment, Community Safety, Institutional Racism, Culture • Role of Education and Research Institutions • Political & Policy: National / Local Governance / Stewardship Approvals of Research; Policy & Funding Trends • Health Issue: Perceived Severity • Collaboration: Historic Trust / Mistrust between Partners • Capacity: Community History of Organizing/ Academic Capacity / Partnership Capacity | <p>Partnership Structures:</p> <ul style="list-style-type: none"> • Diversity: Who is involved • Complexity • Formal Agreements • Control of Resources • % Dollars to Community • CBPR Principles • Partnership Values • Bridging Social Capital • Time in Partnership <p>Individual Characteristics:</p> <ul style="list-style-type: none"> • Motivation to Participate • Cultural Identities/Humility • Personal Beliefs/Values • Spirituality • Reputation of P.I. | <p>Relationships: How we interact</p> <ul style="list-style-type: none"> • Safety / Respect / Trust • Influence / Voice • Flexibility • Dialogue and Listening / Mutual Learning • Conflict Management • Leadership • Self & Collective Reflection / Reflexivity • Resource Management • Participatory Decision-Making • Task Roles Recognized <p>Commitment to Culture-Centeredness</p> | <ul style="list-style-type: none"> • Processes that honor community and cultural knowledge and voice, fit local settings, and use both academic & community language lead to Culture-Centered Interventions • Empowering Co-Learning Processes lead to Partnership Synergy • Community Members Involved in Research Activities leads to Research/Evaluation Design that Reflects Community Priorities • Bidirectional Translation, Implementation & Dissemination | <p>Intermediate System & Capacity Outcomes</p> <ul style="list-style-type: none"> • Policy Environment: University & Community Changes • Sustainable Partnerships and Projects • Empowerment – Multi-Level • Shared Power Relations in Research / Knowledge Democracy • Cultural Reinforcement / Revitalization • Growth in Individual Partner & Agency Capacities • Research Productivity: Research Outcomes, Papers, Grant Applications & Awards <p>Long-Term Outcomes: Social Justice</p> <ul style="list-style-type: none"> • Community / Social Transformation: Policies & Conditions • Improved Health / Health Equity |

Figure 1 CBPR Conceptual Model (adapted from Kastelic et al., 2017).

4. Methodology: Integrating CBPR and Co-design

The study investigates a case exploring how social design may improve the psychological well-being of rural–urban migrants aged 18–35 in China. The research was conducted in Shenzhen, the nation’s largest migrant city, which hosts over 12 million rural-urban migrants—approximately two-thirds of its total population—most of whom reside in informal settlements known as "urban villages" (Grashoff, 2020). Due to institutional barriers, these

migrants face a state of "dual marginality" in identity and housing, which significantly undermines their mental health, social networks, family interactions, and welfare (Lin et al., 2020; Lin et al., 2022; Zhong et al., 2018). Between September 2024 and April 2025, seven months of immersive fieldwork were undertaken in a representative urban village (Figure 2), where houses approximately 26,000 residents (95% of whom are low-to-middle-income migrants). Owing to limited resources and high mobility, this area—aside from one community hospital—suffers severe shortages in public health infrastructure and services, and migrant psychological well-being remains absent from the formal policy agenda.



Figure 2 Highly social-spatial competition in urban villages.

4.1 Overall Framework: Integrating CBPR and Co-design

This study integrates CBPR with co-design, adapting the framework to align with the specific requirements of issue publicisation and situated contextual demands. First, as the researcher had no prior engagement with the site or the community, contextual analysis and partnership-building were treated as mutual, gradual processes of situated interaction and deepening engagement. Second, given CBPR's emphasis on multilevel strategies (Wallerstein et al., 2018) and the complexity of public health, social research was organised across macro, meso and micro levels. Third, three co-design workshops were conducted to correspond to these macro–meso–micro findings. Finally, to achieve institutional visibility for the issue, conventional pre–post outcome evaluation was substituted with public inquiry and assessment across different institutional levels and stakeholders (Figure 3).

