Citizens' participation in the development of localised and sustainable innovation ecosystems.

Case Studies: Northwest England and East Africa

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1. Abstract

This study is a longitudinal, multi-site study comprising two qualitative case studies, using Actor-Network Theory (ANT) as the conceptual approach and methodology (Latour, 2005; Flick, Flick and Core, 2017). The first case study focuses on a youth climate action programme that engages design thinking to enable young people as changemakers. This study covers multiple sites in northwest England, including Manchester, Liverpool and Chester, spanning activities with community organisations, academics, experts and schools, combining online planning meetings with in-person group and school sessions. The second case study focuses on a youth social entrepreneurship programme that engages design thinking to support innovation and skills development. This study covers multiple sites in three East African countries, including Tanzania, Uganda, and Rwanda, through activities spanning daily sessions and bootcamps, training, community engagement, and enterprise development over a spread in two years.

This paper presents an empirical study of the case study in northwest England from 2024 to 2026, using ANT to analyse the empirical texture of stakeholder engagement networks that support young people's civic development (Latour, 2005).

2. Introduction

This paper introduces empirical findings from a three-year qualitative field study documenting the design, implementation, and evolution of a youth climate action programme in northwest England, across three sites in Manchester, Chester and Liverpool. The analysis draws on ethnographic observations of activities and engagements in organiser planning meetings, school-level sessions, group deliberation events, and semi-structured interviews with teachers, organisers, and external experts.

The youth climate action programme is a civic education initiative focused on climate change, currently active in formal school settings across cities in England. The program engages students in real-world problem-solving through structured deliberative processes, with a particular focus on climate change (Tireli and Jacobsen, 2023). At its core is a challenge-led pedagogy that connects pupils and students with teachers, local authorities, community members, and subject-matter experts to co-design actionable solutions. The youth climate action programme integrates a design thinking approach at the heart of its pedagogical model, enabling young people to engage with climate change challenges through iterative, collaborative, and action-oriented learning (Tireli and Jacobsen, 2023; Evans, McGregor and Reed, 2025). Through recurring assembly cycles grounded in design thinking, students engage in deliberation, collective

decision-making, and public presentations in collaboration with stakeholders, including their teachers, experts, government representatives, and other community members.

3. Overview of Data Collection

The data span 18 youth climate action programme sessions and 4 semi-structured interviews over about 26 months, with a further plan to conduct up to 13 interviews for each observation group.

3.1. Timeframe and Scope

Data were collected across the participatory cyclical timelines of the youth climate action programme:

- Pre-study phase: late 2024
- Main cycle: 2025 - 2026

3.2. Methods Employed

- Participant and non-participant observations of school sessions, planning meetings, and group deliberative events.
- Semi-structured interviews with adult stakeholders across three categories: teachers, experts, and organisers.
- Documented planning interactions through online and in-person meetings.

Together, these methods enabled a longitudinal, multi-organisational perspective on the youth climate action programme (Mack et al., 2005; Chand, 2025).

3.2.1. Pre-Study Phase (2024)

The empirical trajectory begins with two foundational events that shaped the researcher's understanding of the youth climate action programme model:

1. Organiser Planning Meeting at Liverpool, where project leads clarified roles and research access.

2. End-of-year group session observations in Manchester, concluding that year's youth climate action programme cycle.

These early engagements helped the researcher to understand the institutional architecture of the youth climate action programme, highlighting its reliance on cross-agency coordination (Chand, 2025).

3.2.2. Planning and Coordination Activities (2025)

The researcher participated in and observed three significant organiser meetings online in 2025:

- Planning for the 2025 research cycle.
- Interim catch-up meeting.
- Planning for subsequent session cycles.

These meetings revealed how the youth climate action programme operates through iterative collaboration between educators, local government partners, and supporting organisations. They also suggest that organisational alignment plays a central role in sustaining the assembly model over multiple years (Brinkmann, 2020; Lima et al., 2024).

3.2.3. Observatory Sessions (2025 – 2026)

Individual School Sessions (January 2025): The first major block of data for the 2025 cycle comprised three individual school sessions conducted in rapid succession.

These sessions provided an initial point of contact between the facilitators' engagement with the students and the researcher. The school sessions varied in size, institutional culture, and student preparedness. Collectively, they represent the early shaping stages of civic thought and deliberative confidence among participants (Evans, McGregor and Reed, 2025).

Group Deliberative Events (February–March 2025): The researcher attended two large-scale events that represented the core deliberative component of the youth climate action programme.

The first was a group session that marked a transitional moment when students from different schools came together to deliberate. The spatial setting, a historically significant civic hall, reinforced the programme's themes of citizenship and public participation (Chand, 2025).

Wrap-up Event (March 2025): This event combined group deliberation with public presentations, enabling students to articulate their collective findings in a semi-formal setting. The setting promoted a sense of validity and ceremonial closure (Tireli and Jacobsen, 2023; Evans, McGregor and Reed, 2025).

Taken together, these events formed the empirical core of the 2025 cycle.

Continued Observations Across Manchester and Chester Networks (2025-2026): Beyond the major events, the researcher conducted multiple follow-up observations of programme activities from March to November 2025 at group locations, including school halls, a museum, and an animal park. These sessions demonstrated the youth climate action programme network's

expansion into new institutional settings. The repeated observations across varied venues illustrate how place shapes youth deliberation,

e.g., museums versus schools versus civic buildings, alongside the youth climate action programme model's endurance and capacity to support longitudinal engagement across academic years.

3.2.4. Semi-Structured Interviews (2025 – 2026)

The researcher has conducted four semi-structured interviews and has a continuous plan for 13 to 17 more interviews for each of the Manchester and Chester groups from April to June 2026, including up to 7 Teachers, 5 Experts, and 5 Organisers.

This sampling design ensures multi-perspective triangulation and acknowledges the differentiated roles adult stakeholders play in shaping the youth climate action programme's pedagogical approach (Latour, 2005; Michael, 2017).

4. Empirical Study using Actor Network Theory (ANT)

This paper, through the lens of Actor-Network Theory (ANT), examines the sustainable localisation of innovation among young people, in collaboration with other stakeholders, as they engage with the frameworks of the youth climate action programme in England. By tracing the heterogeneous assemblages of human and non-human actors, the paper offers practical insights into the youth climate action programme as a contextually grounded, institutionally connected innovation ecosystem (Latour, 2005).

This study is based on observations of group sessions and planning meetings; semi-structured interviews with experts, teachers, organisers, and other collaborators engaged with the youth climate action programme; project activities in Manchester and Chester; and a pre-study phase in Liverpool.

4.1. ANT as Conceptual and Methodological Approach

Actor-Network Theory (ANT) combines two words (actor and network), usually considered distinctive, in a unique constructivist approach to understanding complex ecosystems by emphasising the relational dynamics among diverse human and non-human actors (Callon, 1984; Law, 1992; Latour, 1996; Latour, 2005). The core insight of ANT is simple yet profoundly consequential: social order is not a pre-existing structure that explains action but rather is explained through careful tracing of how heterogeneous elements, including humans, technologies, documents, standards, and material infrastructures, are brought into sustained

associations (Latour, 2005, p. 5). This relational understanding of the social differs from individualist approaches that privilege human agency and structuralist approaches that treat social structures as determining action (Cordella and Shaikh, 2003, p. 234).

The term "actor-network" itself captures this as an oxymoronic formulation (Callon, 1986), where an actor-network is simultaneously an actor whose activity is networking heterogeneous elements and a network that is able to redefine and transform what it is made of (Law, 1999). For example, a multinational corporation, a scientific instrument, an organisational routine, and an individual manager are all actor-networks, differing not in ontological kind but in the extent, durability, and reach of the associations they successfully maintain. This understanding of scale as an effect rather than a cause has profound implications: there is no predetermined hierarchy of levels from individual to organisational to societal; instead, these levels are effects of network building (Latour, 2005).

This relational ontology has profound implications for understanding the concept of agency. In ANT, agency is not a property possessed by individual humans (or withheld from non-humans), but an effect generated through network relations (Law, 2002, p. 93). Law emphasises agency as an effect generated by a network of heterogeneous, interacting materials (Law, 2002). Human expertise, technological capabilities, and organisational authority all emerge from the configuration and stability of actor-networks, rather than from the intrinsic properties of humans or artefacts considered in isolation (Cordella and Shaikh, 2003). ANT in business and management research lies not in purification, enforcing strict adherence to established formulations, but in creative, rigorous empirical work that takes seriously the challenge of following actors through complex organisational landscapes while contributing to ongoing theoretical development (Bignetti, Souza and Petrini, 2023; Ryan, Ryan and Hynes, 2024).

Actor-Network Theory is well-suited to studying youth participation because it decentres the human subject and treats young people, adults, tools, policies, and material environments as co-constitutive actants within a network. Rather than viewing youth innovation as a linear outcome of education, ANT supports the study of the youth climate action programme as a series of translations in which problems, actors, and solutions are continually redefined. Using ANT notions of problematisation, interessement, enrolment, and mobilisation, the youth climate action programme can be read as an obligatory passage point through which diverse actors pass to articulate “local climate action” and “youth voice” in practice (Callon, 1984; Latour, 2005).

Methodologically, this research combines ethnographic observation of youth climate action programme sessions with semi-structured interviews with teachers, experts, and organisers, and

document analysis of planning meetings and institutional materials (Mack et al., 2005; Chand, 2025). The ANT lens is operationalised by systematically identifying human and non-human actants, mapping their interactions across sessions (e.g. “How Might We” workshops, empathy mapping), and following how specific ideas (such as composting, fast fashion, or recycling systems) travel through the network into school routines, local policies, and corporate social-value programmes. This approach allows the study to foreground emergent practices of localisation, rather than imposing pre-defined categories of “impact” or “engagement” (Callon, 1984; Latour, 2005; Simandan, 2026).

4.2. Challenge-Led Pedagogy and Design Thinking

The youth climate action programme is structured around a challenge-led pedagogy that aligns closely with design-thinking practices found in contemporary civic innovation models. Six core stages of the youth climate action programme - Challenge, Research, Define, Create, Implement, and Review - organise students’ learning journeys and provide a shared language through which multiple schools, experts, and authorities can coordinate their actions (Panke, 2019; Bathla, Chawla and Gupta, 2025).

- In the Challenge stage, students are invited to work on real-world climate-related problems, such as waste, biodiversity loss, fast fashion, or other preferred problems, which are introduced through expert talks, documentaries, and fact sheets.
- During Research, students gather perspectives from stakeholders by talking to experts, teachers, and community members, and by interrogating their own daily habits, for instance, by inspecting clothing labels or lunchbox contents.
- In Define, students cluster observations into themes and generate “How Might We” questions that reframe broad concerns into solvable design challenges.
- Create involves individual and group ideation, including structured exercises such as “Crazy 8s” sketching, impact–effort quadrants, and prioritisation grids to develop viable interventions.
- The implementation focuses on translating these ideas into school-based projects, such as bug hotels, composting systems, litter-picking campaigns, or paperless newsletters.
- Review entails presenting outcomes to peers, teachers, experts, and local officials, fostering reflection on both process and effects, and sometimes opening pathways for institutional adoption beyond the school.

From an ANT perspective, these stages are not simply pedagogical phases but moments where networks are reconfigured, new alliances are forged, and certain actors are stabilised as central

while others remain peripheral. For example, a fast-fashion fact sheet or an empathy map template can serve as an obligatory passage point for how students are allowed to articulate what "sustainable clothing" means in their local context (Callon, 1984; Latour, 2005).

4.3. Mapping the youth climate action programme assemblage

The youth climate action programme network is composed of an evolving assemblage of human and non-human actants whose relations change over time. ANT encourages the treatment of these actants symmetrically and to avoid assuming that agency resides only in human intentions (Callon, 1984; Latour, 2005). The table below shows a list of actors identified through activities in the study and their emerging network roles and functions.

Actor Category	**Example**	**Network Role and Function**
Students	Eco-warriors, class delegates	Primary innovators, problem framers, and ambassadors who prototype local solutions and carry new practices into homes and communities.
Teachers	Pastoral leads, eco-leads	Translators and facilitators who align the youth climate action programme activities with curricular pressures, manage time constraints, and mediate between students, leadership, and external partners.
Experts	Recycling company, biodiversity organisations, climate officers	Boundary spanners who bring specialist knowledge, align SCA with corporate social-value and public strategies, and lend legitimacy to youth-generated ideas.
Organisers	SCA founders, local council staff, University faculty	Network pilots who convene actors, secure funding, and sequence events, often acting as spokespersons for the wider assemblage.
Physical Artifacts	Sticky notes, quadrant matrices, empathy maps, bug hotels, compost bins	Mediators that structure thought, enable categorisation, and materialise ideas in ways that can be shared, compared, and scaled.

