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Futures participation as anticipatory practice — what do futures workshops do?

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Abstract

Futures workshop is a participatory futures research method for producing views on futures and facilitating transformation and empowerment. Since different workshop methods are generally considered to have many advantages, they are widely used in various futures contexts. However, there is little knowledge on how futures participation entails empowerment for thinking and acting on futures. This paper studies participants' futures thinking and action in relation to their workshop experience. As psychological constructs for engaging with futures, the concepts of human agency and futures consciousness are used for the analysis. The study examines two futures workshops organized in Finland for farmers and stakeholders in the agricultural sector using the futures consciousness scale pre-post survey, an open-ended follow-up survey, and thematic interviews. The results of the study show that although there was no statistically significant change in futures consciousness, the workshop experience is absorbed into participants' daily reality, provoking their uses of futures. By analyzing quantitative and qualitative data, it is thus concluded that the ways in which futures participation empowers futures thinking and action are not, and should not be held, evident. Therefore, it is proposed that regarding their empowerment assumptions, participatory futures methods should perform deeper self-consideration as anticipatory practice.

Keywords Futures workshop, Participation, Futures thinking, Agency, Futures consciousness, Empowerment

Introduction

Futures workshop is a widely used participatory futures method for producing and communicating views and ideas on futures [32]. Originally developed to encourage people to take part in the creation of their futures [27], it nowadays has various purposes such as facilitating discussions on futures [18], enhancing learning [49], spurring creativity [10], producing alternative future images [26], generating innovations [23], and engaging with uncertainty [41]. In Jennifer Gidley's [20] typology for future studies, futures workshops are placed on participatory futures that seeks for transformation through engagement and participation. The aim is often to

enable sustainable futures (e.g., [4, 13, 14, 16, 59]) with an emphasis on assisting decision-making or empowering individuals [45]. Elise Boulding, who ran a series of visioning workshops for peace building with Warren Ziegler in the 1980s [20], was convinced that participation in workshop has a "psychologically empowering effect" ([10] p. 36).

However, there is a lack of knowledge on how futures participation entails empowerment for thinking and acting on futures. Research on futures-oriented workshops is scattered among all the various types and protocols, and the methodological focus remains as secondary ambition. In many studies, the overall objective is to evaluate the applicability of futures workshop within different contexts [8, 14, 15, 21, 22, 29, 58] or to investigate different tools and features utilized [12, 28, 63, 64]. Although the range for assessing workshop processes is wide, varying from questionnaires and feedback forms to participatory observation (see

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e.g. [13, 14, 21, 35, 45, 50, 57]), detailed and systematic examinations on underlying empowerment assumptions are rare.

From the perspective of democracy and inclusivity, futures workshops have an essential function as deliberative spaces for different futures thinking to be collided, contested, and created. Therefore, engaging to the ideological justification of futures participation (see [62] p. 6), I believe that collective sharing and genuine, open conversation about futures in participatory settings are important and valuable in itself. However, to reason why to employ futures participation from other than ideological basis requires more understanding of how the processes operate.

This paper examines how futures workshop contributes to participants' futures thinking and action. To study workshop experience from the perspective of empowering futures orientation, I use the social cognitive theory (SCT) of agency [7, 6] and the futures consciousness (FC) framework [1, 2]. As psychological capacities for engaging with futures, the concepts of agency and futures consciousness, offer a comprehensive framework to describe how futures are used by participants. The study follows the propositions of Nygrén [45], Lalot et al. [31], and Ahvenharju et al. [1] to test the futures consciousness scale for monitoring the impact of futures interventions, such as futures workshops.

The paper proceeds as follows. In the theory section, I look into futures thinking and action as an anticipatory commitment and elaborate on the SCT of agency and the futures consciousness framework. I then present the experimental research setting and methodology of two futures workshops organized in 2017 in Finland with a futures consciousness scale pre-post survey, an open-ended follow-up survey, and thematic interviews. The workshops were organized to facilitate discussion and imagination on climate-wise farming and therefore especially farmers were invited to join. Thus, this study contributes to the methodological considerations of futures thinking and action in participatory futures settings but also provides new insight on how farmers use futures, particularly regarding climate change.

Theoretical framework

In this section, I consider futures thinking and action intimately linked to participation, as engagement to take part in futures, both individually and collectively. Furthermore, I explain the analytical framework for studying futures thinking and action with social cognitive theory of agency [7, 6] and the futures consciousness framework [1, 2].