Two operational points concerning CBPR warrant clarification. First, in CBPR research, the definition of "community" is a prerequisite for both research and action (Collins et al., 2018). In this study, community refers specifically to rural–urban migrants residing in NS Village, who share common characteristics and group identity. Second, CBPR must be adapted to

disciplinary paradigms, ethics, and local context. While the study incorporates anthropological/ethnographic components, anthropological CBPR—through a blurred boundary between everyday life and research—enables direct participation and research learning by community members (Cartwright & Schow, 2016). However, public health and psychology-oriented CBPR paradigm and ethical stance was mainly adopted here to maintain a sharper research–life demarcation (Collins et al., 2018).

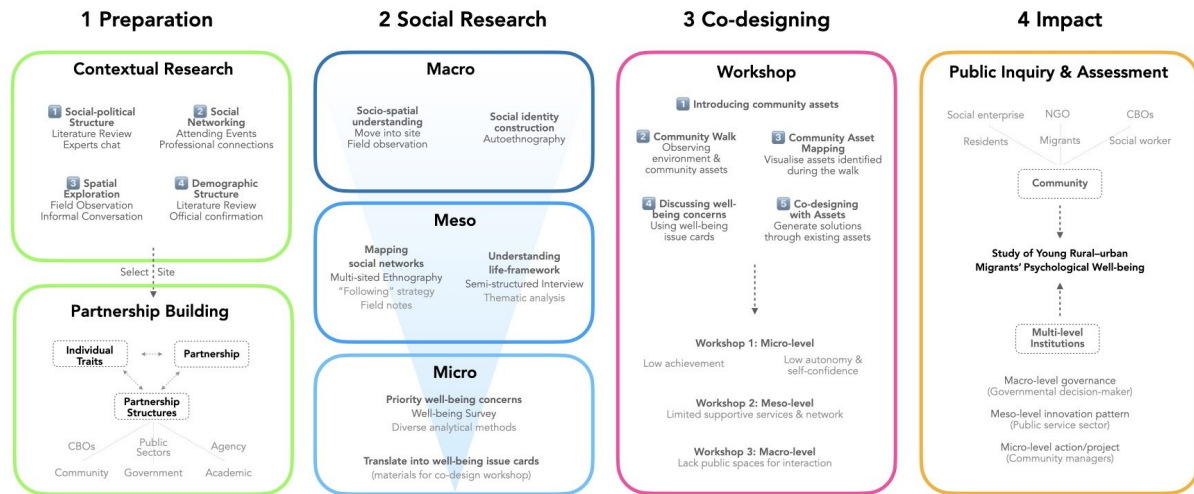


Figure 3 Community-based Participatory Research & Design Model.

4.2 Relational Trust-Building at Community–Institution Interfaces

Given the importance of relational practice in co-design, trust-building across both community and institutional domains was fundamental. As trustful interactional environments are vital for addressing sensitive issues, the designer’s role as an intermediary requires cultivating trust across both community and institution (Teli et al., 2022). To analyze the trust-building process, the study drew on a trust taxonomy in CBPR research for equity (Lucero et al., 2017), including trust deficit, neutral trust, role-based trust, functional trust, proxy trust, and critical-reflective trust (See Table 2). Data collection relied on seven months of immersive participant observation—prolonged immersion to record in-situ practices and meanings (Spradley, 2016). Author 1 obtained first-hand experiential evidence through "situated immersion," residing in the urban village with his family and pet. This engagement focused on informal community life and both formal and informal interactions with institutional actors, documented through field notes and photography, and analysed via thematic analysis (Braun & Clarke, 2006).

4.3 Multi-level Social Research

To enhance rigour in both theory and empirics, the study adopted Lichterman’s (2002) theory-driven approach to fieldwork, using theoretical frameworks to interpret and refine empirical observations. Before fieldwork, we conducted an eight-month review of theories (spanning sociology, anthropology, and psychology) on migrant well-being and health injustice. This review informed the preliminary construction of a macro–meso–micro social-analysis framework. During fieldwork, analyses at each level were adapted to the context, and consistent analytical logic was established for every level (see Table 1): core research

question; interpretive disciplinary tradition; empirically validated theory; applicable research method; contextual insights. As a result, this multi-level inquiry necessitates mixed theoretical lenses and methods:

Table 1 Multi-Level Approach to Analysing Migrant Well-Being.

| Migrant's Well-being | Macro | Meso | Micro |
|----------------------|---|---|---------------------------------------|
| Research Objective | Socio-spatial Structure | Networks, Lifestyles, Well-being | Priority of Well-being Issues |
| Disciplinary Lens | Social anthropology & Urban sociology | Micro-sociology & Social Psychology | Positive Psychology |
| Validated Theory | "Push-pull" theory | Migration Network & Psychological Well-being Theory | Psychological Well-being Theory |
| Applicable Method | Participatory Observation | Semi-structured Interview | Ryff's Well-Being Scale |
| Contextual Insights | Structural inequalities shape informal socio-spatial life | Weaker migrant networks impact well-being | Lacking autonomy and future direction |

- The macro-structural analysis focuses on the socio-spatial interplay between mass migration and informal settlements. Utilizing disciplinary lenses from social anthropology and urban sociology, the study links global transformations in the division of labour to internal migration drivers, focusing on the fundamental health logic of the community and its residents (Gottdiener et al., 2019; King & Skeldon, 2010). It employs the "push-pull" theory (Van Hear et al., 2018) to clarify the transition from rural to urban regions. This research stage is grounded in prolonged immersion through participant observation, with insights extracted from the thematic analysis of field notes to ensure a contextually rich understanding of the social-environment.
- Meso-level research borrows perspectives from micro-sociology and social psychology to focus on how group dynamics within the community shape migrants' social networks and well-being. Ryff's theory of psychological well-being (2013) is primarily used to probe how clustered living conditions affect migrants' psychological states as a balance between internal and external factors. Semi-structured interviews were conducted to address migration pathways and decision-making factors (e.g., infrastructure, networks). Through online and offline snowball sampling, 23 rural-urban migrants aged 18-35 residing in the urban village were recruited. Data analysis followed a deductive thematic analysis approach (Proudfoot, 2023), structured around Ryff's six dimensions of psychological well-being.
- Micro stage adopts a positive psychology and eudaimonic well-being perspective to explore individual-level factors shaping migrant well-being. Ryff's framework (Ryff, 2018; Sheldon, 2018), which values growth through both challenges and positive actions, aligns with the goal of promoting well-

procedural justice. In parallel, co-design is increasingly urged to utilize showcase settings for communication and debate, facilitating the public sector's recognition of its potential for systemic change (Huybrechts et al., 2017). Therefore, a public inquiry and evaluation approach was employed to further the "making public" of this marginalised health issue. A three-hour public inquiry was therefore convened at the district Party School next to the village—one of the government's decision-making bodies (Figure 5). Over twenty attendees included migrant representatives, community managers, community-based organisation staff, social innovation firms, the district social work department, social workers from multiple communities, and the Party School's senior leaders. The inquiry's data were meticulously documented through a continuous three-hour audio recording. Using inductive thematic analysis, we processed data to identify the primary concerns of community and institutional actors, ensuring the findings were grounded in the actual deliberations of the participants.



Figure 5 Author 1 responding to public inquiry.

5. Outcomes and Findings

5.1 Differentiated Trust-building: Everyday Connections and Professional Validation

Findings indicate that the foundations and processes of establishing trust with communities and institutions are significantly differentiated. For the community, trust and partnership-building rely primarily on individual attributes and relational interaction. As Tjahja and Yee (2022) stress, actors must present themselves as “sociable”—sustaining friendliness and empathy. Crucially, shared everyday experiences and experiential knowledge are central to establishing trust with community members (Figure 6). Once one or two community members extend trust, they become key informants and gate-openers, helping to expand proxy trust (i.e., others trust the researcher via these intermediaries), thereby generating a snowball effect.

With institutional actors, trust becomes more complex and multi-faceted, relying more heavily on professional interaction and empirical evidence related to health issues. The community manager (as gatekeeper) sought professional answers regarding the urban-village context, migration, and mental health. Based on preparatory work and the situated

insights outlined in Section 5.2, these answers received professional recognition and secured functional and role-based trust. Subsequently, policy researcher, relevant community officials, and head of social work were introduced, establishing further proxy trust. However, such proxy trusts merely opened access to new institutional stakeholders. Functional trust still had to be re-confirmed, for example, through discussion of meso-level qualitative and micro-level quantitative research findings in Section 5.2 with the Party School's policy sociologist. This process facilitated in-depth discussion around specific health issues, leading to the formation of critical-reflective trust, which proved decisive for progressing the agenda to the public inquiry set out in Section 5.4.