Digital Artifacts	iMovie recycling guide, online newsletters, Teams slides	Durable intermediaries that encode practices and circulate them across time and space, stabilising new routines.
Institutional Structures	School policies, climate action plans, SDG strategies	Macro-actors that define constraints and allowances, shaping which youth innovations can be recognised, resourced, and maintained.
Spaces and Infrastructures	School halls, university lecture theatres, recycling gardens, repair hubs	Settings that enable or limit interactions, affect who can participate, and symbolically signal whose knowledge counts.

The mapping above reveals that the youth climate action programme network is not confined to the school hall or event day. Through tours of recycling plants, offers of free compost, litter-picking kits, and potential links to wider eco-community engagements, students are enrolled in broader regional governance and circular-economy infrastructure. At the same time, modest school-level changes, such as installing new bins, setting up gardening clubs, or adopting paperless communication, feed back into institutional metrics around cost savings and environmental sustainability (Monroe et al., 2017; Khadka et al., 2020).

4.4. Non-Human Actants and the Materiality of Localisation

Non-human actants play a central role in how innovation is localised and sustained. Design artefacts such as sticky notes, impact–effort matrices, and Crazy 8s templates do more than "support" human thinking; they actively configure what counts as a feasible idea and which problems become prioritised. For instance, arranging ideas into quadrants of high/low impact and high/low effort pushes students and teachers to foreground "quick wins" that can be implemented within a school year, thereby privileging certain forms of innovation (e.g. litter picks, signage, upcycling projects) over more structural interventions (Latour, 2005; Simandan, 2026).

Similarly, the physicality of objects like cling film, reusable lunchboxes, and aluminium foil shapes how students understand waste and evaluate prospective options. When an expert demonstrates that cling film is not readily recyclable while aluminium foil can be, students are invited to reimagine their lunchbox as a site of daily environmental decision-making. These mundane objects serve as persistent reminders, anchoring environmental claims in everyday

routines rather than abstract ideals. In ANT terms, they become mediators that transform behaviour as they move between school, home, and community (Latour, 2005; Simandan, 2026).

Digital artefacts also exert considerable agency. The creation of an iMovie to explain correct recycling procedures does not merely document a project; it reorders relations within the school by positioning students as authoritative communicators whose work shapes peer practice. The subsequent shift to digital newsletters, driven by a student-led vote, reconfigures the material infrastructure of school–home communication and yields measurable savings in paper, ink, and electricity. These examples show how digital tools act as stabilising devices for emerging sustainability practices, providing a means to sustain and scale youth-led innovations beyond the initial SCA sessions (Latour, 2005; Michael, 2017; Simandan, 2026).

4.5. Human Actors, Roles, and Translations

Human actors in the youth climate action programme network occupy multiple, sometimes seemingly conflicting roles that are best understood as relational rather than fixed. Students are simultaneously learners, designers, informants, and co-researchers. Through exercises such as empathy mapping for fast-fashion stakeholders, they practice seeing from the perspectives of parents, teachers, brands, and animals, confounding simplistic narratives of “good” and “bad” consumption. This process enrols them as moral and political actors who must navigate the tensions between affordability, identity (logos, influencers), comfort (fabric choices), and environmental impact (Latour, 2005; Simandan, 2026).

Teachers often occupy hybrid positions as both institutional gatekeepers and co-learners, pastoral and eco-leads describing “learning as they go”, simultaneously facilitating design sessions and seeking ideas from external experts and other schools. Their decisions to establish eco-warriors, start gardening clubs, or integrate indoor air-cleaning plants into classrooms reflects a gradual reconfiguration of school culture, often under significant time and curriculum pressures (Tireli and Jacobsen, 2023; Evans, McGregor and Reed, 2025).

From an ANT perspective, these teachers are key translators who must align national policy directives (e.g. climate action plans), the youth climate action programme outcomes, and local constraints into workable classroom practices(Latour, 2005; Simandan, 2026).

External experts bring their own organisational logics and constraints into the network. For example, a partnership and community engagement manager at a recycling firm connects the youth climate action programme to a social value framework and a triple bottom line business model (people, planet, profit). Their presence at assemblies is simultaneously an educational

intervention and a contractual obligation under local government procurement rules, illustrating how youth education is entangled with formal governance and market arrangements. They also highlight practical opportunities such as free compost, litter-picking kits, and tours of recycling and repair facilities, extending the youth climate action programme's reach into the wider regional ecosystem (Hoffecker et al., 2023; Lima et al., 2024).

University faculty and youth climate action programme organisers occupy meta-positions from which they can see and shape the wider network. The university leads who champion education for sustainable development (ESD), perceive the youth climate action programme as a living lab for testing participatory climate education models that could inform practice. Youth climate action programme organisers, therefore, act as critical intermediaries, stitching together school-level experiments, university agendas, and community commitments such as zero-carbon targets and climate assembly strategies (Hoffecker et al., 2023; Lima et al., 2024).

4.6. Institutional Ecosystems and Policy Interfaces

The youth climate action programme operates within and against evolving policy landscapes that increasingly emphasise youth participation in climate governance. In England, the Sustainability and Climate Change Strategy for Education set ambitious targets for climate education, resilience, and institutional net-zero transitions, including expectations that schools develop climate action plans. The programme experts note that while such plans are becoming compulsory, classroom-level sustainability content and resourcing remain uneven, making programmes like the youth climate action programme an important bridge between policy aspiration and pedagogical reality (Tireli and Jacobsen, 2023; Evans, McGregor and Reed, 2025).

At the community level, initiatives such as the Stockport Youth Climate Assembly illustrate a growing trend where councils convene youth assemblies to generate, debate, and vote on climate action ideas, sometimes leading directly to policy change, such as grants for eco-friendly period products (UK100, 2023; Council, 2025; Evans, McGregor and Reed, 2025). The youth climate action programme in Manchester and Liverpool sits alongside this wider movement, with cases where student-designed compost systems prompt councillors to explore scaling these interventions across local authority estates (UK100, 2023; Evans, McGregor and Reed, 2025). ANT draws attention to how youth proposals become translated into policy through steering groups, funding streams, and administrative procedures, and where they risk being diluted or sidelined (Callon, 1984; Latour, 2005).

4.7. Localised Innovation and Ecosystem Effects

An ANT-informed study of the youth climate action programme brings several mechanisms to the fore, through which youth activities in collaboration with experts and stakeholders contribute to the sustainable localisation of innovation (Latour, 2005; Lima et al., 2024; Simandan, 2026).

These include:

1. Reframing everyday practices as innovation opportunities
   Lunchboxes, school newsletters, uniform choices, and classroom plants are treated as opportunities for climate action. This reframing lowers the barrier to participation and allows students to test, iterate, and normalise new behaviours without waiting for large-scale infrastructure changes (Monroe et al., 2017; Khadka et al., 2020).

2. Building relational resilience and leadership
   Students gain confidence by presenting in public, negotiating with teachers, and voting on changes such as a shift to paperless communication, which strengthens their capacity to act as civic agents and to persist through discomfort or initial resistance (Evans, McGregor and Reed, 2025).

3. Extending networks into homes and communities
   Teachers report that children discuss and engage their family and community members on recycling, litter picking, walking to school over driving, and fast fashion, potentially shifting household habits. While hard to measure, this diffusion hints at broader cultural change facilitated by child–adult interactions and community-facing activities such as litter picks (Monroe et al., 2017; Evans, McGregor and Reed, 2025).

4. Generating measurable institutional benefits
   Adopting new recycling contracts and reducing paper use has visible cost implications for schools, reinforcing the viability of youth-led proposals and providing concrete data for senior leaders and funders. These measurable benefits can be leveraged to secure further support and to embed sustainability in school development plans (Monroe et al., 2017).

5. Creating templates for scalable civic innovation
   Empathy mapping exercises and challenge-led design processes using a singular focus, such as fast fashion, in a group session, provide adaptable templates that can be reused across topics and locations, including emerging youth climate action programme sites in other cities and in partnerships with other organisations and nature parks. These

templates function as replicable non-human actants, helping to standardise and scale the youth climate action programme approach without erasing local specificity (Latour, 2005; Panke, 2019; Bathla, Chawla and Gupta, 2025).

5. Conclusion:

The ethnographic study of the youth climate action programme in Northwest England, viewed through an Actor-Network Theory lens, demonstrates that the sustainable localisation of innovation emerges not from isolated inventions but from the gradual, relational work of assembling and maintaining networks of young people, educators, experts, material artefacts, and institutional structures. This relational perspective highlights how youth can meaningfully participate as co-creators of climate action within and beyond school settings, aligning with ANT's emphasis on heterogeneous associations (Latour, 2005) and engagement on youth civic development in climate education (Evans, McGregor and Reed, 2025).

These findings also point to the potential for youth climate action programmes to contribute to more reflexive, inclusive, and resilient local innovation ecosystems, extending their influence across schools, households, community partners, and regional governance infrastructures in ways consistent with sustainable development frameworks (Lima et al., 2024).

At the same time, the study reveals limitations associated with uneven resources, variable school cultures, and the challenges of scaling student-generated innovations, suggesting the need for further research on the long-term trajectories of youth-led climate initiatives. Future studies could deepen comparative insights across diverse local authorities or national systems and explore how design-thinking artefacts, digital tools, and policy interfaces continue to mediate youth engagement over time.

Overall, the analysis underscores that youth climate action programmes function as dynamic, networked innovation systems capable of shaping both civic learning and local environmental transformation. Strengthening such programmes may therefore offer a pathway for embedding youth participation within broader climate governance agendas.

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Patriarchy and Working Women's Life Trajectory in China

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1. Abstract

Patriarchy and its implications for the social and working lives of women throughout the globe continue to be open empirical questions. Early studies of patriarchy from an employment perspective have focused on its impact on gender differences, in particular, differential treatment and outcomes between men and women within organizations and institutional settings. Structural gender inequality within organization reflected in gendered working expectations, biased evaluation system, unfair promotion approach has exerted strong resistance to female employees. Not only does the gendered disparity of treatment in the workplace result in differences in career advancement, but it also leads to occupational segregation for men and women, and within that, men are dominant in higher ranking industry such as IT and finance. A less studied problem is how patriarchy shapes women's perceptions and decision-making on their employment and life trajectory, such as choices of educational and professional paths or when dealing with tensions between career and personal aspirations at a structural, societal and institutional levels. The way in which patriarchy constructs women' s self-agency and the mechanism through which women' s mindset is established in life turning points is still underdeveloped and needs further theoretical exploration.

Drawing on data from open biographical interviews with 40 women between 25-50 years of age, working in the financial industry in small cities in China, this paper explores how patriarchy interplays with individual and structural dimensions to shape women's life course decisions, employment and personal outcomes and overall experiences in society and the labour market. The underlying thoughts behind women's preference in life crossroads attributes to the internalization of patriarchy will be further investigated.

2. Introduction

Gender equality continues to spark attention given that women remain disadvantaged in society, mainly as a result of the historical impact of patriarchy (Poorhosseinzadeh and Strachan, 2021). Critical discussion about patriarchy remains an indispensable element of research about gender inequality, with the focus moving from governmental system to social systems to understand how women are dominated by men (Weber, 1947; Duncan, 1994; Gottfried, 1998; Pollert, 1996; Walby, 1989). At the practical level, examining patriarchy helps to elucidate how gender inequality simultaneously works in the public and domestic spheres. For instance, patriarchal norms position women as solely responsible for housework and caregiving responsibilities at home, a subordination that is reinforced in the labour market, where women experience more unfair treatment compared with men, in the form of the glass ceiling and gender segregation, among others (Salem and Yount, 2019; Caven, Astor and Urbanavičienė, 2022).

Most studies emphasize the influence of patriarchy for women at a descriptive level, presenting both patriarchy and women in monolithic ways (Carbajal, 2018; Adisa, Cooke, and Iwowo, 2020). This overlooks the pervasive role of patriarchy in shaping people's lives. For instance, there is limited interrogation of how patriarchy shapes women's subjectivities,

leading women to normalize restrictive roles and choices for themselves. In this respect, the relationship between patriarchy and women's self-agency is still under theorised. Thus, the mechanisms through which patriarchy shapes social structures for women's personal choices deserves further theoretical development.

This theoretical gap in the literature motivated the study reported in this paper, which concerns women's personal preference in life's turning points. The paper explores how patriarchy interplays with individual and structural dimensions to shape women's life course decisions, employment and personal outcomes and overall experiences in society and the labour market. The paper draws on data from biographical, semi-structured interviews with 40 women between 25-50 years of age, working in the financial industry in small cities in China. The paper engages with so-called 'preference', which it argues is being constructed as and it merely is the option with highest gain and lowest risk within the structural framework where the women are located. In this respect, women are not imposed formalized regulations and seemingly have freedom to chase their aspiration; however, their willingness is culturally, socially and institutionally shaped.

Amidst discussions that call for situating patriarchy, this research advances our understanding of the mechanisms through which patriarchy contributes to women 's subjectivities (Dixit, 2026). The paper sheds new light on the theoretical debate that patriarchy is meaningless and superficial (Gottfried, 1998; Pollert, 1996; Walby, 1989). The theoretical exploration of internal mechanism of patriarchy offers a new lens for organizations to navigate working women's difficulties to enable them to move out of the dilemma, such as formulating policies for female employees who interrupt job promotion due to reproduction by reserving the promotion opportunity during childbirth, instead of merely reserving job occupation. Further, the research also offers insights into potential directions for national-level policies to further develop pension systems that loosen constrained agency such as reproduction choices.