Participation, futures thinking, and action

To understand the co-constitution of participation, futures thinking, and action, I take Eleonora Masini's [36] notions of futures thinking as visioning as the starting point. For Masini [36], futures thinking is "learning to live with the future" (p. 1166) and to internalize values in an existential way. It is a "conscious exercise of will and an act of responsibility" ([36] p. 1166). According to these notions, futures thinking is engagement to attentively and constantly reframe futures in the present. Also, Rubin [51] makes an important emphasis on the ethical consideration of free will bound to responsibility and action in her definition of proactivity. Conscious actions with the freedom to choose our reactions are based on the belief that we have possibilities to make a difference: future is not something happening "out there" without any personal contribution [51]. So, the role of futures thinking is to anticipate and build futures directions that are considered best [36]. For anticipation, thinking and acting are both constitutive: anticipatory behavior takes actions according to projections about futures states [48]. By engaging in anticipatory activities, futures are used, that is, instrumentalized in many ways and for many purposes [39]. Futures thinking entails embracing the creative novelty of the present [39] as a source of futures that, in principle, are stochastic [36].

Although Masini [36] talks to futurists in her paper, originally published in 1999, stating the importance of futures thinking as visions, the message of the responsibility of thinking and acting for futures is topical for everyone in the present world. Futures are thus very much about engagement and participation. Participation to think, imagine, describe, create, and act for futures, individually and collectively, is both an endless chance and an ethical obligation. As futures thinking and action are yet a privilege not accessible to all and everywhere [11], the meaning of deliberative and decolonizing futures through participation cannot be overly emphasized. Participation enables to democratize long-term thinking and the methods and tools for producing futures [11]. As well as everyone should have possibilities to take part in anticipation, participation is integral to foresight [43, 62]. Participatory futures research stems from collaborative imagination and the creation of futures [46]. Vivid futures imaginaries and visioning require attentive listening for "the capturers of seeds of change" by including voices of outsiders, such as children, and going beyond the limits of predominant logics ([36] p. 1163, [37]).

In this study, I examine futures participation by focusing on the experiences of the participants. As psychological constructs characterized by the aspects of choice, ethical considerations, and futures engagement, the Social Cognitive Theory of agency [6] and the futures

Table 1 Features of agency according to Bandura [6]

Features of agency	Definition
Temporal features	
Intentionality	Proactively committing to bring about intentions, i.e., representations of future courses of actions
Forethought	Transforming conceived future events into current motivators and regulators of behavior. Thinking ahead, setting goals, and foreseeing the consequences to motivate and guide the courses of actions
Self-regulatory features	
Self-reactiveness	Monitoring one's own behavior and the conditions under which it occurs. Comparing personal values and standards to own actions, giving direction to the pursuits, and sustaining the efforts to achieve goals. Also includes judgements on right and wrong behavior (moral agency) being evaluated against personal standards and situational circumstances
Self-reflectiveness	Evaluating own motivations, values, and the meanings behind the life pursuits. Self-reflecting upon one's predictive and operative thinking and comparing it to the outcomes of own actions. Contains the sense of self-efficacy: the belief in own capacities to have an impact on one's life

consciousness framework [2] offer effective analytical lenses for the purpose of the study. The psychometric scale for measuring individual differences in FC [31] allows combining quantitative and qualitative analysis.

Human agency and futures consciousness

Human agency is a temporally embedded process of social engagement [19]. To study empowerment of engaging with future, I use Bandura's (1989, 2001) social cognitive theory for framing agency as an individual psychological capacity. The theory addresses the mechanisms of personal agency as the power to originate actions for given purposes. Bandura characterizes agency with four central features: intentionality, forethought, self-reactiveness, and self-reflectiveness (described in Table 1).

Intentionality is the first important part of agency, as agency refers to acts that are done intentionally. Additional to intentionality, the temporal extension of agency emerges through forethought. The other two features of agency, self-reactiveness and self-reflectiveness, are connected to observing the self, thus giving shape to appropriate courses of action and motivating their execution. These self-regulatory processes link thought to action. According to Bandura, self-efficacy, which is part of self-reflectiveness, is the foundation of human agency and its most central mechanism. Without the belief that one's actions have an effect, there is little incentive to act [6]. A strong belief in self-efficacy makes people set higher goals for themselves and persevere with them, which, again, raises their motivation and performance attainments [7].

The other analytical concept of the study is futures consciousness, which addresses the sense of futures. I examine futures consciousness using the framework created by Ahvenharju, Minkkinen, and Lalot [2], referring to the capacity of understanding, anticipating, and embracing the future and preparing for it [1, 31]. Futures consciousness (FC) can be considered as the various processes that

influence how people project themselves and their social surroundings in potential futures to adapt to the future and how they project the potential futures to adapt their actions to bring about the ideal future [1]. The framework consists of five dimensions, described as follows:

1. Time perspective allows the understanding of the past, present, and future as well as the value of long-term thinking.
2. Agency beliefs depict trust in one's own ability to influence future events.
3. Openness to alternatives enables critical questioning of established truths and seeing the possibilities that changes may bring about.
4. Systems perception helps to see the interconnectedness between human and natural systems as well as the complex consequences of decisions.
5. Concern for others makes one strive for a better world for everyone.

