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To cite this article: Paula Rossi, Kyösti Husso & Harri Jalonen (16 Jun 2026): Participatory systems mapping as relational (but not relational enough) method for evaluating complex social phenomena, Public Money & Management, DOI: [10.1080/09540962.2026.2687779](https://doi.org/10.1080/09540962.2026.2687779)

To link to this article: <https://doi.org/10.1080/09540962.2026.2687779>



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Published online: 16 Jun 2026.



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Participatory systems mapping as relational (but not relational enough) method for evaluating complex social phenomena

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IMPACT

Practitioners evaluating complex social phenomena such as the youth mental health crisis, segregation, or childhood poverty can benefit from taking a complexity-informed, participatory approach. This approach contributes to moving beyond linear and reductionist thinking by emphasizing the interconnected and systemic nature of public policy, program and project evaluation. This article provides practitioners with a better understanding of participatory systems mapping (PSM) as a tool for evaluation and enhances their informed use of it. When designing processes and using complexity-informed evaluation tools, it is important to stay aware of the situation and pay attention to relations, conflicts, and power imbalances in participatory settings. Participatory evaluation methods like PSM are valuable because they support inclusive, informed, and data-driven evaluations that highlight the relational aspects of complex social issues.

ABSTRACT

This article addresses participatory systems mapping (PSM) as a relational method for evaluating complex social phenomena by utilizing an illustrative case example related to young people's wellbeing in schools and at work. Theoretically grounded in complexity thinking and analysing the data produced in participatory workshops through the public service ecosystem (PSE) framework, the article contributes by foregrounding the systemic and relational understanding of the phenomena studied as a basis for public policy evaluation. Through participatory processes and the chosen analytical framework, the PSM method identifies and visualizes key leverage points, clusters of leverage points, and their relationships across the individual, organizational, and institutional spheres of the system. Targeting actions to these leverage points can improve young people's wellbeing. In practice, relational aspects such as situational awareness and flexibility, particularly concerning power dynamics and participant diversity, become important when using the PSM method.

KEYWORDS

Complexity; education; mental health; participatory systems mapping (PSM); public policy; relational evaluation; young people; working life

Introduction

Building on the relational turn in public services (Bartels & Turnbull, 2020), this study explores the value of the complexity-informed method of participatory systems mapping (PSM). First, we investigate using PSM to understand such wicked phenomena as young people's mental health and, second, as a basis for public policy evaluation. Complexity-informed methods have been shown to help public administration and management research and practice better address the relational nature of complex social issues (Castellani & Gerrits, 2024; French et al., 2023). For example, these approaches shift attention away from linear and reductionist understandings of evaluation toward more relational and systemic perspectives. In this article, we build on these perspectives by examining the theoretical and methodological implications of using PSM as a complexity-informed evaluation method (Gates et al., 2021). We argue that, by drawing on a phenomenon-based, relational, and systemic understanding of social complexity, PSM offers a promising addition to the methodological toolbox of public policy evaluation.

In this article, we integrate theoretical insights from complexity thinking, evaluation and (participatory) systems mapping to explore the relational and systemic aspects of

the PSM method through an illustrative case example of using PSM in a Finnish project called 'Mielihyvin Duunissa' ('Feeling Mentally Well at Work', hereafter: the MHD project). The MHD project (2023–2025) addressed the youth mental health crisis with a particular focus on supporting young people's mental health and wellbeing in educational institutions and workplaces. Our focus here is on illustrating the process of using the PSM method and drawing lessons from that.

Public administration and management research recognizes that wicked phenomena (Alford & Head, 2017) cross sectoral boundaries of different policy fields and defy a single-actor solution (Eriksson et al., 2020; Rossi, 2024). However, taking care of mental health problems is often highly individualized. To overcome this pitfall, we utilized the analytical framework of Public Service Ecosystems (PSEs) in our systems mapping of the MHD project. This was because, as Eriksson et al. (2020) and Rossi (2024; 2025) argued, shifting the focus from intra-organizational aspects and structures to multi-actor, multi-logic and multi-level PSEs is crucial when the goal is to better understand the relational dynamics of multiple actors, structures, and artefacts when tackling wicked phenomena.

In order to take the youth mental health crisis seriously, we looked at both the individual ('the micro'), as well as at the

organizational ('meso') and institutional ('macro') spheres of PSEs. The PSE literature generally refers to micro, meso and macro 'levels', but we chose to follow Greenwood et al. (2011) and use the word 'sphere' which better encapsulates the relational aspects and overcomes the unnecessary assumptions related to linearity and hierarchy. The advantage of using PSE as an analytical framework, as suggested by Trischler et al. (2023), is that it allows a researcher to reach beyond the dyadic relationship between, for example, a student and a teacher. Thus, the analytical PSE framework contributes to an in-depth systemic and relational understanding of the phenomenon under study. This multi-spheric view aligns with critiques of methodological individualism, which, as Jepperson and Meyer (2011) argue, conflates explanation with microfoundations and thereby misses the explanatory power of macro-level structures and institutionalized logics.

First, this article explores the theoretical backdrops of PSM as a complexity-informed evaluation method. Second, through the illustrative case example of the MHD project, we contribute to the practical understanding of the usage of the PSM method. The resulting systems map illustrates which factors were identified as impacting young people's mental health, how these factors are connected, and what kinds of clusters they formed when analysed through the PSE framework. This visualized understanding reveals key leverage points and their connections. Actions targeted to these leverage points at individual, organizational, and institutional spheres potentially lead to meaningful system-level impact. Finally, the article suggests that this in-depth, relational, systemic, and phenomenon-based understanding of the social complexities should be utilized as a basis for evaluation.