The paper is organised in 5 sections. First, the relationship between patriarchy and women's experiences is discussed in an integrated literature review. Then the methodology is presented, followed by the presentation of findings, a discussion and a conclusion that identifies future directions.

3. Literature Review

Discussions pertaining to the definition of patriarchy vary differently in the academia, and the mainstream involves governmental system, reproduction mechanism and social oppression (Weber, 1947; Waters, 1989; Hartmann, 1976; Duncan, 1994; Walby, 1989). Weber (1947) primarily stated that patriarchy belongs to authoritative governmental system. Water (1989) also added that the governmental system is based on kinship relations, which might exist in early society. In addition, from the perspective of production and reproduction sphere, patriarchy is defined as a mechanism of social reproduction, because it involves women oppressed reproductive work which mainly refers to childbirth job at home (Waters, 1989).

However, it is critiqued that distinguishing between production and reproduction indicates high level of ideology that women are in a lower position and play subsidiary role in society (Waters, 1989). Hartmann (1976) avoided the disputable discourse "reproduction" while defining patriarchy and stated that patriarchy is "a set of social relations which has a material

base and in which there are hierarchical relations between men, and solidarity among them, which enables them to control women". This indicates that the way in which Hartmann (1976) defines patriarchy inherently believes that the social relations result in structural female oppression by men.

Patriarchy is categorized into public and domestic sphere by Walby (1989), which refers to national-level regulations and informal rules within family members respectively. However, Acker (1989) critiqued the simplistic way of categorizing patriarchy and stated that the separation pays much attention to forms of patriarchy and exists the dualist ideology. Walby (1989) suggested that the optimization of patriarchy forms should cover structures of patriarchy. She summarized six structures of patriarchy, which includes patriarchal mode of production, patriarchal relations in paid labour, the patriarchal state, male violence, sexuality of patriarchal relations and patriarchal culture (Walby, 1989). The extraction of comprehensive patriarchal structure stimulates great influence in exploring gender equality field.

Some research uses life course, 'events, transitions and trajectories' as a lens to investigate the interaction between patriarchy and women's experiences, applying the life course as a classification framework to position different stages for women (Alwin, 2012). Studies emphasize the actual impact of patriarchy for women across the life course (Fernández-Carro and Guma, 2022; Shah, Sabir and Zaka, 2025). However, the shaping mechanism of patriarchy on women 's subjectivity using life trajectory as main thread is under-theorized.

4. Methodology

4.1. philosophical position

The research will apply *interpretivism* as philosophical position. *Interpretivism* believes that essence of reality is subjective and diversified, meaning that human beings' subjective feelings and perceptions of the world are deemed the truth in the world (Alharahsheh and Pius, 2020). In this patriarchal research, the reality refers to the subjective patriarchal understanding and perceptions in social, institutional and cultural perspectives. The subjective nature means that the results of the study depend heavily on participants' feelings and viewpoints. Specifically, the research evaluates the way in which patriarchy shapes women's career choices and life course trajectory and analyses in what ways women's decision-making reflects the shaping of patriarchal structure in china. Thus, women's narrative and interpretation of their own life experience and choices could be significant evidence to reflect the penetration of the patriarchal ideology embedded in Chinese social structure, such as the willingness to choose a certain working industry, the entrenched gender preferences and the emotions behind the choices. Therefore, the study's understanding of truth is consistent with the interpretivist philosophical stance (Alharahsheh and Pius, 2020; Saunders, Lewis and Thornhill, 2007). Even though the research lacks numeric data, the research does contain textual data that responds to human beings' mindset pertaining to the shaping of patriarchy in society at the level of human subjective ideology. It is the subjective ideology that increases the complexity and depth of research results rather than the experimental results of the single factor correction yielded (Saunders, Lewis and Thornhill, 2007). The exploration of numeric data and causal factors is more related to quantitative research rather than focusing on the long-term shaping and multidimensional impacts of patriarchy in society (Saunders, Lewis and Thornhill, 2007).

Hence, even though the knowledge is lack of quantitative data support, the richness of individual subjectivity enhances the depth and complexity of the qualitative study. Thus, it is not reasonable to evaluate qualitative research according to the evaluative criteria of quantitative research (Alharahsheh and Pius, 2020). Therefore, the adaptation of *interpretivism* philosophical position is reasonable from the angle of truth definition.

However, an exclusive focus on the definition of the reality fails to be comprehensive. It is still essential to critically discuss the rationality of *interpretivism* from the perspective of ways of acquiring knowledge. *Interpretivism* philosophical position denies the uniqueness of the reality and believes that the truth is acquired from personal ideas and feelings (Alharahsheh and Pius, 2020; Saunders, Lewis and Thornhill, 2007). This research acquires truth through the co-construction and communication between participants and researchers, which facilitates to analyse and elaborate the penetration of patriarchy that shapes women's life course and career choices under the Chinese context. Thus, this further collaborates the reasonability of applying *interpretivism* stance. However, in the process of data collection, the study is not simply a matter of descriptively presenting a concise overview of women's personal trajectory and career choices so that summarizing the gender preference. Rather, the research tends to identify women's patriarchal ideology constrained by Chinese social structure through recognizing their subjective control of significant turning points. This means that not only does the research highlights the specific decisions made by women but also emphasizes the way women narrate. For example, when a participant mentioned that her domestic responsibilities hindered occupational growth, the expression of frustration and helplessness implies that gender roles have been embedded in social structures, and her decision-making has been restricted by social norms and values. It seems that individual change such as the reduction of domestic obligation and a shift away from husband's neglect of the family alleviates apparent contradiction, however, individual change fails to mitigate fundamental conflict from the deeper level. The deeper level of conflict manifests in the shackles of social values on women and the neglect of the institutional male privilege, which transcends the attainable threshold of individual change. These conflicts could be recognized through her manner of expression. Hence, understanding her specific behaviour and identifying the emotions conveyed during narration are equally significant for the way of collecting data. Thus, the way the study acquires knowledge is through collecting women's narrative and even emotional response change to analyse the subjective shaping of patriarchal ideology towards Chinese women's life trajectory and career choices. Therefore, the way to acquire knowledge aligns with the definition of *interpretivism* philosophical position, which further demonstrates the rationality of employ the interpretivist stance (Saunders, Lewis and Thornhill, 2007).

However, the *interpretivism* philosophical position makes it difficult to examine research reliability (Saunders, Lewis and Thornhill, 2007). Researchers need to break through respondents' psychological defences during the interview and open up their personal feelings and viewpoints because sometimes participants might subconsciously answer questions based on researcher's expectations. However, whether the answer itself reflects authentic participant voice is doubtful. Even though the reliability and truthfulness of the answer could be guaranteed, it is still difficult to verify the research from a rigorous scientific methodological perspective (Saunders, Lewis and Thornhill, 2007). Comparatively, *positivism* is easier to test

the validity of research because *positivism* aims to emphasize universal laws from an empirical perspective using rigorous scientific reasoning (Saunders, Lewis and Thornhill, 2007). However, it is unrealistic to generalize rules and even test how patriarchy shapes women's career and life course choices. This is because there are differences in each person's upbring and educational experiences and even in their genes in terms of how they perceive emotions. Therefore, the research is not appropriate to adopt *positivism* philosophical position. Comparatively, *functionalism* focuses more on social structures and functional shaping of the society in different aspects and attaches significance to the functionality of the components of the social structure (Saunders, Lewis and Thornhill, 2007). Even though the adoption of *functionalism* might help to analyse the embeddedness of patriarchy from the perspective of social structure, the motivation of the research emphasizes patriarchy's shaping of the subjective dimension of femininity. Therefore, it would be comparatively suitable for the research to apply *interpretivism* as philosophical position that focuses more on subjective interpretations and feelings, so that facilitating the exploration of the penetration of patriarchy manifested in women's life trajectory under the Chinese context.

4.2. Data collection

The study applies *open biographical interview* to conduct *life story methodological approach* to collect women's life story data. Biographical type of interview integrates individuals and external structure; thus, the adoption of this data collection method reflects the individuals' personal experience and subjective decision-making in significant turning points without the ignorance of the shaping of the current social background (Stroobants, 2005). In this study, not only does this data collection method facilitates to analyze women's self-narration in terms of life course trajectory shaped by different Chinese historical backgrounds, but it also stimulates to identify the complexed interaction between female individuals and social contexts (Merrill and West, 2009).

However, the data collection procedure does not provide specific interview questions. Participants are asked to freely tell their own story based on three themes including the educational trajectory, personal development in the labour market and motherhood choices. During the conversation, researchers provide individualized questions according to the content mentioned by participants during the interview. Nevertheless, the flexibility provides interviewees large freedom without predefined questions, which makes it difficult to control the direction of the biographical interview (Tagg, 1985). However, the open biographical interview indeed encourages participants to identify life experience that they truly value as important, rather than confining their narration to a specific question framework (Tagg, 1985). The chosen experience could recognize their hierarchy of values (Tagg, 1985). In that case, participants could freely choose experience that they think is meaningful for them to share in the conversation instead of being provided with homogenised questions to restrict their answers. However, it is possible that individuals sometimes retain strong impressions of certain memories regardless of whether it is important, thus, whether experience mentioned by participants is meaningful for them still exist randomness (Tagg, 1985). This problem could be mitigated through reminding participants to carefully read the *Participant Information Sheet* in advance, so that promoting participants to consciously distinguish between significant and less significant events (Tagg, 1985). Nevertheless, the subjective judgment of the distinction between significant and less significant events exists individual difference

(Dunaway, 1992). Because selective narrative depends on participants' subjective choice, which lacks objectivity to some extent (Dunaway, 1992).

However, it is not necessary to deny the usefulness of data that seems useless, what the research needs to achieve is increasing the practical value of the collected data. According to the current data collection progression, the subjectivity depends on the impression that participants are willing to display during the biographical interview. For example, some participants would like to display a kind of impression of being loved so they mentioned many times regarding being taken care of by husband. However, from the perspective of research aim, the study contributes to explore the shaping of patriarchy to women's subjectivity throughout their life trajectory, thus, any subtle discoveries during the conversation could be viewed as evidence of potential embeddedness of patriarchy. In that case, women's desire for husband's affection can be analysed as patriarchal penetration of female ideologies in Chinese society, so that providing a creative dimension to treat the research topic.

The study improves the effectiveness of data through providing concrete theoretical support. From the perspective of *hermeneutic reconstruction*, biographical interview includes two types of principles including *reconstructive analysis principle* and *the principle sequentiality* (Rosenthal, 1993). The research will apply *reconstructive analysis principle* because it facilitates the researcher to reconstruct the turning points throughout women's life trajectory and recreate new meanings. The process of recreation considers the *similarities of events* and *timings of events* mentioned by different participants (Tagg, 1985). Comparatively, even though *the principle of sequentiality* considers the sequences of different stages in women's life course so that making the interview process more coherent (Rosenthal, 1993). This principle might to some extent ignore the heterogeneity of individuals, and different experience for different individuals reduces its comparable meanings (Rosenthal, 1993). Therefore, the research applies *reconstructive analysis principle* as theoretical support to coordinate with the flexible way of data collection.

The research takes online interview for 40 working women in small cities in China. Most of the gender equality research focuses on metropolitan in China with less emphasis on patriarchal ideology embeddedness in small cities (Wai-ming, 2012; Wang, Chui and Wang, 2022). Thus, the research aims to explore women's patriarchal ideologies in small cities in eastern China. The data collection will conduct online. Even though the capture of visual information allows researcher to drive the continuation or terminal of interview through some subtle gestures of demeanour; additionally, researcher could also affirm or question the truthfulness of what is being discussed in some unexpected gesture (Novick, 2008). Online setting saves time and energy so that promoting the progression for data collection, because participants are located in China which is outside of the UK. The number of participants for the study is 40. It is reported that the appropriate number for participants is around 30 in single organization and is 50 in multiple organizations (Saunders and Townsend, 2016). Since the research would focus on different organizations, thus, it seems that 50 should be appropriate. However, it is evidenced that too many participants might result in the difficulty to analyse in depth so that leading to superficial discussions in data analysis (Saunders and Townsend, 2016). Additionally, large amount of data leads to the interpretation challenging (Bertaux and Kohli, 1984). Bertaux and Kohli (1984) believes that the saturation of data should be emphasized for every participant rather than blindly increasing the number of participants. Thus, the research will interview 40 participants to deepen the exploration of patriarchy. In addition, as to the age of participants, the research will select women between the ages of 25-55 years of age. As to the

lower limit, it is reported that it takes time for people to make the transition from being a student to being a social worker (Peng, 2020). Thus, the study believes that only employees who have been working for a few years can be used as participants. It is believed that participants with young age indeed have fewer life experience, which might lead to lower level of information density (Robertson, 1983). However, the study still includes the young age groups because the comparison of different generations groups is still of significance for the shaping of patriarchy under the Chinese context. As to the upper limit, the highest age for the selected participants is 55 years of age. It is reported that the retirement age for white-collar women in China is 55 years of age (Giles t al., 2023). Participants with older age own numerous experiences so that promoting data richness (Robertson, 1983). However, personality also plays a role in participants' narration (Robertson, 1983). Introverted individuals have less willingness to share and communicate compared with the extroverted who are more willing to express themselves (Robertson, 1983). However, even though introverted interviewees might share less, the refined self-expression facilitates to accurately explore internal motivation of narration. It is naïve to expect participants who join biographical interview 100% restore previous life trajectory and experience (Rosenthal, 1993). The capture of life memories is selective and subjective (Rosenthal, 1993). Thus, the influence of personality to the drawing out the research findings is negligible. Further, it is necessary to consider the target industry. The target participants will focus on employees in financial industry because the competitiveness of financial industry might intensify contradiction between patriarchy and women's subjective control in work and lifecourse trajectories, and the financial industry has high level of gender inequality (Baeckström, 2022; He and Wei, 2023). Therefore, the study takes online interview for 40 Chinese working women in the financial industry who are 25-55 years of age, contributing to providing a comprehensive and comparative understanding within a wide age range in different era generations.