From the perspective of this study, where participatory discussions on futures concern climate-wise farming, it is important that human-nature interconnections are considered within the FC framework through the constructs of ecopsychological self (systems perception) and self-transcendence values (concern for others) [1]. Although the model is based on many relatively stable personality traits, FC can develop with learning and education [1, 2].

Interlinkages of agency and futures consciousness

The interplay of futures consciousness and agency is manifold. Agency is informed by the past and oriented towards the present and future [19] and therefore relevantly bound to how people think and handle futures. On the other hand, agency is a highly relevant part of Futures Consciousness, since it is essential for futures-oriented thinking that one has a sense of being able to influence future events [2]. The FC dimension of Agency beliefs

Table 2 Overview of the research data

Data set	<i>n</i>	Respondents	Analysis
FC scale pre-post survey	26	Participants of futures workshop	Wilcoxon signed-rank test to examine change in participants FC between survey rounds
Follow-up survey	13	Farmers who participated futures workshop (M1s-M8s, T1s-T5s)	Qualitative content analysis with FC framework [2]
Interviews	6	Farmers who answered the follow-up survey (M1i, M2i, M7i, T3i, T4i, T5i)	Qualitative content analysis through the features of agency [6]

All materials were produced in relation to two futures workshops organized in 2017 in Finland. Participant identifiers for the follow-up survey and interviews are in parentheses (*M* Mustiala workshop, *T* Tuorla workshop, *s* survey, *i* interview)

is foundationally based on this self-efficacy perception [1]. The moral judgements of own behavior included in agency are linked to futures consciousness, emphasizing the capacity for being concerned about better futures in general, not only for oneself.

Although agency and futures consciousness have some common grounds, they contribute differently to the understanding of using futures. Futures consciousness enables futures-oriented actions but does not contain action or behavior in itself; it explains the conditions that allow future-oriented behavior to occur [2]. FC emphasizes the comprehension of multiplicities, possibilities, and responsibilities for creating futures in interconnected systems. Agency, however, focuses on personal intentions and self-regulatory capabilities for realizing actions that are perceived as worthwhile. The openness and systemic understanding of FC form the basis for thinking about futures holistically, whereas agency includes intentionality for engaging with futures by grasping and reflecting one's aims. From these perspectives, FC and agency as analytical concepts allow detailed examination on how participants think and act on futures.

Methodology

The methodology of this study is based on analyzing futures consciousness and agency to examine how futures workshop contributes to futures thinking and action. The data consists of a quantitative pre-post survey, qualitative follow-up survey, and thematic interviews (overview presented in Table 2). All data were produced in relation to two futures workshops organized in Finland in 2017. The purpose of the workshops was to discuss and imagine futures of climate-wise agriculture. The workshop process material (produced outputs, groupwork recordings, and transcripts) was not examined in this study.

The ways in which participants use futures in relation to workshop experience are studied as follows. The quantitative FC scale pre-post survey offers a baseline for examining participants' futures consciousness. This indicates whether there is a measurable, statistically significant change in FC after participating in the futures workshop. Futures consciousness is further studied with

a qualitative content analysis of the follow-up survey. Qualitative analysis allows describing how the dimensions of FC appear in the responses. Continuing the analysis with thematic interviews, I inductively interpret what the participants were doing with the workshop experience. I then view the findings on futures doings through the features of agency. The data, methods, and analysis are described in detail in the following subsections.

Futures workshops

Two futures workshops were organized in November 2017 as part of a project of the Natural Resources Institute Finland called "Climate-wise solutions for the countryside (VILMA)." The project (2016–2018) served as a means of networking and communication for Finnish farmers and other stakeholders interested in climate-wise farming¹. Both workshops were held in Southern Finland, on the premises of two institutes offering degrees in farming and rural studies. One was held at the Mustiala Campus of Häme University of Applied Sciences (HAMK) and the other at the Livia Vocational School in Tuorla.

The workshops were distinct 1-day events with different participants, speakers, and titles, but the objects and structures were the same in both. Following the footsteps of the original workshop of Jungk and Müllert [27], the aim of the workshops was to inspire participants to imagine preferable futures for climate-wise agriculture and to encourage them to take part in their creation. Participants discussed in small groups of 4–6 people while writing and drawing their thoughts on large sheets of paper. After the group discussions, the produced ideas were shared with others. Materiality played an important role

¹ In Finland, *climate-wise* is used to describe a comprehensive approach to apply mitigation and adaptation practices in farming [47]. It corresponds to the more often used term in scientific literature, *climate-smart agriculture* (CSA), which refers to reorientation of agricultural systems to support food security under climate change [34]. However, as CSA tends to hold technical and productivist focus, the word "climate-wise" has been suggested to articulate that the questions of equality and sustainability need to be in the center of the approach [61].

in the workshop for creativity but also for providing concreteness: there was a collection of pictures on the wall to provoke thinking, pens and markers for drawing and writing, and reels of thread and clothes pegs for placing the action ideas. Lunch and coffee breaks gave space and rhythm to discussions. The key steps of the workshop program and their purposes are presented below.