Theoretical backdrops

Relational aspects of complexity thinking and complex social systems

Moving away from linear thinking, and reflecting a broader epistemological shift toward understanding governance, policy, and institutional change through the lens of dynamic systems (see Urry, 2005), complexity thinking has emerged over the past few decades as a promising approach for examining the structural, organizational, and individual dimensions of social systems. Complexity thinking, more specifically, can be seen as a collection of concepts and methodologies for analysing the developments that emerge from the interactions among phenomena, actors, and events (Eppel & Rhodes, 2018; Jalonen, 2025). This perspective emphasizes the importance of solutions that extend beyond simple remedies to address underlying systemic issues. Therefore, complexity thinking can aid in understanding how the actions and interactions of individual actors lead to collective outcomes and how these outcomes, in turn, influence and are influenced by individual actions (Morçöl, 2023). In complex systems, interventions across multiple spheres of interaction are often essential, as minor changes at one level can lead to significant systemic effects. Concurrently, there are often conflicting expectations stemming from perceived institutional and societal demands, organizational needs, immediate requirements, and personal values (Mowles, 2022; Rossi et al., 2025).

Consequently, it can be argued that complexity-informed evaluations should consider the interdependencies between institutional (macro), organizational (meso), and individual (micro) spheres. The institutional sphere includes policies that reflect societal norms and values, institutional settings, and regulatory frameworks, indicating governmental goals and prohibitions, whereas in the organizational sphere, organizations adjust their behaviours to align with these policies, not only implementing them but also shaping them through their interpretations and actions (see Hill & Hupe, 2022). In the individual sphere, individuals bring to interaction their potentially conflicting values, aims, assumptions, goals, and practices that guide their actions and decisions, influencing and being influenced by the organizational and institutional sphere conditions (Rossi et al., 2025). Thus, individuals both create frameworks and incentives that guide actions as well as interpret and respond to these in their everyday life, thereby inevitably influencing (and being influenced by) overall policy outcomes (Oe & Yamaoka, 2022). The interactions between these spheres are neither strictly top-down nor bottom-up but involve a complex interplay of bidirectional influences, resulting in a continuous feedback loop that shapes and reshapes efforts across all spheres.

Theoretically, complex systems are characterized by several defining features that are crucial for comprehending their internal logic and dynamic behaviour. One such feature is the *emergent complex whole*, where repeated and contextually embedded interactions among individuals, events, and phenomena give rise to a cohesive and dynamic system. These systems consist of multiple interconnected components, whose continuous interplay produces outcomes that surpass the aggregate effect of individual parts (Teisman & Klijn, 2008). Moreover, this resonates with the view that higher-level institutional processes possess emergent causal properties that cannot be fully understood by aggregating individual-level actions alone (Jepperson & Meyer, 2011). In line with this, emergent entities are understood to possess causal powers of their own that arise from the structured relations between their parts rather than from the parts considered in isolation, and while these powers depend on the organization of lower-level components, they remain real and irreducible (Elder-Vass, 2010). The emergent whole, in turn, becomes the structure that enables, constrains, and shapes the behaviour of its components throughout the system. Such emergent properties cannot be reduced to or fully understood through the analysis of system components in isolation.

Furthermore, complex systems are invariably embedded within broader *nested systems*. They share components, actors, and structural features across multiple levels and exhibit self-similarity, where key characteristics recur throughout the system's hierarchical architecture (Tenbensel, 2018). This multilayered interconnectivity implies that actions and changes at one level resonate across others, necessitating coherence both vertically and horizontally within the system. A core structural feature of complex systems is the presence of *feedback loops*, which result from continuous and reciprocal interactions among system elements (van van Buuren & Gerrits, 2008). These loops generate patterns of influence over time: positive feedback reinforces behaviours or trends, while negative feedback stabilizes or counteracts change. Together, these

feedback mechanisms contribute to the system's dynamic adaptability.

Closely related to this is the system's capacity for *adaptation and coevolution*. Adaptation refers to internal changes triggered by shifts in the external environment, which in turn may be reshaped by the system's response (Rhodes & Dowling, 2018). This reciprocal process allows the system to maintain resilience while also modifying its own structure and functions in a coevolutionary relationship with its context. Additionally, complex systems often exhibit *nonlinearity*. Rather than proceeding in a predictable, linear fashion, system development is frequently marked by discontinuities, where small-scale triggers can lead to significant and sometimes unexpected transformations (Scott et al., 2018). These triggers (internal or external stimuli or events) can initiate cascading change processes that challenge traditional causal assumptions (Houtgraaf, 2022).

Another fundamental feature is *self-organization*, where systems spontaneously generate new forms of structure, coordination, or coherence without centralized control (Nederhand et al., 2016). Such dynamics enable systems to respond flexibly to emerging conditions and may lead to novel patterns of behaviour or governance outside formal mechanisms. Finally, complex systems are characterized by *path dependency*. Historical trajectories, initial conditions, and reinforcing mechanisms shape the system's current state and constrain its future development (Butler & Allen, 2008). These path-dependent processes underscore how past choices and institutional arrangements continue to influence current possibilities and directions of change.

Applications of complexity thinking in evaluation

Complexity sciences, however, do not form a unified field. Instead, they consist of multiple schools with different premises and methods (Mowles, 2014; Gates et al., 2021). Complexity sciences have been extensively applied in research and in the practice of evaluation. However, in evaluation research, they are often treated as single, homogeneous discipline, and evaluation scholars tend not to connect their ideas to a specific branch of complexity sciences (Mowles, 2014). This lack of specificity is also reflected in how evaluators understand complexity, often relying on implicit definitions that include multiple meanings (Barbrook-Johnson et al., 2020, p. 321). Furthermore, Gates et al. (2021) highlight many in the evaluation field continue to view complexity as a single concept, primarily framed as a transition from traditional, reductionist, and linear thinking.