However, merely collecting narrative conversation is relatively insufficient and fails to identify the subconscious reactions and feelings regarding gender behaviour in daily life. Therefore, the study adopts an unconventional method called *photo elicitation* to increase the diversification of data collection (Richard and Lahman, 2015). During the photo elicitation process, participants are facilitated to describe and interpret what is happening in the prepared pictures (Richard and Lahman, 2015). Researcher observes and analyzes participants' subconscious reactions and attitudes towards gender roles reflected in the chosen pictures (Richard and Lahman, 2015). The reason for the interview to end with the *photo elicitation* step is that participants are much easier to bring themselves into everyday life scenarios shown in the pictures after sharing personal life trajectory and experience. However, the creative way to collect data is influenced by social and cultural factors, which makes individuals have different feelings in scenarios that have different cultural background with them (Mathews, 2018). Hence, the study uses pictures with Chinese cultural and social background and ensures that all pictures are taken in China. This design might make participants much easier to awaken a sense of familiarity and produce diversified feelings and emotions. Therefore, it is necessary to add the *photo elicitation* step to investigate how individuals subconsciously perceive gendered behaviour in daily life, adding the depth and diversity of data collection.

Nevertheless, one of disadvantages of the photo elicitation design is that participants need to transform from narrated memories to visual stimulus, and the failure of transformation might lead to awkward interview moments (Richard and Lahman, 2015). However, it is also believed

that the display of photos is an effective means to adjust and optimize the atmosphere between the researcher and participants (Richard and Lahman, 2015). Nevertheless, it is difficult to collect interpretation and narration that are truly relevant to the research if the photos are decontextualized photos (Richard and Lahman, 2015). Therefore, the choice of photos is relevant to activities that challenge traditional gender roles, including the scenarios of female leaders in a meeting, that fathers take care of children and the old at home. The *photo elicitation* part expects to capture the immediate emotional reactions after extracting image information from the provided photos. They might have different feelings such as indifference, helplessness, overwhelm. The immediate reactions reflect participants' stereotypical viewpoints towards gender roles under the Chinese context, so that helping to understand the shaping of patriarchal consciousness. However, since participants have already carefully read the *Participant Information Sheet* before the biographical interview, they have already familiarized themselves with the purpose of the study beforehand. Thus, they might subconsciously narrate in a way that the researchers need. However, the design of the data collection process provides two formats to collect women's viewpoints and interpretation in terms of gender roles and decision-makings in significant turning points of women's life trajectory. Hence, the comparison of the two formats to some extent recognize their subconscious lie in the interview, so that demonstrating the necessity of the *photo elicitation* step.

To ensure the successful progress of the interview, it is essential to build trust between participants and the researcher (Prior, 2018; Shah, 2024). Similar experience that the researcher and participants have accelerates the creation of trust during the conversation (Emmel et al., 2007). For example, some participants' children are in the same age with me, and the commonality makes participants have a sense of familiarity. Participants subconsciously express that they are willing to provide support to people whose age are similar with their children. Thus, they display a high level of cooperation in the conversation and elaborate more detailed life story. However, the fluidity of power during the researcher and participants is also a problem needs to be considered, because the researcher and participants have different level of power (Vähäsantanen and Saarinen, 2013). The power difference during this interview is influenced by mutual positioning based on the actual experience I had in the data collection process (Vähäsantanen and Saarinen, 2013). Taking the above example again, it is the descendant identity that builds connections between the researcher and participants. The participants, as the elder generation, sometimes put themselves in a prioritized position and communicate with the researcher in an educational tone. Even though I am aware of their thoughtfulness and empathy, the superior attitude to some extent hinders the possibility of self-disclosure and genuine emotional expression from the angle of participants themselves. However, due to the flexible nature of the *open biographical interview*, I, as a researcher, usually bring interviewees' self-agency back to the conversation to facilitate the narration from the standpoint of themselves by asking questions such as 'what do YOU (intonation emphasis) think about that then?'. Therefore, the trust during the conversation facilitates the willingness of participants to share (Prior, 2018; Shah, 2024). Even though the fluidity of power might to some extent influences the interaction between participants and the researcher, it could be mitigated through reminding participants to focus on themselves (Vähäsantanen and Saarinen, 2013).

However, the empathy might cause emotional fluctuation for researcher during conversation (Petty, 2017). Based on my personal data collection experience, I am more aware of their feelings and emotions from the identity transformation, such as the shift between researcher-participant to child-mother. For example, one participant mentioned that the happiest thing when her daughter just studied in another country was being notified by credit card payment abroad. In China, one joint credit card could be divided into *primary and secondary card* account. Her daughter uses *secondary credit card* abroad and the interviewee, as the cardholder of the *primary credit card*, can receive notification when her daughter uses *secondary credit card* abroad. This reminded me of my first time studying abroad when I was only 19 years old. At that time, I usually felt homesick and cried at night, but I had no choice but to adapt myself into a foreign country where has totally different social and cultural background with the country where I was born in. Thus, after hearing this, I immediately cried but I still tried to control myself during the conversation. The deep empathy indeed made me grasp the emotional meaning of children for a mother throughout their life course trajectory, conveying the intertwining of patriarchal consciousness and filial piety reflected in traditional Chinese culture. Not only do the mutual emotional flow results from the familiarity of the identity between a mother and a daughter, but it also attributes to the similarity of the experience for me and the interviewee so that promoting the fluency of the conversation. Although I got strong emotional fluctuation during the conversation, I was able to subjectively manage the emotions.

However, not all dynamic in the conversation can subjectively controlled (Robertson, 1983). Prompt questions throughout the biographical conversation to some event generate biased guidance, but the bias is difficult to completely eliminated (Robertson, 1983). Nevertheless, it is possible to take measures to alleviate the negative impacts of subjective bias while raising prompt questions (Robertson, 1983). I usually use some generic questions such as 'taking me through your day' to open up participants' conversation, so that looking for breakthrough points to ask prompt questions. I gradually realize that the way I ask questions makes a difference. For example, participants tend to answer 'yes' when I ask them questions like 'Do you find your job stressful?'. Thus, I try to use some alternative expressions such as 'Could you tell me a bit about the stress level at work?' to alleviate subjective bias. On the other hand, I am distinguished to be the interviewer because I share the same social and cultural background with participants (Robertson, 1983). As a researcher who were born in China, I could deconstruct participants' significant turning points from multidimensional angles and examine the interplay between their decision-making and contemporary Chinese context (Robertson, 1983). Therefore, the negative impacts of drawback relevant to unconscious bias can be mitigated by the shared cultural and social background of me and participants.

4.3. Sampling

The research will apply *snowballing sampling method*. This sampling method views interviewees as part of finding potential participants, and interviewees are expected to provide relevant network for the facilitation of subsequent interviews (Noy, 2008). The format of getting access to participants offer more complexed interplay between sampling and the conversation, so that producing synergistic type of knowledge (Noy, 2008). This is because the quality of the current conversation might be influenced by referee 's description to the research (Noy, 2008). If the current participant generates favourable feelings and has positive

experience during the interview, she is more willing to positively recommend the conversation to potential participants with enthusiasm. In that case, potential interviewees initially hold positive attitudes towards the conversation, creating preliminary trust to this study and the researcher. This might encourage them to express themselves with fewer concerns during conversation and recommend to anyone else. However, interviewees with negative experience might influence the quality of conversation and even the snowballing progression (Noy, 2008). Nevertheless, different individuals have different viewpoints when they first read the *Participant Information Sheet*, thus, the first impression shaped by previous referee could be altered by reading the provided documents (Noy, 2008).

Further, ignoring the influence of the sampling method to the reputation and impression of the conversation, the recommendation behaviour could also be a part of observation of Chinese internal structure rather than merely a sampling method. The adoption of *snowballing method* to some extent relies on the social networks of participants. Specifically, in the process of referring, individuals who own more social network are more likely to provide more potential participants to the research (Bourdieu, 1984; Bourdieu, 1986). The social network actually reflects the level of social capital they own (Bourdieu, 1984; Bourdieu, 1986). Individuals who have more social capital tend to be in a higher position in hierarchical system so that controlling more allocation of right; comparatively, individuals who are being allocated are in a lower level of the hierarchical structure (Bourdieu, 1984; Bourdieu, 1986). In addition, this mode of right allocation might also indicate the way patriarchy works in Chinese society. The relationship between the referees and the recommended individuals is reflection of the relationship between dominant role and subsidiary role shaped by patriarchal consciousness. However, the power relations within the society between referees and the recommended makes it difficult to be aware of whether participants' willingness to engage in the interview is genuinely voluntary or shaped by power oppression. However, the oppression of rights did not fully hinder the self-awareness of the recommended. Because in the process of data collection, not all individuals who are recommended take part in the conversation. Some individuals reject the invitation due to conflict in scheduling or the doubt to sign the consent form. Even though it is difficult to ensure the genuine willingness of participants, no one displayed resistant attitudes during the conversation so far. Some participants even appreciate the unprecedented opportunity that makes them have a clear awareness of their life experience and get a sense of being understood (Stroobants, 2005). But it might be invisible when interviewees have negative feelings and emotions, because they usually want to maintain an acceptable image (Noy, 2008). To sum up, *the snowballing sampling* process is a societal mirror for the manifestation of patriarchal ideology within Chinese society that needs to be further explored.

4.4. Data analysis

The research will adopt *thematic analysis*. Firstly, from the viewpoint of the fitness of methodology and *thematic analysis*, it has been demonstrated that *thematic analysis* could be integrated with any methodologies, thus, it is appropriate for the interpretivist research to adopt *thematic analysis* (Ciesielska and Jemielniak, 2018). Compared with *template analysis*, the *thematic analysis* provides data analysis with enough freedom so that reducing negative interference of predefined templates that set boundaries for analysis process (Saunders, Lewis and Thornhill. 2007). However, the freedom might increase the implementation difficulty

especially in categorizing and extracting different themes in large amount of data (Saunders, Lewis and Thornhill. 2007). Comparatively, *qualitative content analysis* could save research time and is easier to operate compared with *thematic analysis* (Vaismoradi and Snelgrove, 2019). But *qualitative content analysis* focuses more on describing and summarising data rather than deep interpretation (Vaismoradi and Snelgrove, 2019). Since the research expects to interpret and explore how patriarchy shapes women's subjective choices based on narratives, thus, *qualitative content analysis* loses its comparative advantages. Hence, relying on the substitution of data analysis method to address the excessive flexibility and difficult implementation is ineffective. Tagg (1985) stated that one significant reason for the difficulty of data processing for the *thematic analysis* is the disordered sequencing in participants narration, making the creation of analysis framework more challenging to organize and systematize (Tagg, 1985). Therefore, the setting of conceptual constraints and research procedure is essential to mitigate the difficulty in data processing (Tagg, 1985).

The specific procedure for data analysis involves two dimensions including *genetical analysis* and *narrative analysis* (Rosenthal, 1993). *Genetical analysis* refers to the analysis in terms of the actual experience and turning points (Rosenthal, 1993). However, women's narration, way of impression and even emotions throughout the patriarchal conversation influence the obtaining of research findings. Because the shaping and influence of patriarchy in Chinese society are deep-rooted, and verbal expression is difficult to perceive and comprehend patriarchal consciousness from the deeper level. Thus, not only does the research need to analyse the actual experience in women's life, but it also needs to analyse the way participants narrate and interpret their life trajectory and decisions at work. Thus, *narrative analysis* is also of significance. Because *narrative analysis* emphasizes how participants construct and narrate their life trajectory (Rosenthal, 1993). However, the lack of specific setting of dimensions results in a superficial data analysis that hinders the construction of robust theoretical framework. Therefore, the research will integrate '*literal', 'interpretive'* and *'reflexive'* angles to analyse the shaping of patriarchy reflected in women's mindset (Welsh, 2002). Specifically, not only does the research explain women's life trajectory from the literal level, but it also interprets deeper meanings through making connections between women subjective decision-making and patriarchal ideology.