Figure 6 Researchers' participation in formal and informal community activities.

5.2 Multi-level Constraints: Systemic Exclusion, Relational Fragmentation, and Autonomy Deficits

Overall, the multi-level analysis reveals that young migrants are confronted with a confluence of macro-systemic exclusion, meso-level relational fragmentation, and micro-level deficits in individual well-being and autonomy. The macro analysis suggests that macro push-pull dynamics localise global inequalities and, via local socio-spatial and institutional logics, shape everyday life and health (Figure 7). For young migrants, constrained resources and limited welfare drive overwork, unhealthy routines, and reduced community participation. Meso-level findings indicate intergenerational differences in networks/support and that young migrants face social-psychological challenges, including identity uncertainty and limited urban developmental access internally and difficulties forging meaningful ties

with neighbours, friends, and relatives externally (Figure 8). Micro-level results identified autonomy as a critical well-being priority, with scores significantly below purpose in life ($t(379) = -2.38, p = .018$) and other domains (see Figure 9). Specifically, items such as “being easily influenced” ($M = 3.80$) and “lacking long-term goals” ($M = 3.82$) were the lowest-rated, falling significantly below “dissatisfaction with one’s life” ($t(379) = -2.94, p < .001$). These empirical insights served as the key catalyst for formal dialogues with institutional actors and were ultimately shared as thematic materials of co-design agendas with community members and other stakeholders (see Figure 10).



Figure 7 Urban Villages and Internal Migration Under Global Forces.

Self-acceptance:

Accepting one's strengths and weaknesses, and feeling a sense of contentment with oneself in both the past and present.

Nearly two-fifths of participants expressed a strong sense of uncertainty or rootlessness, while another two-fifths still identified primarily with their hometowns. However, few reported any meaningful sense of belonging to their current place of residence—whether Nanshan Village or the broader Nanshan District.

"To be honest, I still don't know whether I belong to my hometown or to Shenzhen, even though I've been here for four or five years."

Autonomy:

The ability to think and act independently, without being overly influenced by others' expectations or societal norms.

While participants generally showed a degree of agency and adaptability in their short-term decisions regarding work and housing—feeling less passive in the migration and employment process—they nonetheless lacked control over long-term prospects such as stable settlement or career development.

"I definitely moved to Shenzhen to earn money, but whether I'll stay here really depends on what my parents think."

Personal growth:

A continuous pursuit of learning and self-improvement, aiming for the realisation of one's potential and inner development.

Living in the village does not appear to contribute significantly to the personal development of young migrants, in contrast to the experiences of the previous generation. Many also demonstrated a limited understanding of local (urban or place-specific) knowledge.

"When I first arrived in Shenzhen, I found taking the metro really confusing... I didn't know what social insurance was or what benefits it could bring me."

Purpose in Life

Having clear life goals and a sense of meaning, with the feeling that each day is worth pursuing.

Most participants described their goals vaguely, centred around earning money and short-term consumption. Few had clear or long-term plans for the future.

"My life goal is basically to eat well and have fun. If I can travel now and then, that's great. As for long-term goals, I honestly have no idea."

Environmental Mastery

The ability to effectively manage one's living environment and utilise available resources to meet personal needs.

Issues such as noise disturbance and safety concerns—especially among women living alone—stood out. Other aspects of the physical environment were generally considered tolerable.

"I often feel uncomfortable under the creepy stares of older men in the village—some have even asked me how much I cost (implying sex work)..."

Positive Relationships

Having close and supportive interpersonal relationships, and the capacity to care for and support others.

Social isolation and atomisation were prevalent. Aside from work colleagues, participants had few close friends or family members nearby. Neighbourhood ties and connections with fellow migrants from their hometowns were extremely weak.