1. Short dive on personal future images 20 years ahead: *To pause and connect with expectations, hopes, and fears regarding futures*
2. Presentation given by futures researcher: *To learn about rural futures through scientific knowledge*
3. Presentation given by farmer: *To learn about climate-wise farming through peer knowledge*
4. Reflection back to personal future images: *To acknowledge new thoughts evoked by the presentations*
5. Futures wheel on climate-wise agriculture: *To discuss and explore widely on different futures issue*
6. Imagination and sketches on hoped for futures: *To dream together and to sense the shared visioning*
7. Descriptions on actions for enabling the hoped for futures: *To get courage and curiosity to find ways for creating the futures*

The emphasis of the workshops was not in the “results” for producing future images or action plans as such but on participatory futures thinking and collaborative visioning. The workshops were uniquely designed to support futures thinking and action, but the outline was also tailored to answer the purposes of the VILMA-networking project to deliver and share meaningful knowledge with farmers.

The workshops were open for anyone to participate, and they were advertised broadly in local newspapers and actor networks (e.g., mailing lists). The main objective was to encourage farmers to imagine and create desirable futures for themselves. The first workshop in Mustiala had 31 participants including 16 farmers, and the second workshop in Tuorla had 16 participants including 7 farmers. The remaining participants were other stakeholders in food production, such as farming advisors, project workers, researchers, and students. The majority of the farmers were in plant production, but also a few farmers who had dairy/livestock production were present. Workshop participants represented a wide range of ages (from young students to retired farmers) and educational levels.

Futures consciousness pre-post survey

The participants’ futures consciousness before and after the workshop was examined using the FC scale created by Lalot et al. [31]. I was given the opportunity to use the

scale by the authors for the purpose of this study before its full publication. The scale measures individual FC in five dimensions: Time perspective, Agency beliefs, Openness to alternatives, Systems perception, and Concern for others. The survey uses a 5-point Likert scale from 1 (“not at all like me” or “disagree strongly”) to 5 (“very much like me” or “strongly agree”). The FC scale has been proven to be a reliable tool for measuring futures consciousness as an interindividual difference [31].

All workshop participants were asked to complete the test 2 days before the workshop via an online questionnaire. Those who had not completed the test before arriving at the workshop answered it manually before the workshop started. Two weeks after the workshop, the participants were again asked to complete the test online. The test was open for 1 week. Participants were informed in the workshop that it was hoped that all of them would answer the questionnaire again later and were reminded to do so. A total of 55% of participants answered the questionnaire twice. They formed the sample for the quantitative analysis.

The scale provided measures for the FC of a total 26 respondents from both test groups (Mustiala and Tuorla workshops). To ensure the reliability of the futures consciousness scale in futures workshop data, Cronbach’s α for each FC dimension was calculated. The dimensions of Agency beliefs and Concern for others gave good reliability (> 0.7), while Time perspective, Openness to alternatives, and Systems perception were problematic, especially in the first survey round. Items 12 and 13 were removed from Openness to alternatives and Systems perception, which resulted in a good α . The reliability of the Time perspective could not have been increased by removing any of the three items; hence, item 2 was selected as the best fit for representing the dimension. Lalot and Ahvenharju were consulted regarding the modification of the scale to ensure reliability. Analysis of the FC between survey rounds was conducted with this modified 16-item scale (Additional file 1: Appendix A).

As the sample size was somewhat small (Mustiala $n = 19$, Tuorla $n = 7$, $N = 26$) and the variable scale ordinal on the Likert scale, a nonparametric test for statistical analysis was selected. The Wilcoxon signed-rank test was used to compare the two paired samples, that is, the participants’ answers between the survey rounds (pre-post measures). The Wilcoxon signed-rank test tests whether the median difference equals zero [38].

Follow-up survey: futures consciousness framework

This study of futures workshops is part of more comprehensive research on anticipation in climate-wise farming. The workshops were organized especially for the benefits of the farmers, so their views on workshop participation

and related thoughts, motivations, and actions were the focus of interest. In accordance with this, the study continued to produce data about the workshop experience only with regard to farmers.