To broaden the understanding of how complexity thinking is applied in the evaluation literature, Mowles (2014) explores how evaluation scholars interpret complexity and how the assumptions underlying their selected complexity frameworks influence their recommendations. Drawing on the work of Stacey (2011) and Allen (1998), he develops a five-step classification of the evolution of complexity thinking in evaluation research (Mowles, 2014, p. 165), identifying four core assumptions that, he argues, reflect the principles of classical physics and economics: 'a) a system with a boundary comprising interacting entities, b) that the entities themselves are homogenous, c) that the interactions between entities are assumed to be occurring

at an average rate and d) that the system is assumed to move towards equilibrium'. The first step of the classification consists of evaluation research that is grounded in these principles. As the classification moves from one step to the next, they gradually discard the core assumptions of classical physics and economics, adopting increasingly radical premises concerning the relational nature of systems (Mowles, 2014).

In this study, we locate PSM as a complexity-informed evaluation method aligned with the third step in Mowles's (2014) classification related to complex adaptive systems (CAS) theories. Based on Mowles's classification, this third step abandons the assumptions 'b) that the entities themselves are homogenous, c) that the interactions between entities are assumed to be occurring at an average rate and d) that the system is assumed to move towards equilibrium'. Similarly to complexity thinking in general, CAS does not constitute a single, unified framework (Wallis, 2008, pp. 1023–1024) and, consequently, drawing connections between the PSM method and complexity thinking, we refer particularly to the social complex adaptive systems (SCAS). SCAS is a framework that Keshavarz et al. (2010) describe as emphasizing social interaction, learning, and adaptation within social systems.

According to the SCAS framework, all systems are inherently social and relational in nature, posing challenges for evaluation practices (Keshavarz et al., 2010). The importance of relationality is also emphasized by Mowles (2014), who introduces a radical interpretation of complexity in evaluation research at the fourth stage of his classification. This approach builds on Stacey's (2011) theory of complex responsive processes of relating (CRPR), which rejects the notion of social life as a system moving toward equilibrium or forming a unified whole. CRPR theorization views social life as a locally constructed, continuously evolving process, where global patterns emerge from the interplay of countless individual interactions. From this perspective, evaluation itself is not external to social processes but is understood as an interactive, context-bound activity embedded within them (Mowles, 2014).

In addition, in the context of performance audits, Van der Knaap (2011) highlights the need for evaluation to be responsive, that is, sensitive to changing environments and stakeholder perspectives. Rather than treating local contexts as implementation sites for pre-defined evaluation models, they should be approached as dynamic sites of knowledge production, where systemic properties emerge through situated meaning-making. Therefore, by building on the ideas of SCAS and CRPR to understand PSM as a complexity-informed, relational evaluation method, we argue that evaluation practices should be grounded in local interactions, not merely as sources of data but as formative processes where meaning, relevance, and legitimacy are negotiated. This localized grounding is essential for interpreting and responding to complex global patterns and dynamics of interaction in a context-sensitive and socially embedded manner.

Systems mapping as a tool for evaluating complex social phenomena

Building on the assumptions of CAS, systems mapping can be seen as an approach for understanding and modelling

complex adaptive systems, that is, visualizing the system's elements and relationships. According to Barbrook-Johnson and Penn (2022), systems maps are visual representations consisting of nodes (illustrated as boxes) and edges (connections between nodes). Collectively, these form a network, a set of interconnected elements that reflect connections within the system. There are several methodological approaches to mapping systems and their characteristics, such as Bayesian belief networks, theory of change maps, and fuzzy cognitive mapping. As one such methodological approach, PSM stakeholders collaboratively identify and visualize the structures and causal relations underlying complex issues (Barbrook-Johnson & Penn, 2022).

PSM can therefore be located within the broader family of systemic approaches, where a distinction is commonly drawn between analytical traditions of systems modelling and more participatory and reflexive approaches, such as critical systems thinking and systemic design. These latter approaches stress that complex societal problems cannot be sufficiently understood through technical modelling alone. Rather, they require processes that enable diverse actors to jointly define problems, reflect on system boundaries, and explore possible points of intervention (for example Jalonen & Uusikylä, 2025). This line of thinking resonates with critical systems theory, which approaches social systems through the contradictions and institutional tensions that shape them (Fischer-Lescano, 2011). From this perspective, social structures are not seen as coherent wholes but as configurations formed through competing rationalities and practices. Accordingly, systemic analysis cannot be confined to describing the structure of a system. Rather, it must also seek to reveal the tensions embedded in it and the dynamics of change that emerge from these tensions.

Zivkovic (2018), for example, argues that systemic approaches to complex societal challenges require collaborative platforms through which actors can build a shared understanding of system dynamics and co-ordinate their actions across institutional boundaries. Seen from this perspective, PSM can be understood as a methodological tool that supports such collective inquiry into complex systems. Rather than producing a single objective representation of a system, PSM provides a setting in which different actors can jointly examine the relationships between practices, institutions, and governing logics, while also identifying the tensions that structure these relationships. The mapping process therefore can function not only as a data collection method but also as an inherently relational process through which participants negotiate meanings, identify leverage points, and reflect on possible actions. A distinctive feature of PSM is its strong emphasis on stakeholder participation in both the construction and analysis of the system maps.

As a result, the systems mapping process and the visualizations produced can serve multiple purposes, one being the evaluation of complex social phenomena (Barbrook-Johnson & Penn, 2021). In this study, we understand this as a relational contribution of PSM; rather than aiming for an objective model of the system, the PSM method contributes to, and builds on a phenomenon-based understanding and emphasizes subjectivity and participation as its integral aspects. Demonstrating the adaptability of the method, PSM has been applied to a variety of contexts such as sustainable consumption

(Sedlacko et al., 2014), and tourism policy (Wu et al., 2021). To support the use of the method, Penn and Barbrook-Johnson (2019) have produced a practical guide outlining the step-by-step implementation and key phases of the PSM process, including steps related to preparation, map construction, analysis, and validation.