"I don't know my neighbours at all, and honestly, I don't think there's any need to bother them."

Figure 8 Summary of well-being issues across six dimensions among young migrants.

| | Descriptive Statistics | | | Paired Samples Test | | | | | | | |
|-----------------------|------------------------|------|----------------|---------------------|----------------|------------|---|--|---|----|-----------------|
| | N | Mean | Std. Deviation | Mean | Std. Deviation | Std. Error | 95% Confidence Interval of the Difference | | t | df | Sig. (2-tailed) |
| Autonomy | 380 | 4.25 | .681 | | | | | | | | |
| Purpose in Life | 380 | 4.35 | .734 | | | | | | | | |
| Self-Acceptance | 380 | 4.38 | .689 | | | | | | | | |
| Positive Relations | 380 | 4.44 | .730 | | | | | | | | |
| Environmental Mastery | 380 | 4.59 | .694 | | | | | | | | |
| Personal Growth | 380 | 4.91 | .700 | | | | | | | | |
| Valid N (listwise) | 380 | | | | | | | | | | |

| Pair | Mean | Std. Deviation | Std. Error | Lower | Upper | t | df | Sig. (2-tailed) |
|--|-------|----------------|------------|-------|-------|--------|-----|-----------------|
| Pair 1 Autonomy - Purpose in Life | -.104 | .849 | .044 | -.189 | -.018 | -2.377 | 379 | .018 |
| Pair 2 Autonomy - Self-Acceptance | -.134 | .774 | .040 | -.212 | -.056 | -3.380 | 379 | .001 |
| Pair 3 Purpose in Life - Self-Acceptance | -.031 | .908 | .047 | -.122 | .061 | -.659 | 379 | .510 |

Figure 9 Overall statistical results and Paired-sample test for three lowest-scoring dimensions.

| Descriptive Statistics | | | |
|---|-----|------|----------------|
| | N | Mean | Std. Deviation |
| 1. I tend to be influenced by people with strong opinions. (-Aut) | 380 | 3.80 | 1.227 |
| 6. I live life one day at a time and don't really think about the future. (-PL) | 380 | 3.82 | 1.464 |
| 7. When I look at the story of my life, I am pleased with how things have turned out. (+SA) | 380 | 4.11 | .979 |
| 3. In many ways, I feel disappointed about my achievements in life. (-SA) | 380 | 4.20 | 1.163 |
| 11. The demands of everyday life often get me down. (-EM) | 380 | 4.25 | 1.210 |
| 9. I have confidence in my own opinions, even if they are contrary to the general consensus. (+Aut) | 380 | 4.31 | 1.042 |
| 13. People would describe me as a giving person, willing to share my time with others. (+PR) | 380 | 4.33 | .878 |
| 10. I have not experienced many warm and trusting relationships with others. (-PR) | 380 | 4.47 | 1.152 |
| 5. Maintaining close relationships has been difficult and frustrating for me. (-PR) | 380 | 4.52 | 1.117 |
| 2. In general, I feel I am in charge of the situation in which I live. (+EM) | 380 | 4.54 | 1.020 |
| 15. Some people wander aimlessly through life, but I am not one of them. (+PL) | 380 | 4.59 | 1.001 |
| 17. I judge myself by what I think is important, not by what others think. (+Aut) | 380 | 4.63 | 1.053 |
| 8. I sometimes feel as if I've done all there is to do in life. (-PL) | 380 | 4.65 | 1.002 |
| 14. I gave up trying to make big improvements or changes in my life a long time ago. (-PG) | 380 | 4.72 | 1.032 |
| 16. I like most aspects of my personality. (+SA) | 380 | 4.84 | .888 |
| 4. I think it is important to have new experiences that challenge how you think about yourself and the world. (+PG) | 380 | 4.96 | .987 |
| 18. I am quite good at managing the responsibilities of my daily life. (+EM) | 380 | 4.97 | .883 |
| 12. For me, life has been a continuous process of learning, changing, and growth. (+PG) | 380 | 5.06 | .828 |
| Valid N (listwise) | 380 | | |

I tend to be influenced by people with strong opinions.