In February 2018, 3 months after the workshops, the farmers who participated were asked to answer a follow-up survey with a few open-ended questions on their thoughts on futures and workshop process (Additional file 2: Appendix B). The survey link was sent to 23 farmers via email, and 13 of them responded (Mustiala $n = 8$, Tuorla $n = 5$). As the survey was conducted a few months after the workshops, the farmers had time to reflect on the workshop and the thoughts it provoked and even act upon some of them. Despite the time gap, it seems that the respondents remembered the workshop event relatively well and were able to address how participation felt and what kind of thoughts it spurred.

To see how the dimensions of FC appeared in how futures were considered, I analyzed follow-up survey responses using the futures consciousness conceptual framework. The framework is well suited to qualitative studies investigating future-related discourses [2]. Based on the framework, I systematically analyzed the emergence of each dimension in individual responses, allowing for consistency and balanced perception. Many of the responses were short, but as a whole, the data offered decent possibilities for the analysis. I perceived the emergence of dimensions both at the literal and meta-levels. During the writing process, the analysis took the form of several rounds of checking, evaluating, combining, summarizing, and rephrasing the remarks to produce carefully condensed interpretations.

Thematic interviews: features of agency

Based on the responses to the follow-up survey, I conducted interviews with six farmers during the spring of 2018. Farmers whose responses in the survey left open remarks and raised new elaborative questions were selected as interviewees. The interest was in aspects left unsaid in the follow-up survey and the thoughts and inspiration that the workshop spurred. The selection criteria also considered that genders were represented from both workshops. The general structure of thematic interviews is presented in Additional file 3: Appendix C. When conducting the interviews, it was apparent that because of the time between the workshop and the interviews, it had started to get slightly more difficult for some farmers to remember their impressions of the workshop. The interviews were recorded and transcribed with participants' permission. The interviews were planned as a first round so that the same farmers would be interviewed again later for further study on climate-wise farming.

The study is based on an ethnographic stance to form a comprehension with constant dialogue between datasets, theory, and research questions [52]. As I had met the interviewees on different occasions and visited their homes, I have intuitive, embodied knowledge of how they are and live. Because of this, I feel the responsibility of being mindful of studying their uses of futures. Accompanied by the remarks of Ballestero and Winthereik [5], I engage to the analysis of interview material as a creative and organized process of crafting and immersion to generate enlivening insights. In practice, I repeatedly reflected on my interpretation with the context and research questions and refined my perceptions when the worlds of the research participants became elaborated through listening and close reading. The analysis contained several rounds of examining, reading, and comprehending, and therefore, it does not have a clear starting point. The first attempts to grasp agency in relation to workshop experience produced the need to operate with the existing framework, that is, Bandura's [6] social cognitive theory of agency. However, the analysis is not a straightforward endeavor from theory to analysis or vice versa. Rather, it is a heuristic circle in which an analytical understanding of participants' use of futures developed in relation with theory.

In the final round of analysis, I proceeded as follows. I selected passages from the interview materials that related to workshop experiences. This was needed to examine how workshop experiences are attached to participants' futures thinking and actions. In these passages, I noticed a variety of different types of futures doings. I started to focus on these doings and collate them into batches, interpreting both on literal and meta-level on what was said and meant. I worked the batches further and comprised, sought out, and labelled five doings that comprehensively illustrate how futures were used. I spent time with my interpretations to be attentive to the data in the context of the research question and materials. Finally, I viewed my findings through the theory of agency. By writing about the process, the analysis got further refined and took its material form. The final round of analysis was data-driven, meaning that I analyzed futures doings inductively. However, the theory of agency was already present in the work as a background understanding via previous rounds of analysis, as mentioned above.

Results

Futures consciousness quantitative analysis

The statistical analysis showed no change in participants' total FC scores between survey rounds ($p = 1.00$) or in its dimensions. There was some variation