The research will adopt *NVivo* software to analyze data because *NVivo* is a software specializing in handling qualitative data (Van den Bulck et al., 2019). *NVivo*'s clear layout such as appropriate setting of function buttons and coloured bar promotes the efficiency of data analysis so that reducing the occurrence of accidental errors (Van den Bulck et al., 2019). However, researcher still needs to manually code data to different themes which might be time-consuming (Sotiriadou, Brouwers and Le, 2014). In comparison, *Leximancer* has the function of automatically coding based on the frequency of different keywords (Sotiriadou, Brouwers and Le, 2014). The automatic coding without doubt reduces labour and time costs, but it to some extent ignores the contribution of human intelligence to the research (Sotiriadou, Brouwers and Le, 2014). Further, it has been evidenced that the positive effects of software on the efficiency of research are influenced by the familiarity of researcher to the software (Paulus et al., 2017). This indicates that I need to have high familiarity with the *NVivo* software. With the foundation of the NVivo elective in the first year of the PhD, I plan to familiarise myself further with NVivo during the data collection period so that laying foundation for future data analysis. Nevertheless, it needs to mention that qualitative analysis

software is merely auxiliary tool and cannot dominate the analysis process. It is still necessary to value the subjective judgemental steps.

To be more specific, the detailed steps to analyse data are as followed. I will first familiarize myself with the imported data and categorize the data into three primary themes including the educational trajectory, personal development in the labour market and motherhood choices. In the process of categorization, I will take notes of keywords in different stages to lay foundation for the final readjustments of themes. After that, I need to reconsider the themes and adjust based on the notes. This process is significant because it sets the final themes. The setting of the final themes will be based on a standard which is '*recurrent and distinctive features of participants*' accounts, characterize perceptions and/or experience which the researcher sees as relevant to the research questions' (King and Herrocks, 2010). Lastly, I need to interpret and abstract data in different themes (Ciesielska and Jemielniak, 2018; Lester, Cho and Lochmiller, 2020).

5. Findings

Findings are structured around three themes: *education, marriage and reproduction and working trajectory*. These themes are used to illustrate how patriarchy shapes significant turning points for the women's lives.

5.2. Education

Women's narratives alluded to the importance of family, especially parents, in both their decision to study and choice of major and educational direction. For example, discussing the role of her father in her decision not to go to the US as an exchange student, one participant recounted:

> *''He was afraid that if I went, I might fall in love with America and never come back, or that it would somehow affect my mindset… …he advised me not to go.'*

These dynamics are not isolated from their reproduction of gender stereotypes in the public space where, after graduation and formally joining workforce, some of the women (particularly those born in the 1970s), experienced job assigned by the state based on the choice of major. Generational differences also played a role in some of these dynamics. For instance, while participants born in the 1980s and 1990s did not experience job allocation by the state, their own preferences showed how they reproduced gendered norms and expectations:

> *'For a young girl, getting a job at a bank is seen as respectable and makes it easier to find a boyfriend.'*

5.3. Marriage and reproduction

An important element of patriarchal influence was planning for marriage and reproduction, which was seen as laying the foundation for life in old age. In some cases, participants expressed concern for not following traditional trajectory:

> *'By then my parents and other relatives might be old or even gone, and I would be the only one left. That's something I really don't feel brave enough to face.'*

5.4. Working trajectory

Balancing marriage, childbirth and work placed women in a position of dual responsibility for both housework and office work. For many, this came with tensions because maintaining the traditional image at home while chasing progression in organizations were seen as contradictory. Work progression required attending dinner gatherings that undermined women's moral integrity:

> *'Once a woman went out drinking — especially if she got drunk — it would be seen as improper. There was pressure, quite a lot of it… …People around me, society in general, would judge you.'*

Findings suggest that patriarchy is embedded in women's personal choices throughout their lives both through the role played by family regimes and through the way these are intertwined with labour and employment regimes, which helps to reproduce gender inequalities.

6. Discussion

Life choices across a woman's whole life are constantly shaped by the interplay of culture, social structure and institutions as devices of the patriarchy. The shaping directly constructs women's subjectivity that manifests in decision-making in life turning points. Patriarchy, as a medium, is embedded in women's value, playing roles in a guiding way when women need to exercise self-initiative. One significant way patriarchy shapes women is by making fulfilling patriarchal tasks appear as the most beneficial and convenient choice that helps them to satisfy expectations from family, employers and society.

There are important distinctions between women at the intersection of gender, age, social class and education. For instance, those who are in high-class families with strong social resources find it easier to make a living in society by generational inheritance and, as a result, their choices are constrained by gendered classed expectations. For this group, parents help to point out their future direction but also provide social resources. Part of this comes by the hand of gendered dynamics in access; for instance, women are usually allocated to an occupation that conforms to female image, such as bank clerk and teacher. Conversely, women from a lower social class are more value oriented, committed to self-improvement which is driven by the standard of 'high value' defined by patriarchy, which is the second way of shaping mechanism.

Ultimately, women's occupation that has high value is characterised as stable and respectable, attributing to more beneficial for the realization of marriage and reproduction. Even when entering the labour market, patriarchy shapes women's mindset through the angle of moral integrity in the process of self-realization. Women trade off career aspiration for moral integrity in the face of career progression. Furthermore, reproduction is presented as a suitable choice because childbirth is seen to prevent loneliness and isolation.

7. Conclusion

Women's mindset and subjectivity are institutionally and socially shaped, leaning to prefer patriarchal norms and fulfilling patriarchal tasks. The internal shaping mechanism involves being driven by more convenient choices, being motivated by high-valued individuals, chasing for moral integrity and risk avoidance etc. Under the shaping of patriarchal norms, women constantly maintain and reinforce patriarchal awareness, reflecting in life choices. Therefore, the research fills the gap regarding the way in which patriarchy shapes and constructs women's self-agency. Future direction regarding patriarchy might investigate how men, as the dominant gender, are subject to high social expectations.

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Collective Recovery: A Conceptual Review and the Dual-Path Influential Framework

Fangyi Wang

Abstract

Recovery from work has been extensively studied as an individual-level process, yet the increasingly team-based and interdependent nature of contemporary workplaces calls for a fundamental reconceptualization. This paper argues that dominant recovery frameworks retain an implicit individualism that limits their explanatory scope: social factors are treated as antecedents or moderators of individual recovery, rather than as constitutive features of the recovery process itself. To address this conceptual gap, the present paper pursues two interrelated objectives. First, it provides a systematic conceptual review that traces the theoretical foundations of recovery research—including the Effort-Recovery Model, Conservation of Resources theory, and emotional contagion theory—and identifies the conditions under which recovery may be socially co-experienced rather than individually enacted. Building on this review, collective recovery is defined as a socially co-experienced and mutually reinforcing restoration process among interdependent organisational members. Second, the paper proposes a dual-pathway framework to explain the mechanisms through which collective recovery shapes team-level outcomes. The affective pathway explicates how recovery-relevant emotions are transmitted and amplified within teams through emotional contagion and shared affective events, fostering a positive team affective climate and collective well-being. The cognitive pathway highlights how joint recovery activities facilitate the co-construction of shared mental models, promote team reflexivity, and restore collective efficacy, thereby supporting goal alignment and sustained team performance. These two pathways are theorized as parallel yet mutually reinforcing. The paper concludes by outlining a quantitative, team-level research design for empirical validation, and discusses theoretical contributions to recovery research, occupational health psychology, and team dynamics, as well

as directions for future research.

Keywords: collective recovery, team recovery, dual-pathway framework, emotional contagion, shared mental models, Conservation of Resources theory, Effort-Recovery Model

1. Introduction

Recovery from work has drawn increasing scholarly attention over the past two decades. Traditionally, recovery has been conceptualized at the individual level as a process through which employees replenish depleted psychological and physiological resources following work-related demands (Sonnentag & Fritz, 2007). Core recovery experiences—such as psychological detachment, relaxation, mastery, and control—have been shown to reduce cumulative strain and support individual wellbeing and performance (Bennett et al., 2016; Chan et al., 2022).

Despite significant progress, the current body of recovery research has primarily focused on individual-level processes. However, in today's increasingly interdependent workplaces, teams have become the primary units through which organizations coordinate effort, manage complexity, and deliver outcomes (Mathieu et al., 2017). Within such team-based settings, recovery not only occurs at the individual level. Team members frequently engage in shared recovery activities ranging from casual coffee breaks to structured wellness programs, which generates socially embedded recovery experiences. These practices suggest that recovery can emerge as a collective phenomenon, co-constructed through interpersonal dynamics.

This growing interdependence in work structures raises a critical question: how do team members recover together? Despite calls to explore recovery at the team level (Sonnentag et al., 2021), the mechanisms through which recovery unfolds and functions in collective contexts remain largely unexplored. More fundamentally, dominant recovery frameworks retain an implicit individualism: they explain recovery primarily as a process that unfolds within the focal person, while giving limited attention to the possibility that recovery may occur in collective settings and be shaped through social interaction.

To address this conceptual and empirical gap, the present paper pursues two interrelated objectives. First, it provides a conceptual review that identifies the limitations of individually oriented

recovery frameworks and develops a theoretically precise account of collective recovery—defined as a socially co-experienced and mutually reinforcing restoration process among interdependent organisational members. Second, it proposes a dual-pathway framework to explore the mechanisms through which collective recovery shapes team-level outcomes, highlighting two distinct yet complementary pathways: an affective pathway and a cognitive pathway.

The affective pathway emphasizes how recovery-related emotions are shared and transmitted within teams through mechanisms such as emotional contagion, shaping team affective climate and well-being. The cognitive pathway focuses on how teams build shared understandings, engage in reflection, and co-regulate cognitive demands through mechanisms such as shared mental models, reflexivity, and collective efficacy. These pathways are not only informed by individual recovery experiences but are also embedded in dynamic interpersonal processes that shape team effectiveness.

By shifting the focus from individual to collective recovery and theorizing a dual-path mechanism, this research contributes to a more socially grounded understanding of how recovery occurs within teams. It also offers practical insights for fostering sustainable team performance and well-being in increasingly collaborative work settings.

2. Recovery Research and Its Conceptual Limits

2.1 What Recovery Is: Key Definitions and Distinctions

Over the past two decades, researchers have built a comprehensive understanding of how employees unwind from work-related demands through the recovery process. In occupational health psychology literature, recovery is defined as the process through which work-induced strain reactions return to their pre-stressor level (Sonnentag et al., 2017; Sonnentag, 2022).

Current recovery research primarily focuses on two complementary themes: recovery activities (i.e., the activities people engage in during non-work periods, such as exercising, socialising, and sleeping) and recovery experiences (i.e., how people psychologically experience these periods). Sonnentag and Fritz (2007) conceptualized recovery experiences as four components: psychological detachment, relaxation, mastery, and control, which are widely acknowledged as

the core features of the recovery experience. This distinction is theoretically crucial as it shows that the effectiveness of recovery does not depend on the specific activity, but on how individuals perceive and experience the recovery process. More recent work has broadened the experiential lens through the DRAMMA framework, which adds meaning and affiliation as leisure experiences relevant to well-being and restoration (Newman et al., 2014), already suggesting that social connectedness may matter for recovery, even though it has not yet been conceptually developed as a central feature of recovery experience.

Empirical studies have made considerable progress in linking recovery to a wide range of outcomes. Diary and experience-sampling studies indicate that recovery activities are associated with higher bedtime well-being, lower exhaustion, and higher vigor the following morning (Sonnentag, 2001; ten Brummelhuis & Bakker, 2012; ten Brummelhuis & Trougakos, 2014). Recovery experiences likewise predict next-day psychological functioning. McGrath et al. (2017) found that on days when employees reported stronger recovery experiences, they slept better and experienced higher activated positive affect the next morning. Chawla et al. (2020) similarly showed that day-specific profiles characterized by high detachment, relaxation, and control were associated with better sleep quality and less next-morning exhaustion. The importance of recovery for employee wellbeing, performance, and various work-related outcomes has thus been well documented (Bennett et al., 2016; Chan et al., 2022).

2.2 Theoretical Foundations of Recovery Research

2.2.1 The Effort-Recovery Model and the Cessation of Load Reactions

The Effort–Recovery Model (ERM; Meijman & Mulder, 1998) constitutes a foundational framework in recovery research. The model proposes that exposure to work demands requires sustained effort, which in turn produces load reactions manifested in physiological activation and psychological strain. Recovery occurs when these demands are no longer imposed and load reactions are allowed to subside.

A central implication of ERM is that recovery depends not simply on the objective cessation of work, but on the cessation of demand-related activation. In particular, the model distinguishes between the physical end of work and the continued mental representation of demands. Employees

may leave the workplace while continuing to think about unfinished tasks, unresolved problems, or emotionally charged interactions. As long as such demand-related cognitions persist, load reactions are maintained rather than reduced.