Low Autonomy (Score: 3.80/6)

This implies that young migrants in the village may be more susceptible to external influence—especially when confronted by strong personalities or firmly held views—potentially shaking their own judgement. They may not consistently act according to their own values.

I live life one day at a time and don't really think about the future.

Low Life Purpose (Score: 3.82/6)

This suggests that young migrants are not thinking far ahead, possibly because their lives feel uncertain or unpredictable. When the future feels out of reach or unclear, it's natural to focus only on what's directly in front of them—leaving little room for long-term dreams or direction.

When I look at the story of my life, I am pleased with how things have turned out.

Low Self-acceptance (Score: 4.11/6)

This suggests that young migrants in the village may feel dissatisfied with their past experiences, achievements, or life trajectory. They may be more inclined to deny aspects of themselves rather than fully accepting both their strengths and weaknesses.

In many ways, I feel disappointed about my achievements in life.

Low Self-acceptance (Score: 4.20/6)

This suggests young migrants may carry feelings of frustration or regret about where they are in life. Despite their efforts, they may feel they haven't achieved enough—perhaps due to unstable work, limited opportunities, or unmet personal goals. These feelings could affect their self-worth and overall well-being.

The demands of everyday life often get me down.

Low Environmental Mastery (Score: 4.25/6)

This indicates young migrants may feel overwhelmed by daily responsibilities. They might find it hard to manage work, money, or other pressures—leading to a sense of exhaustion or helplessness. These challenges can make it difficult to feel in control or hopeful about improving their situation.

Figure 10 Ranking of scores across 18-items and developed as "Well-being Issue Cards".

5.3 Multi-level responsive proposals for specific health challenges

The final co-design results demonstrate that participants developed responsive proposals tailored to specific levels of migrant health challenges (Figure 11). Concretely, Workshop 1.1 and 1.2 (micro) focused on migrants' autonomy and life-achievement, proposing design for interpersonal skill-sharing and peer interaction; Workshop 2 (meso) addressed public health services and stimulated self-organisation to reinforce young migrants' networks and group support; Workshop 3 (macro) considered the activation of public green spaces and shared community activities to ameliorate socio-spatial misalignment (Table 2). These co-design outcomes visualised the potential community assets, demonstrating how they can be leveraged to address targeted public health challenges—such as the identified small-scale public funding and underutilized community infrastructure. However, the findings also reveal that internal community capacity is insufficient on its own, necessitating further institutional and external support, such as professional expertise and sustainable funding, to fill the gaps.

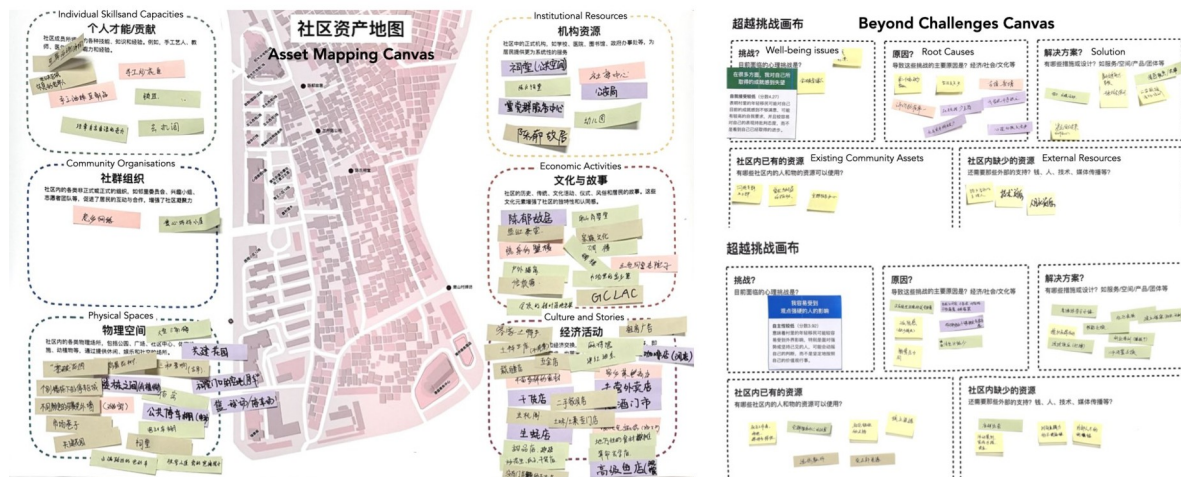


Figure 11 Community asset mapping and co-designing around well-being issues.