Building on the theoretical backdrops presented above, we suggest that the PSM method points towards a radically relational approach of evaluation. This approach emphasizes the importance of understanding and utilizing the relational and systemic aspects of the evaluated phenomenon, building on a knowledge that is created in participatory processes together with diverse stakeholders, thereby challenging the traditional assumptions of objectivity and linear causality of systems thinking.

Illustrative case study of PSM application (the MHD project)

In our investigation of the MHD (2023–2025) project, PSM was used as a method for understanding the phenomenon of young people's mental health and wellbeing in schools and workplaces. An illustrative case study approach was used to better understand the systemic and relational aspects of using PSM as a complexity-informed method (Flyvbjerg, 2006). This approach also provided us with an opportunity to reflect on the choices made related to the use of PSM to better understand its possibilities and pitfalls as an evaluation method.

The MHD project was aimed particularly at understanding what educational institutions and workplaces could, and should, do to support young people's mental health during the transition from education to working life. The project was part of the Sustainable Growth Program for Finland, coordinated by the Ministry of Social Affairs and Health and funded by the EU Recovery Plan NextGenerationEU Recovery and Resilience Facility (RRF) instrument. It was led by a third sector organization offering employment and rehabilitation services, housing, and youth services. Eight organizations were involved: five were third sector organizations with core operations related to mental health and wellbeing, and three were higher education institutions. At the core, and cutting across all the project's operations, was youth engagement. Instead of focusing on young people's mental health challenges or mental health services provision, the aim of the MHD project was to increase understanding of the responsibilities and possibilities of workplaces and schools in supporting the mental wellbeing of their employees and students. This phenomenon-driven, inclusive, and participatory approach of the MHD project is also symptomatic of the choice of using the PSM method.

During the MHD project, we took part in designing, implementing, evaluating, and reflecting on the project's overall implementation through diverse sets of data—see Table 1. The process was largely based on relational reflections between the researcher team, revolving around the use of the PSM method, and later expanded beyond the researcher team to include actors from the project organizations, consortium members, the advisory group, the project funder, and other key stakeholders. Although these conversations related to the use and implications of the PSM method were not systematically documented, they are considered essential elements on which the choices made during the process have been built upon.

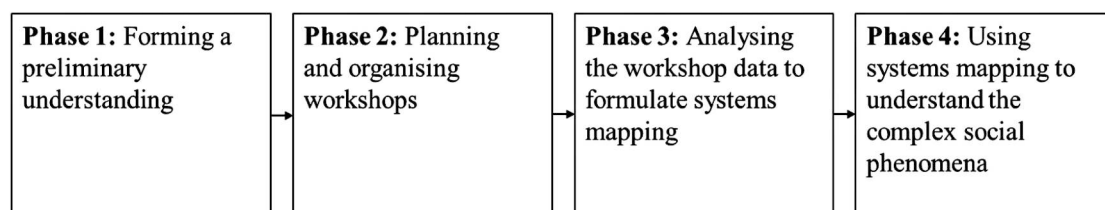
Table 1. Summary of the data sets.

Data	Description and use of data
Preliminary interviews (11 interviews, 11 hours)	The interviews explored the MHD project organization actors' initial views on the phenomenon and project activities of the MHD project organizations. The outcome of the interviews included notes and preliminary systems mapping.
Validating discussions about the choices regarding evaluation process with project organization actors	The discussions were used to clarify and validate the evaluation method. Evaluation methods and system models were refined based on these discussions.
PSM workshops (3 workshops, 9 hours) and video recordings of sessions	Workshops with target groups aimed at identifying key factors of the phenomenon for systems mapping. The workshops were video recorded and photographed. The recordings were used to support reflection on the method and ensure a data-driven approach to analysis.
System mapping based on workshops (three drafts)	Key factors of the phenomenon were identified in the workshops, and three versions of the systems mapping were developed by the researcher team.
Continuous discussions and reflections on the process within the researcher team	Reflection among the researchers was used to critically examine the process and adapt the evaluation method.
Written materials and documents for the evaluation	Meeting notes and other process documentation were written and utilized to guide the evaluation implementation and project plan.
Policy briefs (2 publications)	Policy recommendations for decision-makers, government officials, and community actors were produced based on the evaluation process and its end-product systems mapping.

Evaluating how programs, policies, or projects contribute to solving the problems they were designed to address—such as the youth mental health crisis—is traditionally viewed as the final phase of the policy cycle. In this case, however, and aligned with the principles of complexity thinking, our approach can be described as a phenomenon-centred, bottom-up, iterative, dynamic, participatory, and relational process aimed at better understanding the systemic and relational aspects of the phenomenon in focus. This understanding, illustrated in the output of the process as systems mapping, can then inform us what implications this would and should have for the programs, policies and processes aimed at addressing the youth mental health crisis.

Using PSM as a tool for understanding young people's wellbeing in schools and workplaces

Next, we explore and reflect on the four-phase process of using PSM in the MHD project (Figure 1).

**Figure 1.** Using PSM in the MHD project.

Phase 1—Forming a preliminary understanding

In the MHD project, the use of the PSM method consisted of four main phases. In the first phase, the researcher team conducted interviews with key actors from project organizations. Based on these interviews, a preliminary understanding of the phenomenon and the key goals of the project were created. Grounded in these discussions, the team produced the first version of the systems mapping.

Phase 2—Planning and organizing workshops

Based on this preliminary understanding of the phenomenon formed in the first phase, three workshops following the PSM method were held. Before the workshops took place, the research team devoted considerable effort to formulating the questions around which the workshops would be organized. This prompted extensive discussion, as the questions needed to align with the PSM method and the analytical framework of PSEs while also guiding the discussions, positioning the participants in relation to the topic, and shaping the outcomes of the workshops. As a result, the phenomenon was foregrounded, and the wording of each workshop session question was adjusted according to the participants' perspectives. The core question was:

What things increase (+) or decrease (-) young people's wellbeing in school or work?