Accordingly, recovery effectiveness is weakened when demands continue to be psychologically represented, even in the absence of ongoing work activity. Effective recovery therefore requires not only time away from work, but also the interruption of cognitive and affective carryover from prior demands. In this sense, ERM places the deactivation of load reactions—through the discontinuation of work demands and their psychological continuation—at the center of recovery processes.

2.2.2 Conservation of Resources Theory and Resource Replenishment

Conservation of Resources (COR) theory (Hobfoll, 1989, 2001) provides a complementary theoretical foundation by specifying what is depleted through work and why recovery is necessary. COR theory posits that individuals strive to acquire, protect, and build valued resources, and that stress occurs when resources are threatened, lost, or insufficiently regained following investment.

Within recovery research, the central implication of COR is that work demands deplete energetic, cognitive, and affective resources, and that recovery processes are required to replenish these depleted resources. Recovery is therefore not merely the absence of work, but a process through which individuals regain the capacity to perform effectively in subsequent work.

COR further highlights an important asymmetry between resource loss and resource gain during the recovery process. Resource loss is more salient and more potent than resource gain, and may initiate loss spirals in which depleted resources undermine individuals' ability to cope with subsequent work demands. This asymmetry helps explain why recovery becomes particularly difficult under conditions of high strain: individuals who are already depleted have fewer resources available to disengage, regulate affect, or invest in restorative activities.

Conversely, recovery-promoting experiences may initiate resource gain processes, whereby restored energy, positive affect, and self-regulatory capacity facilitate further resource acquisition. In this sense, COR theory clarifies that recovery is not simply a passive return to baseline, but a dynamic process of resource restoration and potential resource accumulation.

Taken together, ERM and COR offer complementary insights. ERM specifies when recovery occurs by identifying the conditions under which load reactions subside, whereas COR explains why recovery matters by clarifying the role of resource depletion and replenishment. However, in their dominant application within the literature, both frameworks have primarily been used to explain intraindividual restoration processes, leaving the role of social interaction in shaping recovery comparatively underdeveloped.

2.3 Conceptual Gap: The Implicit Individualism of Dominant Recovery Frameworks

Although recovery research has made substantial theoretical and empirical progress, a major conceptual gap remains. Specifically, dominant recovery frameworks retain an implicit individualism: they explain recovery primarily as a process that unfolds within the focal person, while giving limited attention to the possibility that recovery may occur in collective settings and be shaped through social interaction. In other words, the literature has generated a sophisticated understanding of how individuals recover, but it has been much less explicit about whether and how recovery may be socially mediated, co-experienced, or mutually reinforced.

Importantly, this gap does not arise because recovery scholars have ignored social factors altogether. On the contrary, the literature reveals repeated indications that the recovery process is socially embedded. Not only what individuals do, but also with whom they spend their time appears to matter. For example, Hahn et al. (2012) found that time spent in joint activities with spouses predicted psychological detachment, relaxation, and mastery during the weekend. Couple-based research further suggests that one person's recovery experiences may relate to the partner's emotional well-being, indicating that recovery-related benefits may extend beyond the focal individual (Rodríguez-Muñoz et al., 2018).

Social influences are also evident within work settings. Supervisor support for recovery has been linked to employees' recovery experiences, leaders' own detachment has been associated with followers' detachment, and segmentation norms have been shown to shape employees' ability to psychologically disconnect from work (Park et al., 2011; Sonnentag & Schiffner, 2019). More recent work extends this argument by showing that leaders can facilitate employees' detachment from work through respect for boundaries, empathy for recovery needs, and role modelling, particularly when relationship quality is sufficiently high (Sonnentag et al., 2024). Research on

work breaks points in the same direction: social microbreaks can sometimes be restorative, but their effects depend on autonomy, relational context, and the nature of the interaction itself (Trougakos et al., 2014; von Dreden & Binnewies, 2017). These findings suggest that recovery is not simply insulated from the social environment; rather, the quality of the surrounding interaction can shape whether recovery is facilitated or undermined.

The most direct evidence for interpersonal recovery processes comes from crossover research. Kim et al. (2023) showed that leaders' pleasurable recovery activities on the previous night predicted leaders' displayed morning positive affect, which then crossed over to followers' midday positive affect and enhanced follower task performance and creative behavior. Notably, this crossover effect was stronger when followers began the day in a lower recovery state and were therefore more in need of replenishment. These findings are theoretically important because they demonstrate that recovery-related benefits may travel across people rather than remaining confined to the focal actor.

Yet these findings also reveal the conceptual limit of the current literature. Social influences are typically regarded as antecedents, moderators, or crossover channels, rather than as constitutive features of the recovery process itself. The dominant image remains one in which recovery happens primarily within the individual, while other factors merely facilitate or hinder it from the outside. This also does not adequately capture the phenomenon in which unwinding and restoration are not simply supported by the social environment, but are partly shaped through interaction among organisational members—through mutual awareness, affective transmission, or shared disengagement from work demands.

This limitation is not due to any incompatibility between dominant recovery theories and a more socially embedded view of restoration. Both ERM and COR theory can be extended in ways that make room for collective recovery. The problem is therefore not theoretical impossibility, but conceptual underdevelopment. Without such a concept, shared activity, social support, affective crossover, and genuinely co-experienced restoration are too easily collapsed into one another. Taken together, the literature suggests a clear conclusion: current recovery research has already acknowledged social interaction in the recovery process, but it has not yet fully theorized the possibility that recovery itself may unfold as a socially shaped process. This is the conceptual gap

at the center of the present review.

3. Why Collective Recovery?

3.1 Contemporary Workplaces as Interdependent, Relational, and Temporally Shared Settings

Although recovery has been extensively studied as an individual process, the conditions under which recovery unfolds at the contemporary workplace are increasingly interdependent, relational, and temporally shared. As a result, the assumption that recovery occurs in isolation from others becomes progressively less tenable.

In contemporary workplaces, work is rarely organized as a sequence of independent tasks completed in isolation. Instead, it is characterised by ongoing coordination, communication, and interdependence. Employees share similar work patterns within shared temporal structures—meetings, deadlines, and digital communication flows—that shape not only work demands but also the recovery opportunities to disengage from them. Recovery opportunities are therefore not simply private intervals following the cessation of work. They are often embedded in shared rhythms, interaction patterns, and collectively experienced transitions between intervals of work demands.

Sonnentag et al. (2022) explicitly identify social context, technological connectivity, and team-based coordination as key directions for the future of recovery research. This observation is theoretically significant because it implies that others do not merely surround the recovery process; they may shape whether recovery becomes possible in the first place. Coworkers and leaders may suspend or extend demands, normalize or discourage temporary disengagement, and create interactional conditions that either facilitate or undermine restoration. The same temporal opportunity can therefore yield very different recovery outcomes depending on how it is socially structured.

ERM implies that the cessation of demands is not purely an individual issue. Even when formal work has ended, interaction may maintain demand-related activation through continued discussion, coordination, or emotional carryover. Conversely, shared signals—such as a collectively

recognised pause or a shift in conversational focus—may help terminate demand representation. From the perspective of COR theory, interdependence also matters because resource dynamics may be shaped through interaction. Social exchanges may either drain resources (e.g., continued demands, emotional labor) or contribute to their replenishment (e.g., reassurance, shared positive affect). Thus, the relational structure of work directly affects both whether recovery begins (ERM) and whether resources are restored (COR).

Taken together, these developments suggest that recovery is increasingly situated within socially structured contexts rather than occurring in isolation. This shift motivates closer attention to forms of collective recovery that unfold through interaction.

3.2 Recovery as a Socially Embedded Process

The concept of collective recovery becomes meaningful as a theoretical lens because it reconceptualizes recovery from a purely individual event to a socially embedded process.

In daily work settings, the mechanics of recovery are not independent of interaction. A collectively recognised pause following a stressful meeting may interrupt cognitive carryover more effectively than solitary disengagement. Shared humor may reduce tension and facilitate emotional downregulation. Interaction with others may make it easier to stop rehearsing unfinished work, thereby weakening the persistence of demand-related representations. These are not merely contextual influences but can serve as recovery mechanisms that unfold collectively.

The collective recovery process can be further clarified by considering how existing theories extend to socially embedded recovery. ERM suggests that recovery depends on the discontinuation of demand-related activation; interaction may either sustain or interrupt that activation. COR theory suggests that recovery involves resource replenishment; interaction may contribute to or undermine resource restoration. Emotional contagion theory adds a further layer by explaining how recovery-relevant affective states may spread across individuals, allowing restored positive affect or reduced tension to propagate within an interactional episode. Together, these perspectives indicate that recovery may, in some cases, be co-experienced and mutually reinforced, rather than purely individually generated.

In addition, this framing helps avoid two inappropriate interpretations. First, collective recovery

should not be equated with any social context surrounding recover, the presence of other oragnisational members is not sufficient. Second, not all shared positive experiences qualify as collective recovery, which remains defined by the unwinding of work-related strain and the restoration of depleted resources. A more precise claim is therefore required: some recovery processes are socially co-experienced and mutually reinforced in ways that cannot be adequately captured when recovery is regarded as an isolated individual process and social interaction is treated as an external influence.

3.3 Why the Gap Matters for Theory and Practice

The distinction between individually enacted recovery and socially mediated recovery has important implications for both theory and practice.

From a theoretical perspective, the absence of a clear account of socially embedded recovery limits the explanatory scope of existing frameworks. Without a more precise concept, different phenomena—shared activities, social support, affective crossover, and collective recovery—are easily conflated, weakening construct clarity and obscuring the mechanisms through which recovery unfolds. More importantly, it prevents recovery research from fully integrating its own theoretical foundations. ERM, COR, and emotional contagion theory each point toward the importance of interaction, yet the literature lacks a concept that brings these mechanisms together within a coherent explanatory frame.

From a practical perspective, this gap is also consequential, as many recovery opportunities in organisations are inherently collective. Employees often take breaks with their coworkers, transitions between tasks are collectively negotiated, and the ability to disengage from work often depends on shared norms and interaction patterns. If recovery is treated as a purely individual responsibility, organisations may overlook the ways in which interaction structures, leadership behaviors, and team climates systematically shape employees' capacity to recover.

Taken together, these considerations lead to a clear conclusion. Existing recovery research has established a strong foundation for understanding individual restoration, but it has not yet fully theorized how recovery processes may be socially mediated in their unfolding. This omission reflects an implicit individualism in dominant frameworks. Addressing this gap requires a more

precise conceptualization of collective recovery as a phenomenon that captures how recovery may be co-experienced and reinforced through social interactions.

4. Defining Collective Recovery

4.1 Proposed Definition

At this stage, this study defines collective recovery as a socially co-experienced and mutually reinforcing restoration process among interdependent organisational members. This definition preserves the core meaning of recovery in the organisational literature—that recovery concerns strain reduction and resource replenishment (Sonnentag et al., 2017; Sonnentag, 2022)—while extending that literature by recognising that recovery does not always unfold as an isolated, intraindividual process.

This definition does not regard any shared activity, pleasant interaction, or moment of social connection as collective recovery, nor does it equate collective recovery with mere co-presence of organizational members. Instead, it identifies a more specific phenomenon: recovery happens only when work-related strain is eased and depleted resources are restored, and in collective recovery, this process is at least partly strengthened through shared recovery experience—through interaction that shapes how participants cognitively and affectively disengage from demands and replenish their resources.

4.2 Necessary Conditions and Defining Attributes

A crucial implication of this definition is that collective recovery cannot be simplified as 'colleagues doing something together.' The broader recovery literature has consistently distinguished between activities and experiences, showing that what employees do should not be conflated with how they experience it (Sonnentag & Fritz, 2007; Sonnentag, 2022). This distinction is especially important here. A shared walk, a lunch break, or a casual conversation may provide a setting in which collective recovery occurs, but none of these activities are inherently restorative. The same shared activities may support detachment, relaxation, or restored control in some circumstances, while in others they may be effortful, obligatory, or work-related. Collective recovery should therefore be understood in experiential rather than behavioral terms.

Three defining attributes are central to conceptual clarity. First, collective recovery must be restorative: the process must contribute to the reduction of work-related strain, the restoration of energy, or the replenishment of other depleted resources. Second, collective recovery must involve shared or reciprocal shaping of the recovery experience: the key feature is whether interaction during the collective recovery process can contribute to the psychological experiences of participants. Third, collective recovery should be regarded as a recovery experience rather than merely a shared activity: shared activity can be an external form of collective recovery, but it is not sufficient unless it becomes restorative in psychological terms.

5. Theoretical Framework of Collective Recovery

The following theoretical perspectives together constitute the conceptual foundation of collective recovery, laying the groundwork for exploring the influential mechanisms through which collective recovery operates. While Section 2 reviewed these theories primarily as they have been applied to individual recovery, this section explicates how each can be extended to account for socially embedded restoration processes.