Table 2 Challenges and solutions from three workshops.

| Workshop | Challenge | Underlying causes | Proposed solution | Existing assets | Resources needed |
|---|---|--|--|--|---|
| Workshop 1.1 Enhancing Skills to Improve Sense of Achievement | Young migrants feel a lack of achievement in their daily lives. (Micro) | Low quality of life; limited income (low return on effort); minimal support systems; limited access to social capital. | Skill training (e.g. personal skills, emergency aid, fire safety). | Grid worker networks; Party-mass service centre. | Event facilitators; technical expertise; human resource support. |
| Workshop 1.2 Skill Exchange to Build Migrants' Confidence | Young migrants have low autonomy and self-confidence. (Micro) | Peer pressure; unstable growth environments; limited access to information; feelings of isolation and transience. | Skill exchange groups (e.g. interest groups, night classes, recreational activities). | Community workers; shared community spaces; group diversity; active online communities. | Planning and group-coordination capacity; methods for identifying internal talent; dedicated funding. |
| Workshop 2: Mobilising Peer Networks to Improve Support Services for Young Migrants | Limited supportive services for young migrants within the community. (Meso) | Low professionalism in service provision; intergenerational differences; limited publicity; insufficient funding. | Community-based activities and services organised through young migrant peer networks. | Party-mass service centre; hometown networks; grid workers; open community spaces; resident WeChat groups. | Professional services; engaging incentive mechanisms to encourage participation from residents with "interesting" skills. |
| Workshop 3 Revitalising Abandoned Co-created Gardens to Improve Public Activity Space | Young migrants lack accessible public spaces for community activities. (Meso-Macro) | Temporary planning; absence of key community actors; fragmented population structure; lack of service staff. | Revitalise abandoned co-created garden-building. | Residents who enjoy gardening; many local children; some available funding. | Third-party project facilitation; volunteer engagement. |

5.4 Diverging concerns between community and institutional actors

In line with Macdonald (2025), the public inquiry showed clear divergences between community and institutional priorities in marginalised health issues and the acceptable forms of knowledge. Community participants (including migrant representatives, frontline social workers, and community-based organisations) prioritised experience-based, everyday understandings: accurate expression of migrants' lived experience and affect, recognition of unsupported circumstances, and the day-to-day constraints of health and life practices. The experiential knowledge for addressing these concerns was generated through the Author1's seven-month residence in the community.

Institutional stakeholders, by contrast, stressed theoretical grounds and empirical robustness, including coherence of research logic and sample representativeness, to assess the reasonableness of explanations and the feasibility of decision-making. Notably, when discussing multi-level social research and design interventions, officials at different tiers exhibited markedly divergent concerns aligned with their respective institutional positions (Figure 12):

- Community managers sought concrete direction for resident-level health activities/services and assurances of feasible implementation.
- The social work department was concerned with establishing a meso-level model for marginalised communities, assessing the study's representativeness for cost-effective allocation of scarce resources across the district's many urban villages with comparable needs.
- The Party School focused on macro-governance and policy-making, notably whether structural tensions within large migrant populations might trigger social instability; the potential long-term structural benefits of public-health research and intervention were therefore emphasised.

Most of these concerns were addressed by multi-level social research and co-design evidence. In particular, the community asset-based design was viewed as a plausible, contextualised demonstration that strengthened confidence in action translation. Consequently, this marginalised health agenda was able to return to the formal institutional field of vision, sparking cross-tier discussions and receiving formal recognition and support from both the community and institutional administrations.



Figure 12 Differences in concerns across institutional levels.