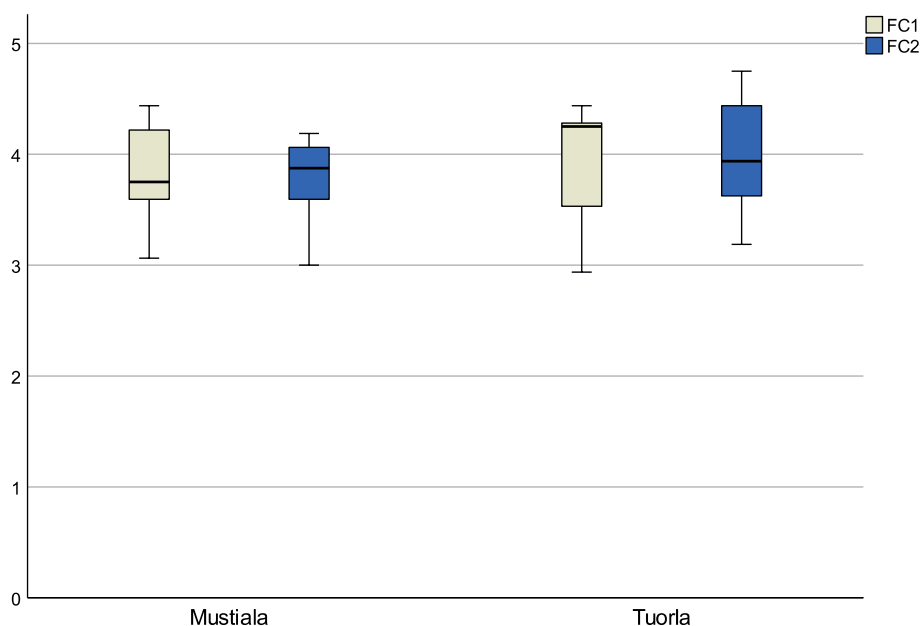


Fig. 1 Medians of futures consciousness scores in the first (FC1) and second (FC2) survey rounds

in FC among participants (Fig. 1). The scores ranged from 2.94 to 4.44 in the first round and from 3.00 to 4.75 in the second round. The median of FC scores was higher in Tuorla (*mdn* = 4.25) than in Mustiala (*mdn* = 3.75) in the first round while decreasing in the second round to the same level (Tuorla *mdn* = 3.94, Mustiala *mdn* = 3.89). The scores correspond to the average FC of larger sample populations [31]. There was no difference in FC between farmers and other participants. Education levels and age groups were not comparable because of the small sample size.

However, the number of respondents scoring 4 or 5 (“agree” or “strongly agree”) in each FC scale items displays some differences among FC dimensions and items within and between survey rounds (Table 3). The item of Time perspective and some items of Openness to alternatives and Concern for others resulted 4 or 5 from almost all respondents in both rounds. These include statements such as “I think about how things might be in the future” (item 2), and “I am often on the lookout for new ideas” (item 10). On the other hand, in the first survey round, only half of the respondents scored 4 or 5 in three items of Agency beliefs and even fewer in items 17 and 18 of Concern for others. Interestingly, their number increased in all items of Agency beliefs and in both items of Systems perception in second survey round. In the rest of the dimensions, the number of respondents scoring 4 or 5 increased in some items and decreased or remained the same in others between survey rounds.

Table 3 Descriptive analysis of item scores in FC scale. The number and percentage of respondents (*N* = 26) with scores 4 or 5 (“like me”/“agree” or “very much like me”/“strongly agree”) are displayed in each item of FC scale. Item numbering is consistent with modified 16-item scale version (Additional file 1: Appendix A) following the original scale

<i>N</i> = 26	First round		Second round	
	<i>n</i>	%	<i>n</i>	%
Time perspective				
Item 2	25	96.2	23	88.5
Agency beliefs				
Item 4	13	50.0	14	53.8
Item 5	15	57.7	16	61.5
Item 6	19	73.1	21	80.8
Item 7	13	50.0	16	61.5
Item 8	13	50.0	15	57.7
Openness to alternatives				
Item 9	17	65.4	18	69.2
Item 10	23	88.5	23	88.5
Item 11	23	88.5	22	84.6
Systems perception				
Item 14	14	53.8	20	76.9
Item 15	19	73.1	21	80.8
Concern for others				
Item 16	23	88.5	22	84.6
Item 17	11	42.3	14	53.8
Item 18	10	38.5	8	30.8
Item 19	18	69.2	18	69.2
Item 20	24	92.3	23	88.5

Futures consciousness qualitative analysis

The qualitative analysis of follow-up survey responses draws a picture of farmer participants who consider futures from many different angles, with excitement but also with worries and responsibility. The condensed interpretations of the FC dimensions appearing in the material and descriptive data samples are presented in Table 4.

Time perspective is signaled in survey responses as various considerations of past and future events. The future is perceived as uncertain, manifold, and often defined by what is and has been, yet there is trust for “the development to turn out positive” (M7s). The position taken is mostly to observe these *broad paths* from past to futures and trying to prepare for it since “agriculture develops and changes all the time and particularly strongly right now” (T2s).

Agency beliefs, on the other hand, manifest through the willingness to manage and develop their own practices. The power to initiate actions seems to be acknowledged as *relational*, at some level, depending on habits, resources, and general circumstances. Interaction with others is felt empowering since it brings an “emotional charge” (M8s) and fresh thoughts against “100 ha of solitude” (M4s). Workshops are seen as possibilities for creating and maintaining relationships, collaborations, and networks. *Openness to alternatives* is shown in readiness and interest to think about futures widely to gain *new perspectives*. Workshops appeared to have evoked this enrichment in the horizons. Exploring creatively alternative futures is perceived as fruitful and beneficial and having effects on well-being.