The participants in the first workshop were young people; the second workshop was organized with representatives of educational institutions; the third workshop was for representatives of workplaces. This choice of separating stakeholders into different workshops can be viewed as a way to govern the potential power asymmetries between participant groups. That is, bringing students and teachers or employers and young employees to the same discussions might have limited free expression of ideas and experiences. Each of these workshops lasted for three hours and followed a similar, four-step process. It should be noted, however, that these steps had fuzzy boundaries and that they overlapped. When planning and organizing workshops following the PSM method, therefore, the emphasis should not be placed on following a strict format but, rather, on the relational aspects and facilitating joint and inclusive conversations.

First step: After a brief introduction to the MHD project, the purpose of the workshop, and the PSM method, participants were asked to reflect on their own perspectives and experiences to brainstorm factors related to young people's wellbeing in schools and workplaces. These included things, words, or sentences written on sticky notes that, in their view, could either increase or decrease young people's

wellbeing in school and at work. The questions were as follows:

- First workshop (young people): What things increase (+) or decrease (-) your wellbeing in school or work?
- Second workshop (teachers in vocational education institutions): What things increase (+) or decrease (-) your possibilities to support young people's wellbeing in your everyday work?
- Third workshop (representatives of workplaces that recruit and employ young people): What things increase (+) or decrease (-) your possibilities to support young people's wellbeing in your everyday work?

Second step: After individual brainstorming of these factors, participants were asked, from their own perspective, to briefly tell the group what they felt were the key insights related to the topic. This phase rapidly turned into a conversation where participants shared their insights and complemented each other's views. Lively workshop conversations can indicate that a sufficient level of trust, enabling participants to express themselves and their experiences freely, has been achieved. During these conversations, two members of the research team facilitating the workshops made notes to identify and record additional factors related to the phenomenon.

Third step: The sticky notes were collected onto a large table, and participants were instructed to take a break. During this break, one of the facilitators made a preliminary suggestion about how the factors written on sticky notes could form groupings. With instructions from the facilitators, the participants then continued grouping the factors into distinct categories by moving the sticky notes that they felt had similarities closer to one another.

Fourth step: After the third step, a broader group discussion was held, initiating the final phase of the workshops. Additional factors and new groupings were made as participants reflected further and brought new insights into discussion. If the guidelines of the PSM method were being closely followed, this fourth step would have included a participatory mapping process—'mapping with' the participants, in order to connect the different factors into a single, relational visualization. However, during the first workshop the facilitators realized that the process of 'mapping with' could not be conducted and, consequently, the analysis process described in phase 3 was a process of 'mapping of'.

This was due to several reasons. For example, during the workshops, digital platforms were not used to record individual factors in a digital format. Consequently, it was not possible to digitally 'connect the dots' and draw the relations between the identified factors together with the workshop participants. To conduct the analysis process with diverse and extensive data sets, and without the help of digital tools, was therefore assessed to be too complicated and time-consuming. In addition, as the discussions were lively and workshop time was limited, facilitators did not see any value in disrupting the discussions to properly conduct the 'mapping with' process.

Another crucial reason to disregard the participatory 'mapping with' process, along with contextual factors and time restrictions, was competence-based. To be able to conduct a coherent and informative visualization of the relationships between the factors would require, first,

competence from the facilitators to express the reasoning behind and instructions of how to proceed. Second, participating in a discussion from your own perspective is, indeed, easier than being asked to follow a procedure, technique or tool for evaluation. We felt that it was not appropriate to require this kind of competence from the workshop participants, especially from the young people who participated in the first workshop.

Phase 3—Analysing the workshop data to formulate systems mapping

After the workshops, and in the beginning of phase 3, the physical sticky notes and the preliminary groupings made in each workshop (photographed at the end of each workshop) were digitalized by the researcher team members by using an online platform Miro. This collection of factors served, then, as the starting point for the analysis process. After digitalizing the factors, the researcher team removed duplicates and incorporated the factors from each workshop into the same Miro board.

In practice, these factors were first grouped according to similarities in meaning to reduce overlaps and to adjust wordings. Second, the identified factors were thematically grouped into leverage points that were affecting the wellbeing of young people in schools and at work. Third, these leverage points were then clustered based on thematic similarities. All thematically clustered leverage points were then placed within the final systems map according to their relation to the individual, organizational, or institutional spheres of the analytical PSE framework, as well as their connections to other clustered leverage points. During the analysis, the positioning and relational connections made were strictly data-driven and constructed based on workshop discussions.

When forming the systems mapping, the analytical framework of PSE was utilized to organize the identified factors, leverage points and the clusters of leverage points, as well as their relations across individual, organizational, and institutional spheres. The analysis was conducted as a data-driven process, meaning, for example, that when positioning the factors and their relations into the individual, organizational and institutional spheres, the researchers relied on the original wording used by participants, as well as the connections drawn, verbally, in participatory workshop sessions.

Although conducted as 'mapping of' process, instead of including workshop participants, the analysis was completely participatory. For example, the researchers discussed wordings to be used, how the factors would be positioned and thematically grouped, what to name the leverage points and their clusters, how the PSE analytical framework would be used and what colours would be used for the visualizations. Finally, in line with the project's participatory approach, discussions with key actors from MHD project organizations, project consortium members and advisory group members were held to validate the choices made related to the 'mapping of' the phenomenon and the systems mapping produced as the outcome of this analysis. Due to the nature of the project's target group and implementation, the young people who participated in the PSM workshop were unable to participate in validating the systems mapping. Therefore, the validation workshops were not arranged with any of the original workshop participants.