5.1 The Effort-Recovery Model: Interaction and the Collective Cessation of Demands

ERM explains why collective recovery matters by clarifying what social interaction changes in the recovery process. If recovery depends on the cessation of load reactions, then interaction matters whenever it changes whether demands continue to be mentally represented. Coworkers may prolong activation by continuing task-related conversation, rehashing frustrating events, or signalling that work remains urgent. They may also help terminate activation by jointly stepping back from work, redirecting shared attention, or marking a temporary interruption in demand-relevant cues.

On this reading, collective recovery does not contradict ERM—it specifies that the cessation of demands may be socially mediated rather than individually achieved. In teams, the transition from work to recovery mode is rarely determined by any single individual; it is co-constructed through signals, agreements, and shared attention shifts. ERM thus provides the foundational rationale for why interaction matters in recovery: interaction can either maintain or terminate the demand-related activation that drives strain.

5.2 Conservation of Resources Theory: Shared Generation, Protection, and Replenishment of Resources

COR theory explains the resource side of collective recovery. Work depletes energetic and affective resources, and recovery depends on restoring them. Social interaction matters when it becomes a source of resource replenishment rather than additional loss. Interaction with others may provide reassurance, attentional relief, emotional ease, or a sense of interpersonal safety that helps rebuild the focal employee's depleted resources.

COR is especially valuable here because it can accommodate both resource protection and resource generation. Collective recovery may protect employees from further loss by suspending demand-relevant interaction, and it may generate gains by creating interpersonal conditions that replenish energy or restore positive affect. COR therefore explains why socially embedded restoration can be more than a contextual variation of individual recovery: it may involve resources that are jointly elicited or stabilized through reciprocal involvement. The resource caravan concept (Hobfoll et al., 2018) is particularly relevant: when restoration-relevant resources accumulate across team members, they may collectively amplify the benefits of recovery beyond what any individual could achieve alone.

5.3 Emotional Contagion: Transmission and Amplification of Recovery-Relevant Affect

Emotional contagion theory (Hatfield et al., 1994) adds a distinct explanatory perspective. Whereas ERM addresses the cessation of demands and COR addresses the restoration of resources, emotional contagion explains how recovery-relevant affective states may be transmitted across people. Kim et al. (2023) provides the clearest illustration: leaders' pleasurable recovery activities predicted leaders' displayed positive affect at work, which then crossed over to followers' midday positive affect and improved follower performance.

The implication is not that contagion alone constitutes collective recovery. Rather, contagion explains how restored or recovery-supportive affective states can spread, reinforce one another, and deepen the restorative quality of an interactional episode. Through automatic and unconscious processes such as mimicry, vocal tone alignment, and coordinated facial expressions (Hatfield et al., 1994; Elfenbein, 2014), team members' affective states can converge during shared recovery,

amplifying the restorative experience. Emotional contagion therefore supplies a mechanism of transmission and amplification that is particularly relevant in team settings.

5.4 Team Climate and Social Norms: Enabling and Constraining Conditions

Team climate perspectives explain why some settings permit collective recovery while others suppress it. Supportive climates, psychologically safe interactions, leader respect for boundaries, and norms that legitimate temporary disengagement can make it easier for employees to co-experience recovery together (Gamero et al., 2008). By contrast, climates marked by constant availability expectations, performance monitoring, or implicit pressure to remain upbeat and responsive may turn the same social setting into a resource drain rather than a recovery opportunity.

Team climate therefore does not define collective recovery, but it explains important enabling and constraining conditions that shape whether such episodes can emerge. Teams with high psychological safety and trust are more likely to engage in genuine collective recovery, while teams marked by faultlines, affective conflict, or status pressure may find shared recovery activities less restorative or even counterproductive.

Taken together, these four theoretical perspectives provide an initial conceptual framework for collective recovery. ERM explains the collective cessation of demand. COR explains the replenishment and protection of resources through interaction. Emotional contagion explains the transmission and amplification of recovery-relevant affect. Team climate explains the social conditions under which such processes become possible. Their combination provides a stronger foundation for developing and empirically testing collective recovery as a theoretical construct. The following sections build directly on this framework to examine how collective recovery emerges and functions within team settings.

6. Collective Recovery in Teams: Emergent Processes and Conceptual Challenges

6.1 From Individual to Collective Recovery in Team Settings

Building on the theoretical framework established above, this section examines how collective

recovery emerges specifically within team settings. Over the past two decades, scholars have documented the mechanisms of individual recovery with considerable precision. In practice, however, recovery is often embedded within social interactions. Team members frequently engage in shared recovery activities—such as taking short breaks, participating in group discussions, or attending team retreats—which generate affective and cognitive states that are shaped interpersonally within the broader social context (Sonnentag et al., 2021).

As organizations increasingly rely on teams as fundamental units for achieving strategic goals, handling complex tasks, and adapting to dynamic environments (Marks et al., 2001), it becomes essential to explore recovery mechanisms at the team level. Collective recovery is not merely the sum of individual recovery efforts; it is a distinct phenomenon shaped by social dynamics that can emerge and evolve within team settings (Sonnentag et al., 2017). Scholars have called for conducting studies on team-level recovery as a collective construct, arguing that it can yield insights beyond individual recovery studies (Sonnentag et al., 2021; Kim et al., 2023).

For instance, team-level detachment considers how members jointly 'switch off' and reattach to work following breaks, while team-level relaxation involves shared recovery practices such as team outings or social gatherings (Sonnentag et al., 2021). Therefore, teams may regulate stress and restore resources as integrated social units rather than as simple aggregations of individual recovery experiences. The shift in the nature of work brings with it the necessity of conducting an in-depth study of collective recovery that accounts for its social features and influential mechanisms. As work-life boundaries become increasingly blurred, team members are more likely to form strong social connections (Jia et al., 2014), and the rise of mobile and distributed teams (Franzoni et al., 2017) further enhances the possibility for team members to recover collectively.

Empirical studies have demonstrated that individual recovery experiences are influenced by leaders' behaviors, colleague support, and recovery-supportive organizational climates (Bennett et al., 2020; Sonnentag & Schiffner, 2019; Foucreault et al., 2018). Recovery states may also transmit between individuals, as observed in close relationships such as spouses and leader–follower dyads, suggesting that recovery outcomes can unfold through social transmission mechanisms (Rodríguez-Muñoz et al., 2018; Kim et al., 2023). These findings are consistent with the theoretical framework developed above and affirm that collective recovery processes operate through

concrete interpersonal mechanisms within team contexts.

6.2 Emergent Processes and Remaining Conceptual Challenges

Emerging evidence suggests that recovery processes can become embedded within teams, shaping shared affective states, collective routines, and joint patterns of behavior. Researchers have suggested that team-level detachment, relaxation, and control can be meaningfully distinguished from their individual counterparts and linked to team-level outcomes such as well-being and resilience (Sonnentag et al., 2021; Pereira & Elfering, 2014).

However, several conceptual and empirical challenges remain. First, a coherent theoretical framework for explaining how collective recovery unfolds within teams is still lacking at the empirical level. Most studies treat recovery as an individual outcome influenced by team-level antecedents (e.g., supportive leadership), rather than as a team-level construct in its own right. Second, there is little knowledge about the specific mechanisms through which collective recovery processes are enacted and sustained in team settings (Gilson et al., 2015; Koopman et al., 2020).

Moreover, researchers have yet to delineate the boundary conditions that shape when and how recovery becomes a shared rather than an individual experience. For instance, recovery may be facilitated in teams with high psychological safety and trust but constrained in teams marked by faultlines or affective conflict. Finally, the construct of collective recovery has yet to be operationalized with clear, validated measurement tools. Current approaches tend to infer collective recovery based on aggregates of individual reports or anecdotal examples of shared practices, leaving their theoretical precision and empirical generalizability underdeveloped.

It is therefore critical to investigate how collective recovery is shaped at the team level and how it influences team-level outcomes. Specifically, the following section proposes that collective recovery involves both affective and cognitive processes that underpin team dynamics and introduces a dual-pathway framework to conceptualize how collective recovery unfolds and affects related team outcomes.

7. Affective and Cognitive Pathways: A Dual-Path Framework

To investigate how collective recovery influences team-level outcomes, this study proposes a dual-

pathway framework. Decades of organisational research suggest that work experiences—including stressors and regulatory processes—routinely generate both emotional and cognitive effects (Bliese et al., 2017). Consistent with this perspective and informed by dual-process models in areas such as motivation (Kanfer & Chen, 2016), interpersonal emotion (Van Kleef, 2009), and workplace behavior (Judge et al., 2006; Lin et al., 2016), this study argues that collective recovery unfolds through two interdependent mechanisms: an affective pathway and a cognitive pathway.

Through the affective pathway, collective recovery influences team outcomes by shaping shared affective states—relieving collective strain and fostering positive emotional contagion—thereby enhancing team well-being and encouraging prosocial patterns of interaction. Through the cognitive pathway, collective recovery operates via processes such as shared meaning reconstruction, team reflexivity, and restored attentional capacity, which together facilitate goal alignment, role clarity, and in-role performance. These two pathways are not mutually exclusive; they operate in parallel and can reinforce each other as teams engage in collective restoration.

7.1 The Affective Pathway

The affective pathway highlights how emotional experiences and interpersonal affective dynamics shape the team recovery process. Grounded in Affective Events Theory (Weiss & Cropanzano, 1996), Emotional Contagion Theory (Hatfield et al., 1994), and Conservation of Resources Theory (Hobfoll, 1989, 2011), this pathway conceptualizes recovery as a socially embedded process of emotion regulation. Through emotional contagion and shared affective events, recovery-related emotions are transmitted and reinforced among team members, facilitating the accumulation or depletion of emotional resources that ultimately influence recovery effectiveness and team outcomes.

Emotional contagion theory explains how affective states spread among team members through automatic and unconscious emotional expression processes such as mimicry, vocal tone alignment, and coordinated facial expressions, which ultimately lead to convergence in affective state (Hatfield et al., 1994; Elfenbein, 2014). In the context of team recovery, this implies that one member's affective state—whether positive or strained—can influence the emotional experiences of others, shaping the overall team affect during the recovery process. For instance, when a team member expresses calmness or enjoyment during a break, this emotional state can be picked up

and mirrored by others, reinforcing a positive recovery experience at the collective level. Evidence from leadership research shows that leaders' expressions of recovery-related emotions can trigger positive affective contagion among team members, enhancing shared recovery and improving downstream outcomes such as performance (Kim et al., 2023). Conversely, if a team member returns from recovery emotionally exhausted, their lingering strain may spread to others, potentially initiating a downward affective spiral and undermining the team's overall recovery effectiveness. This affective interdependence underscores the socially constructed nature of recovery in team settings.

Affective Events Theory (AET) offers additional insights to explain how affective events trigger employees' affective reactions, which in turn shape their attitudes and behaviors (Weiss & Cropanzano, 1996). In team recovery contexts, collective recovery can trigger psychological experiences such as mastery and relaxation, which can be regarded as affective events for team members and thereby influence their affective states. Over time, these shared affective events contribute to the development of a team affective climate: a relatively stable, shared emotional environment that influences how teams interpret and respond to stressors (Gamero et al., 2008). A positive affective climate not only supports well-being but also enhances a team's resilience in the face of future demands.

Moreover, drawing on COR theory, positive affect functions as an affective resource that can be conserved, accumulated, and transmitted within teams. Collective recovery episodes provide opportunities to generate and exchange these resources. A team member who returns from a restful break in a positive mood may act as a 'resource infusion point', initiating emotional uplift that spreads to others and facilitates collective restoration (Hobfoll et al., 2018; ten Brummelhuis & Bakker, 2012). In this way, teams can form affective resource caravans—clusters of emotionally enriched interactions that build emotional reserves over time (Chen et al., 2005).

However, the affective dynamics of team recovery are not always beneficial. When team members return from recovery experiences are still emotionally depleted, or when team-level emotional synchrony is disrupted, collective recovery may fail to occur or may even amplify strain. Persistent emotional exhaustion in one or more members can lead to collective burnout, inducing downward spirals of affective strain (Petitta & Naughton, 2015). Moreover, affective incongruence—where

emotional expressions between team members diverge—may generate social friction and impede recovery transmission.

In summary, the affective pathway suggests that team recovery is shaped by the collective capacity to generate, share, and sustain emotionally restorative states. Through shared affective events, emotional contagion, and affective resource exchange and accumulation, teams can develop an emotionally supportive climate that enables effective recovery, reinforces team cohesion, and sustains performance under work stressors.

7.2 The Cognitive Pathway

Parallel to the affective pathway, the cognitive pathway of collective recovery emphasizes how teams co-construct shared meaning, regulate cognitive demands, and restore cognitive convergence through coordinated recovery activities. Grounded in COR theory (Hobfoll, 1989), this pathway highlights the importance of preserving and rebuilding cognitive resources—such as attention, goal clarity, and confidence—that are often depleted under job demands.