6. Discussion and Conclusion

This study indicates that, within developing contexts and marginalised settings, a CBPR-driven approach that nests theory, empirics, and lived experience within co-design offers a steadier route to publicise issues amidst community–institutional tensions. Several key insights arising from this approach merit further discussion:

- Relational practice and trust-building requires tailored strategies for the different partners. The first research stage echoes the recent "relational turn" in design for public-realm (Boztepe et al., 2024), emphasizing that relational practice and work demand continuous development and maintenance by the design researcher. Community-facing work requires significant affective labour—often everyday, non-design tasks—vital for context, networks, and genuine participation (Akama & Light, 2020; Yee et al., 2024). In contrast, institution-facing work relies on role/identity-based trust with higher thresholds, demanding theoretical/empirical preparation and explicit articulation of feasible community action to address scepticism (Slattery et al., 2020).
- The empirical knowledge of institution and experiential knowledge of community are better seen as complementary perspectives rather than completely oppositional logics. Recognising the marginalised and excluded

status of particular issues, agents of change have a responsibility to more fully articulate the logic and structural determinants that give rise to these public health challenges. As shown in this research, situated insights combined with existing theories and empirical data were crucial for evidencing urgency and clarifying migrants' life logics, shifting institutional cognitions—consistent with calls to integrate multiple logics and evidences in policy (Carr et al., 2011; Macdonald, 2025; Morley et al., 2024).

- The primary value of co-design lies not in the immediate delivery of solutions, but in identifying which public resources can be effectively leveraged. As Clarke et al. (2021) suggest, bringing grassroots groups and institutional actors together to reconfigure community assets fosters a shared understanding that bolsters transparency and informed autonomy. Institution–community collaboration becomes more attainable when there is a concrete recognition of what can be utilized internally and what necessitates external support.
- Open inquiry in marginalised issues by communities and institutions strengthens legitimacy and sustainability of design research. Formal dialogue and showcase activities around public health give opportunities to provide feedback from different standpoints. This aligns with Huybrechts et al. (2017) on enabling design to enter institutional processes and obtain formal legitimacy. Public inquiry also facilitates the dissemination of co-design's innovative approaches, attracts collaborators and resources, and ultimately strengthens sustainability.

This study also faces two limitations. (1) Representativeness of participation was constrained, participation biased towards more stable and educated migrants. This is largely driven by the group's particular constraints: intense work schedules (many vulnerable migrants work 6–7 days per week) and high mobility (roughly half migrants in workshop had moved out within a few months). (2) Regarding methodological rigour, the study does not reach the highest level of evidence for healthcare design (Peavey & Vander Wyst, 2017)—namely, randomised, controlled, experimental studies—but corresponds to level-5 evidence (correlational, mixed-methods, and qualitative research). The main reason is that complex real-world contexts rarely permit the strict variable control possible in clinical or laboratory studies. It also accords with our aim of publicising marginalised issues rather than immediate intervening, so the dataset functions as a benchmark prior to subsequent interventions. Considering the prior insights and limitations, future research could test this framework among more marginalised sub-populations in other developing settings, with theoretical and empirical design adjustments to assess its adaptability.

To conclude, the study addresses marginalised communities in a developing environment, where co-design for public-health is frequently limited by paradigm conflicts and systematical barriers. The results show that integrating CBPR's structural capacity with co-design facilitates promoting marginalised concerns and community situated knowledge, thereby enhancing institutional acceptability. This is reflected in: trust-ordered partnership-building and situated immersion reduces entry/ethical risks; multi-level evidence sharpens

co-design priorities and expectations; and policy-ready translation of outputs bolsters institutional recognition across multiple tiers. The study's value for design researchers and other practitioners lies chiefly in providing an operationalised framework for co-design, aligning social research, co-creation, and exploring institutional concerns. For health-related policymaking, this study helps bridge institutional–community divides, offering multiple routes (including co-design) with diverse evidence to support responsive community health governance in developing contexts. Given limited capacity and hierarchical inefficiencies, researchers undertake extensive theoretical preparation, relational labour, and evidence production beyond conventional design—work that is vital for tackling multi-faceted health determinants, advancing institutional reform, and pursuing health equity and social justice.

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This study follows Lancaster University ethical guidelines (FASLUMS-2025-5173-RECR-2). Informed consent was secured for all participants. The author declares no conflicts of interest. AI tools were restricted to language editing and paraphrasing; research content was generated solely by the authors.

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