Phase 4—Using systems mapping to understand the systemic and relational nature of complex social phenomena

Figure 2 shows the systemic and relational phenomenon of young people's wellbeing in schools and workplaces (see https://miro.com/app/board/uXjVIQsRbzU=?share_link_id=503812904609). To provide further clarification, the clustered leverage points identified in the analysis are summarized in Table 2.

Our systems mapping process and its visualization were used as the basis for two policy briefs about the MHD project. Both policy briefs aimed to enhance stakeholders' understanding of where to focus operations and decision-making, and how to generate meaningful impact when addressing wicked issues related to youth mental health. The first policy brief focused on the application of the PSM method and highlighted the importance of a systemic, multi-level understanding of complex social phenomena. Its key findings and recommendations were tailored to three target groups: community-level actors, public sector officials, and political decision-makers. The second policy brief identified the key leverage points within the system map as the basis for impactful system-level interventions.

Reflections of relationality in applying the PSM method

The MHD case points towards specific relational limitations that need to be carefully considered when using PSM as an evaluation method. Importantly, in contrast to the 'mapping

with' process, the 'mapping of' process of the analysis entails relational limitations to be acknowledged. During the 'mapping of' process, the meanings negotiated with the participants in the workshops were analysed by the research team, and a structured systems mapping was formed without the continued involvement of the original participants. This translation process inevitably requires interpretive choices related to classification, abstraction, and the representation of relationships between the identified factors. Therefore, although the PSM method is designed to emphasize participation, the analysis phase, when conducted as a 'mapping of' process, can recentralize epistemic power in the hands of the evaluators. When this happens, the produced systems mapping not only reflects the relational dynamics of the phenomenon under examination but also incorporates the relational configurations of the evaluation process itself. In other words, it becomes crucial to reflect and acknowledge whose voices are amplified, whose perspectives are simplified, and whose viewpoints may be omitted entirely during the analysis process.

In the MHD case, these potential limitations were considered when formulating the systems mapping, first, with a strict data-driven analysis of the workshop data to ensure its validity. In practice, no factors were incorporated into the mapping that were not based on the workshop discussions. An inductive analytical expertise is crucial in the 'mapping of' process. This helps ensure the validity of the systems mapping, as well as overcoming potential pitfalls related to questions of whose voices are considered and whose are disregarded. Second, the usage of the PSE as an analytical framework allowed the relations between

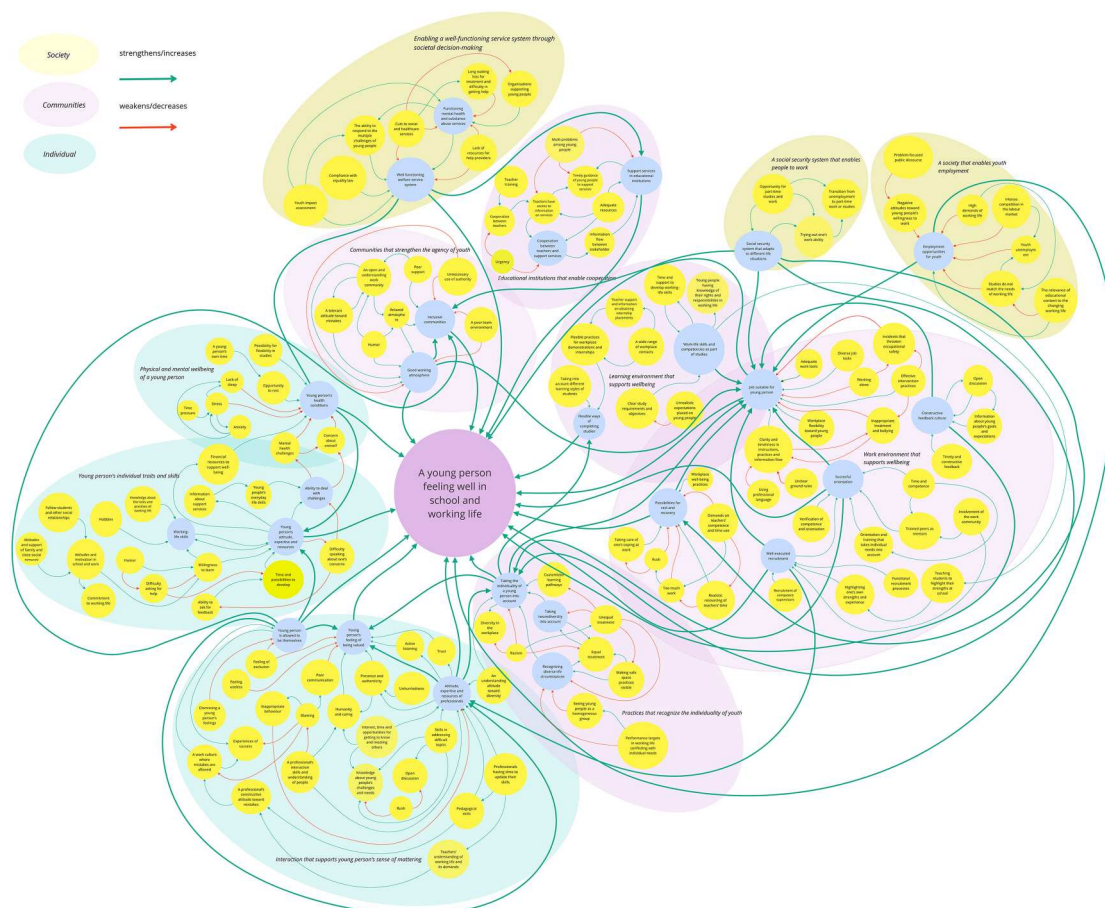


Figure 2. Systems mapping of young people's wellbeing in schools and at work.