For farmers to be successful in their occupation, *Systems perception* must undoubtedly be at some level present in their thinking and decisions. This systemic understanding appears as the sense of *agricultural connectedness* that farming is closely interdependent with the global and local worlds. It can also be seen in the interest towards holistic management and concrete farming practices, such as carbon sequestration, through which complex flows of material and energy in agroecological systems are taken into consideration. Following the notions of interdependencies of agriculture, *Concern for others* is shown in the worries about the continuity of farming and Finnish agriculture but also caring for the futures of the world in general. It is seen comforting that there were “young people that believe in the new possibilities of Finnish countryside” (M3s), and that the hopes for *sustainable conditions* were collectively shared in the workshop.

Agency qualitative analysis

As explained in [Thematic interviews: features of agency](#) section, the analysis of interview data produced a variety of notions on what farmers are doing

after participating in the workshop. I came to distinguish five doings that describe their futures thinking and action in relation to the workshop experience. By calling these futures doings as “seeds of changing,” I deliberately refer to Masini’s [36] idea of the attentive listening of “seeds of change.” Using the phrasing in this context does not mean that workshop participants should change. Rather, it implies that by performing their agency, the farmers discover themselves potential seeds of change in thinking, practicing, and using the futures. These “seeds of changing” are as follows: *to ponder* on alternatives, *to widen* the perspectives, *to envision* where to go, *to develop* the farm, and *to connect* with others.

Having to map the best ways of proceeding in their work, farmers *ponder on* different alternatives and ways of managing the farm. They put time and energy to revolve, prepare, and plan for the upcoming events with following trends and EU regulations. Looking forward is of course an essential part of farming, but there is also much of trying to perceive the bigger picture and think more than just seasonally, as shown in the following:

And I am really into like visualizing everything, of course also like work things but in other ways too. Like, I try all scenarios, turn them over in my head, and try to think like what if I do this that I buy more fields, or improve the soil, so then I think how it all will go and that. Maybe I think even too much but... (M1i)

Closely linked to pondering on different options is the curiosity *to widen* thoughts and perspectives related to farming and futures. Farmers talk about opening new ideas and questioning the usual ways of working. It is considered important to sometimes try to comprehend the farm differently and reach out from one’s comfort zone. The interest in contesting their thought processes can especially be heard from the participants of the Mustiala workshop. There, one of the key topics of the discussions before the groupwork activities was holistic management. Holistic management is a comprehensive model for self-assessment to prioritize the farm’s daily practices and consider personal values and well-being [24]. As can be seen from the following quotation, it is not always easy to truly grasp one’s farm in daily work. This is why fresh approaches are welcome:

You get blind like to what your parents, what brother, what neighbors or in general, so that you can’t, even though you see, maybe can visit many different kinds of farms and everything, but then maybe you can’t, like, always picture and see your own farm, – – I like the idea to like break the pat-

Table 4 FC dimensions in relation to experiences in futures workshop

Dimension	Interpretation	Data sample
<i>Time perspective</i>	Orientation to the future and the events and their consequences following each other appear in...	"It made me think the future of my farm in longer term and the future of the entire field of agriculture in general." (M5s)
<i>Agency beliefs</i>	The sense of influence on future course of events and the understanding on what issues can be influenced appear in...	"And then people already have their own habits and routines, which are more difficult to change. But workshops like this can help with that." (M6s)
<i>Openness to alternatives</i>	Creativity, imagination and critical thinking, and the appreciation towards change and alternative ways appear in...	"Being too negative decreased when I learned to think in a wider perspective. When things are mulled over alone or with someone I remembered, thinking becomes blurry and gloomy." (T1s)
<i>Systems perception</i>	Holistic point of view and the appreciation of the complexity of cultural, societal, and environmental systems appear in...	"At least that's what stayed in my thoughts from there. Human actions that have got the Earth and agriculture to this point. In other words, you reap what you sow and after all human is the biggest cause to changes in nature." (M8s)
<i>Concern for others</i>	Concern and commitment to strive for better futures for everyone appear in...	"Or maybe the workshop created some hope for futures when (again) saw others that were worried about and act for developing sustainable production and are thinking the shared future." (T4s)