One key cognitive mechanism is the development of Shared Mental Models (SMMs) (Cannon-Bowers et al., 1993). When teams engage in joint recovery activities, such as informal conversations or reflection after demanding tasks, they can cultivate shared understandings of when, how, and why recovery occurs. In the collective recovery process, these shared representations can reduce ambiguity and allow team members to coordinate expectations about when and how to detach and re-engage, especially in demanding or ambiguous work environments.

In addition, team reflexivity—defined as the extent to which teams collectively reflect on and adapt their work strategies (Schippers et al., 2012)—also serves as a key mediator in the cognitive pathway of team recovery. Collective recovery experiences could provide valuable reflection opportunities for team members, enabling teams to re-evaluate task demands, reconsider their strategies, and coordinate efforts for sustaining performance and well-being. Teams with higher reflexivity are more likely to revise their shared recovery routines in response to burnout signals, work intensification, or relational strain (Chen et al., 2018). Through collective recovery experience, such teams co-construct adaptive norms around pacing, detachment, and recovery routines, thereby enhancing alignment and strengthening their collective capacity to sustain

performance under work stress.

A further cognitive mechanism is collective efficacy—the shared belief in a team's capability to coordinate and perform effectively (Bandura, 2000). Collective recovery episodes that foster positive affect and reduce stress may reinforce team members' confidence in their shared capabilities, thereby enhancing collective efficacy. This, in turn, supports team members' willingness to engage in demanding tasks and to sustain coordinated effort over time.

It is important to note that the cognitive pathway is also vulnerable to breakdown. Team cognitive withdrawal—when members disengage from reflective or recovery-related discussions—can occur due to low psychological safety, fatigue, or unclear responsibility (Woolum et al., 2017). This avoidance impedes shared sensemaking and leaves cognitive strain unaddressed. Similarly, cognitive role conflict may arise when team members are expected to remain cognitively engaged (e.g., responsive to clients or systems) while simultaneously being urged to detach. These incompatible expectations generate ambiguity, increase rumination, and diminish the benefits of recovery (Koopman et al., 2020).

The resource caravan principle of COR theory (Hobfoll et al., 2018) offers a valuable lens for understanding how cognitive resources can be accumulated and propagated at the team level. When teams engage in joint recovery episodes that foster shared understanding, aligned pacing, and confidence in collective capabilities, they initiate resource caravans—interconnected patterns of recovery-related cognition that reinforce each other over time (ten Brummelhuis & Bakker, 2012). These caravans create a collective cognitive buffer, sustaining team functioning even under pressure.

To summarize, the cognitive pathway of collective recovery is an active, socially coordinated effort to rebuild shared mental frameworks, restore cognitive resources, and enhance adaptive capacity. When collective recovery supports mechanisms such as shared mental models, reflexivity, and collective efficacy, it promotes team coordination and sustainable team effectiveness. Yet when cognitive resources are undermined by cognitive withdrawal or role conflict, these benefits may erode, underscoring the importance of treating cognitive recovery as a dynamic team-level process.

7.3 The Dual-Path Model: Preliminary Framework

The dual-pathway model proposes that collective recovery influences team outcomes through two parallel yet interrelated mechanisms. The affective pathway operates through the transmission and accumulation of emotionally restorative states—shaped by emotional contagion, shared affective events, and team affective climate—to enhance team well-being and prosocial behavior. The cognitive pathway operates through the co-construction of shared understanding, reflexive strategy revision, and collective efficacy restoration, facilitating goal alignment and sustained team performance.

Critically, these pathways are not independent. Positive affect arising from the affective pathway can reduce cognitive burden and facilitate more effective reflection and sensemaking along the cognitive pathway. Conversely, shared mental clarity achieved through the cognitive pathway can reduce ambiguity-related strain, creating emotional relief that reinforces the affective pathway. This reciprocal relationship suggests that the most effective collective recovery episodes are those that simultaneously activate both pathways, producing complementary affective and cognitive restoration.

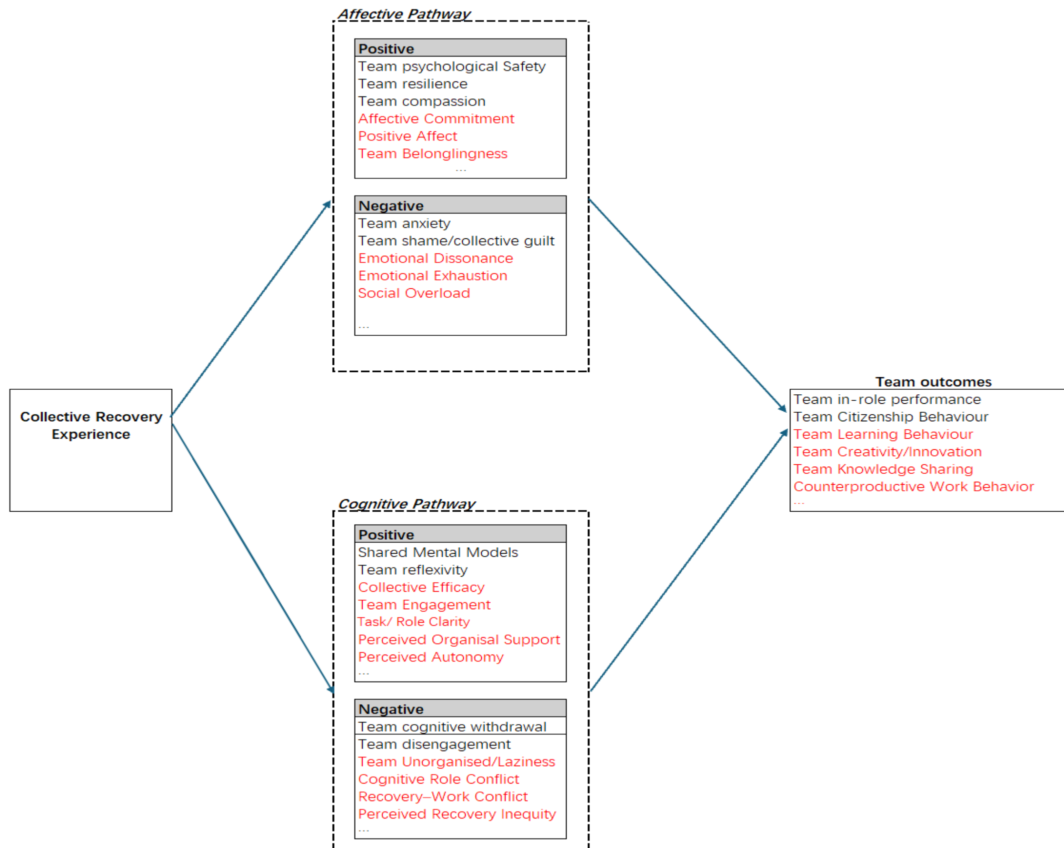

Figure 7.1 presents the preliminary dual-pathway model. The specific selection of constructs and indicators for each pathway is under ongoing development and will be refined in subsequent empirical phases of this research program.

8. Methodology

8.1 Research Design

This study will adopt a quantitative, team-level research design to examine the mechanisms through which collective recovery influences team outcomes. A pilot study will be conducted to evaluate the feasibility of key constructs and to refine the survey scales. The project is situated within a broader theory-building agenda, and the current study serves as a preliminary step toward empirically validating the proposed dual-pathway framework.

8.2 Conceptual Approach and Measurement Strategy

Given that the final theoretical model is still under development, the specific selection of measurement instruments is intentionally left open at this stage. However, the general measurement approach will follow several guiding principles.

Team-level conceptualization: All key constructs, including collective recovery, affective and cognitive mediators, and team-level outcomes, will be assessed at the team level, either through referent-shift items (e.g., 'In our team…') or through aggregation of individual responses using appropriate within-group agreement indices (e.g., rwg, ICC).

Construct domains: Measurement domains will be aligned with the dual-pathway framework. For the affective pathway, focal constructs include team affective climate, emotional contagion processes, and shared emotional tone. For the cognitive pathway, relevant mechanisms include shared mental models, team reflexivity, collective efficacy, and indicators of cognitive misalignment such as withdrawal or role conflict.

Scale development and adaptation: Existing validated scales from organizational behavior and team research (e.g., Schippers et al., 2007; Mathieu et al., 2000; Bandura, 2000) will serve as starting points. However, given the novel focus on recovery, all instruments will be reviewed and potentially adapted to reflect recovery-specific content and ensure construct validity at the team level. The pilot study will also explore the dimensionality and aggregation properties of the adapted measures, providing empirical grounding for subsequent model refinement.

8.3 Sample and Data Collection

The pilot study will target employees working in intact teams across industries. Teams will be eligible if they meet basic criteria for interdependence, shared tasks, and routine collaboration. Surveys will be distributed electronically, and responses will be matched within teams for aggregation. The target sample size is 30–40 teams (3–6 members per team), sufficient for testing item clarity, scale reliability, and within-group agreement.

Participation will be voluntary. All respondents will be asked to reflect specifically on their experiences within a single work team. Basic demographic and structural information (e.g., team tenure, size, work mode) will also be collected to explore contextual variation.

8.4 Data Analysis

The data analysis plan is structured in two stages: (1) pilot-stage analyses focused on validating adapted instruments and justifying team-level aggregation, and (2) main-stage analyses aimed at testing the dual-pathway model of collective recovery using multilevel and structural equation modeling techniques.

In the pilot phase, analysis will focus on evaluating the psychometric properties and team-level suitability of the adapted measures, including internal consistency, inter-rater agreement, and intraclass correlations. In the main phase, the data will be analyzed using a combination of multilevel modeling (MLM) and multilevel structural equation modeling (MSEM) techniques to account for the nested data structure (individuals within teams) and to test the hypothesized relationships in the dual-pathway model.

8.5 Ethical Considerations

This research will comply with the ethical requirements of the University of Manchester and the British Psychological Society. All participants will be informed about the purpose of the research, the voluntary nature of participation, and their right to withdraw at any time without consequence. Informed consent will be obtained prior to data collection.

To ensure confidentiality, no identifying information (e.g., names, IP addresses) will be collected. Data will be stored securely in password-protected files and retained in accordance with institutional data protection policies. Only the research team will have access to the raw data.

In team-based responses, particular care will be taken to avoid any form of coercion or pressure from supervisors or peers. Participation will be individual, confidential, and unlinked to performance evaluation or organizational reporting. All survey materials will emphasize that team-level findings will be reported in aggregate form only.

9. Contributions, Limitations, and Future Research

9.1 Theoretical Contributions

This research aims to make theoretical contributions in the following domains.

First, this research expands the recovery construct to the team level. By introducing and formalizing the concept of collective recovery, this paper responds to the call by Sonnentag et al. (2021) to broaden recovery research beyond its individual-level focus. By defining collective recovery as a distinct construct, socially co-experienced and mutually reinforcing—this study extends the theoretical framework of recovery research to acknowledge the interconnected nature of work environments and the role of team dynamics in the recovery process.

Second, this research contributes to the understanding of recovery mechanisms through which collective recovery occurs. By theorizing the affective pathway (emotional contagion, shared affective events, team affective climate) and the cognitive pathway (shared mental models, reflexivity, collective efficacy), this study provides a more nuanced account of how recovery processes operate within teams. These insights offer a view of recovery experience that incorporates both individual and collective dimensions, going beyond prior work that conceptualized social factors as mere antecedents or moderators of individual recovery.

Third, this research enriches the theoretical basis of recovery studies. By developing the concept of collective recovery, this paper extends established theories including the Effort-Recovery Model and Conservation of Resources Theory, to the collective level, demonstrating that these frameworks can accommodate socially embedded restoration processes. This integration offers a richer theoretical foundation for future research on collective recovery.

9.2 Limitations and Future Research

Despite its contributions, several limitations should be acknowledged and addressed in future research.

First, as a theory-building study, the conceptual model is exploratory and will be tested on a limited sample in a pilot phase. Generalizability across industries and cultural settings may be constrained until further validation is conducted in more diverse contexts.

Second, the study currently relies on self-reported survey measures, which are subject to common method bias and social desirability effects. While team-level aggregation and statistical controls

will be applied, future research could incorporate multi-source ratings or behavioral recovery indicators to enhance validity.

Third, although this study identifies key mediators in the affective and cognitive pathways, it does not yet test moderating conditions (e.g., team interdependence, team faultlines, organizational recovery climate) that may influence the effectiveness of collective recovery. These boundary conditions should be explored in future empirical studies.

Fourth, the interaction between the affective and cognitive pathways warrants explicit empirical attention. The preliminary framework proposes that these pathways are mutually reinforcing, but this assumption requires direct testing in future work. Longitudinal or experience-sampling designs would be particularly valuable for capturing how the pathways unfold and interact over time.

Finally, while this study provides conceptual clarity, the absence of established team-level recovery scales presents measurement challenges. This limitation is partially addressed through planned instrument adaptation and pilot testing, yet longitudinal validation and confirmatory approaches will be necessary for robust construct development. Future research should also explore whether comparing collective recovery across industries, cultural contexts, and work modalities (e.g., remote, hybrid, and in-person teams) yields meaningful variation in the pathways and outcomes proposed here.

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