Table 2. Clustered leverage points related to young people's wellbeing in schools and working life at individual, organizational, and institutional spheres of PSE.

PSE sphere	Clusters of leverage points	Leverage points
Institutional sphere	Enabling a well-functioning service system through societal decision-making	Well-functioning welfare service system
	Social security system that enables people to work	Functioning mental health and substance abuse services
	A society that enables youth employment	Social security system that adapts to different life situations
	Communities that strengthen the agency of youth	Employment opportunities for young people
		Inclusive communities
Organizational sphere	Educational institutions that enable co-operation	Good working atmosphere
	Learning environment that supports wellbeing	Support services in educational institutions
	Work environment that supports wellbeing	Co-operation between teachers and support services
		Flexible ways of completing studies
		Work-life skills and competencies as part of studies
Individual sphere	Interaction that supports a young person's sense of mattering	Job suitable for young people
	Young person's individual traits and skills	Possibilities for rest and recovery
		Well-executed recruitment
		Successful orientation
		Constructive feedback culture
	Practices that recognize the individuality of youth	Taking the individuality of a young person into account
		Recognizing diverse life circumstances
		Taking neurodiversity into account
		Attitude, expertise, and resources of professionals
		Young person's feeling of being valued
		Young person is allowed to be themselves
		Young person's attitude, expertise, and resources
		Ability to deal with challenges
		Work-life readiness
		Time and possibilities to develop
	Physical and mental wellbeing of a young person	Young person's health conditions

the leverage points to be interpreted during the analysis. Therefore, PSM can be seen as a relational method for generating interaction, despite not maintaining shared epistemic agency throughout the process.

These empirical observations support our argument that developing PSM as a complexity-informed evaluation method requires attention not only to relational aspects in knowledge generation but also to acknowledging the relationality and the consequences of analytical choices made during the analysis process. In practical terms, incorporating the macro-level dynamics of the studied phenomenon into the systems mapping process would require knowledge to be co-produced through participatory workshops involving relevant stakeholder groups. In this case, such groups could have included politicians and representatives of the service systems responsible for education, employment, and welfare services.

Discussion

This section integrates the lessons learned from the illustrative case example with our theoretical backdrops to provide theoretical, methodological, and practical implications for utilizing and developing PSM as a relational, complexity-informed method for evaluating complex social phenomena.

Theoretical implications for evaluating complex social phenomena

Aligned with the empirical notions of using the PSM method in our illustrative case, we call for an increased relational and systemic understanding. Therefore, we must turn our attention to the local level interactions and patterns of relating as well as to relations in and between the individual, organizational, and institutional spheres of the complex social phenomenon under study.

In designing and implementing an evaluation process, it is crucial to address the underlying theoretical assumptions on

which the chosen evaluation method is based and to further identify and analyse the dynamics in the local-level interaction. This is important not only to better understand the phenomenon, process, project, or program that is being evaluated but also to design the structures and practices of the evaluation process itself. Drawing theoretically from Stacey's (2011) CRPR theory and our empirical explorations, we suggest that the PSM method has the ability to recognize the aspects of complex social phenomena such as local-level interactions, power relations, and trust, therefore providing a robust starting point for complexity-informed evaluation processes and practices.

Local-level interactions in complexity-informed evaluation

Reflecting on what we learned from the PSM process, we suggest that it is important to deliberately create spaces for local interaction. Here, the PSM method holds particular value in its ability to foster interactions and enable stakeholders to engage meaningfully in processes of knowledge creation. In addition, the PSM method acknowledges that researchers and evaluators are not external observers of the process, but active participants in it—interacting and co-constructing understanding of the phenomenon together with other stakeholders involved.

Drawing attention theoretically to these local-level interactions, we find the PSM method well-aligned with Stacey's (2011) theory of CRPR. As a result, we suggest that in developing PSM as a complexity-informed evaluation method, the interrelations between the PSM method and CRPR should be considerably strengthened to avoid uncertainty regarding the complexity frameworks, their underlying assumptions, and the practical implications these have for the chosen evaluation method. Indeed, as previously noted in this article, complexity thinking is a fragmented field of discourse, including a large variety of sometimes opposing perspectives. Therefore, careful reflections about the assumptions and theoretical ideas

behind complexity-informed evaluation methods are critically important.

One of the strengths of PSM lies in its ability to produce usable visualizations of complex phenomena. It also fits well with visualizing social complex adaptive systems (SCAS), allowing one to represent the social dimensions of systems. However, Mowles (2014) highlights an important challenge in applying systems thinking to evaluation research. Many approaches grounded in systems thinking are based on an underlying assumption that systems form a coherent whole of interacting entities—an assumption originally drawn from computer-based modelling. In contrast, relying on the ideas of CRPR, Mowles (2014) argues that local-level interactions do not necessarily generate a system outside themselves but create global patterns in irregular and emergent ways. If not approached properly, this can present a major challenge for the PSM method drawing from systems thinking analogies, while also underscoring the strengths of PSM as a participatory approach.

Acknowledging power relations in complexity-informed evaluation

One practical challenge we encountered with utilizing the PSM method was the limited scholarly—both methodological and theoretical—discussion related to the dynamics of interaction, and the impact these dynamics pose on the design and practice of conducting a complexity-informed evaluation with the PSM method. Therefore, when using the PSM method, it should be explicitly considered whose perspectives shape the system representation and whose voices may remain absent, and how power asymmetries are taken into account.

The PSM method enables interaction and dialogue among stakeholders and facilitates the visualization of the nodes, edges, and networks that constitute complex (social) adaptive systems. However, through the CRPR approach, Stacey (2011) highlights that the complexity of social systems originates from the unpredictable local-level interaction and patterns of relating. On this basis, local-level interactions influence and are influenced by global-level emergent patterns of relating (Greenwood et al., 2011; Rossi, 2021; Stacey, 2011). Therefore, the power relations within these interaction processes are of importance (Stacey, 2011), and not merely obstacles but, importantly, structural features of the interaction processes. The relations that constitute social systems are not neutral but generate causal powers that shape the distribution of authority among participants (Elder-Vass, 2010). This implies that power asymmetries are embedded in the relational structure of the system and influence whose contributions become consequential in the construction of shared understanding. As Alford and Head (2017) emphasize, particularly wicked problems often involve deep stakeholder divergence, contested knowledge claims, and power asymmetries that limit the effectiveness of top-down solutions. In such situations, attention must shift from seeking definitive answers to cultivating conditions for incremental learning and negotiated understanding in contexts where power asymmetries are taken seriously.

If PSM is used following the underlying theoretical ideas of Complex Adaptive Systems (CAS) framing, there is a potential risk that these dynamics of interaction and power might be

overlooked. This may then lead the evaluation process to reproduce existing power structures rather than critically acknowledging them and recognizing their potential influence on the phenomenon under evaluation. It is therefore essential to practice critical reflexivity towards the dynamics of interaction and to address power relations. From this perspective, CRPR provides an important standing point to the relationality of PSM method by supporting a more comprehensive understanding of interaction, enabling attention to power, inclusion, exclusion, and identity within complex systems. Similarly, critical systems thinking (Fischer-Lescano, 2011) emphasizes the need for reflexivity regarding system boundaries and stakeholder inclusion in processes of systemic inquiry.

Trust as an enabler of emergent relating in complexity-informed evaluation

The MHD project showed us that it is crucial to ensure proper handling of potential power imbalances in workshop design. This is because these context-sensitive dynamics of interaction might hinder the participants' ability to freely engage in conversations especially when sensitive topics and previous experiences are expressed. In addition, it is important to recognize the role and impact of facilitators/evaluators when creating joint understanding of the phenomenon in focus.

To foster trust among the participating actors, facilitators of the participatory processes need sensitivity and skills to foster open dialogue. Importantly, trust emerges as a fundamental precondition for meaningful interaction and co-construction of understanding. It therefore enables interaction under conditions of uncertainty by allowing individuals to engage with one another without complete information, making room for emergent, collective sensemaking. In participatory evaluation settings, this trust is not only interpersonal but systemic: it enables stakeholders to take the epistemic risk of engaging openly with others and with the process itself (Fulmer & Gelfand, 2012). Trust, therefore, becomes the invisible infrastructure that supports self-organization and catalyzes agency.

From a CRPR perspective (Stacey, 2011), trust is not a static precondition but is constantly (re)produced within local-level interactions. When power relations are acknowledged and reflexively addressed, trust can help dissolve rigid hierarchies and open space for inclusive participation. In doing so, trust enables adaptive relationality, allowing evaluation processes to move beyond technical assessments toward context-sensitive sensemaking co-produced by diverse actors responding to shared complexity. In the context of wicked problems, trust plays a dual role: it facilitates emergent learning and helps mitigate the paralysis that can result from intractability and stakeholder fragmentation. Progress with wicked problems requires rethinking what success means—from solutionism to the cultivation of reflexive and experimental practices that can cope with uncertainty, not eliminate it (Daviter, 2017).

Practical implications for evaluating complex social phenomena

Evaluating complex social phenomena requires methods that link systemic analysis with participatory processes capable of

mobilizing co-ordinated action among heterogeneous actors (Zivkovic, 2018). First, an important practical implication is the need for a strong situational and contextual awareness when designing and implementing PSM processes. These, in turn, result in taking into account the power relations and trust-building crucial for participatory approaches. In our illustrative case we ended up differentiating the participants with similar backgrounds into their own workshops. That is, young people had their own workshop session, and so did teachers and representatives of workplaces who were employing young people. At first, however, this was done for practical reasons, but it was quickly noticed that the choice was justified, especially due to the sensitive issues that were brought to the fore in the discussions with the young people. Bringing students and teachers, or young employees and employers, into the same interactional setting can create power asymmetries and undermine trust, thereby influencing the relational dynamics of local-level interaction. Second, we believe that a standardized or overly instrumental use of any method risks oversimplifying the complexities of social systems and fails to account for participants' differing needs, competences, knowledge, and skills. Consequently, the application of the PSM method requires flexibility and situational awareness throughout its various phases.

Building on these first two practical implications, we further suggest that, owing to differences in participants' competences and the demanding nature of the PSM process, the analytical phase should primarily be conducted as a 'mapping of' the evaluated phenomenon. During the MHD project's systems mapping process, it became evident that conducting a systematic, reliable, and well-informed analysis of the data generated through participatory workshops required substantial time, expertise, and methodological knowledge, as well as an understanding of the relationship between the method and complexity thinking, in order to grasp the dynamics of the complex social phenomenon under study.

The value of a relational approach does not lie in an evaluation process conducted jointly with participants from start to finish. Rather, the value of relationality manifests in an inclusive, well-informed, and data-driven evaluation process that seeks to uncover the relational dimensions of complex social phenomena.

Conclusions

As Sanderson (2000) argued, there remains a need for research that sharpens the theoretical foundations of policy evaluation and incorporates spatial and temporal dimensions into complexity-informed evaluation methods. In this respect, the PSM method represents an important evaluative tool, particularly because it foregrounds the relational and systemic nature of the phenomenon under study. However, it is important to stress that an in-depth understanding of the interrelated factors related to young people's mental health issues, here illustrated through the systems mapping, merely provides a starting point for evaluation. On the basis of this understanding, the evaluation of a project, process, or program can then be undertaken. By drawing on a refined exploration of the feedback loops identified in the systems mapping, for example, evaluators can assess whether the operations of a

project are directed towards leverage points capable of enhancing young people's wellbeing in meaningful and impactful ways.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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