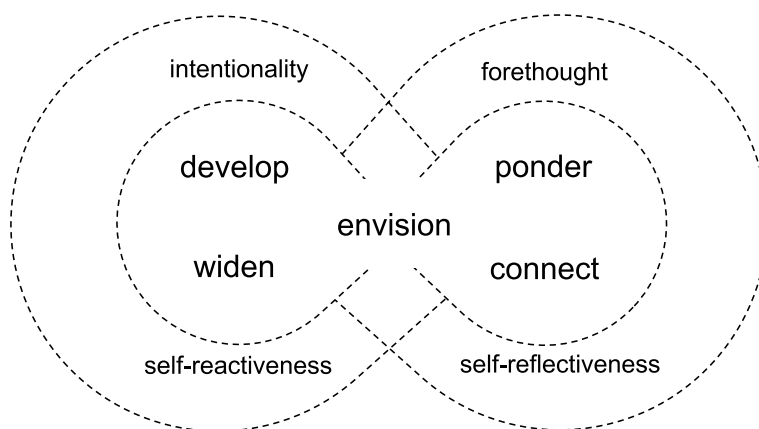


Fig. 2 Futures doings in relation to workshop experience as manifestations of agency

tern somehow. (M7i)

With pondering on futures and widening horizons, farmers are processing the question of where they are heading. Despite years of being a farmer, the direction of farming is constantly being considered, especially in times of juncture. *To envision* the things they want to engage in contains getting excited with some ideas and seizing the moment. It is the process of choosing what kinds of futures one likes to be creating. However, finding one’s own way is not easy when different possibilities become evaluated with realism. As shown below, if going in a certain direction is presumed to limit later options and cause path dependence, the grounds for making any decision are quite shaky:

On one hand, I would like to find just the thing, the direction I’ll go like at full speed. But on the other hand, I don’t want to, like umm, go for anything so that I immediately take out a loan for a million, and if it goes somehow wrong, I am totally screwed with it. So, from that point of view, I would like to find the one but still I don’t want to be like tied with it for 30 years so that it can’t be changed at all. (M2i)

Although it is difficult to choose, there are things to do in daily work. While thinking and ruminating, farmers constantly *develop* themselves, the farm, and its management. Trying new crops, improving the soils, and being always prepared to learn by visiting different events and listening to podcasts add concreteness and materiality to the mental uses of futures. And when the future seems “blurry” (M1i), sharing ideas and worldviews, creating networks, and having genuine discussions give assurance and the feeling of not being alone with one’s concerns or aspirations. Given the participatory nature of futures workshop, relating with others is a natural part of how the experience is contemplated. *Connecting* brings

empowerment to act according to one’s own values and to make them visible as explained here:

Of course, there is the thing that when those who become interested, are interested, come to the event, feel empowered, and that they are not alone, they have courage to act in their own loneliness for like they know that they are not alone and it is right and in that manner they also signal to their neighborhood that this is how I think and this is how I act. (T4i)

I read these five “seeds of changing” through Bandura’s [6] theory as manifestations of agency (Fig. 2). They illuminate the looping processes of agency that farmer participants perform in the flows of workshop experience and their lives. By *pondering* on futures, there is a process of forethought that feeds and is fed with a self-reactive way to *widen* perspectives and question one’s own practices. The self-reflectiveness of empowerment and assurance is evoked by the feeling of having *the connection* with others. Those work for the intentionality to *develop* the farm and its management, which, naturally, at the same time, is the starting point for being interested in learning and thinking about futures in the first place. In addition, all forms of agency are needed to *envision* their own ways of being farmer and cultivating their futures.

Simultaneously, there is of course an act of *not doing* that is present in how farmers talk about futures. To be able to do, there are things not to do: for example, to increase the capacity of carbon sequestration in the soil, the field should not be ploughed before winter as has traditionally been done. The classic issue of doing or not can be tricky when there is no prior experience of how the choice impacts the crop and yield. Not doing something that has always been done before is an active decision. It is highly context-specific and may have very different

meanings at different times and in different spaces. The same concerns the thinking of futures. There is always the possibility of not to think about futures explicitly or not using those thoughts to perform action. However, the accountability of whether to engage with futures evidently follows, as even staying still has consequences, as noted:

“And of course there is one good aspect with planning the future that it is worthwhile because the future will come anyway, whether you planned it or not. It will come, no matter what and it may be that even with bad plans you can manage better than with not planning at all, this is how it goes with planning in general.” (T3i)

Complementing the picture of the use of futures, the acts of not doing can be recognized as seeds of changing when they are conscious choices with purpose. The finesse is to be mindful of when and how to let things to be unfolded without pushing.

Above this, the participants perform agency when they consider the relevance of the workshop experience to their own lives. They position themselves with regard to climate-wise farming, participatory groupwork, and futures in general by the emphasis and meaning they give to the workshop experience and how they describe the experience in the interview setting. This serves as an entry point to apprehend the vivid nuances of their futures thinking as a tissue of participating in the world.

Discussion

Synthesis and limitations

The analyses of quantitative and qualitative data show that the ways in which futures workshop contributes to futures thinking and action are diverse but not evident. Although statistical test resulted that there was no change in futures consciousness after the workshop, descriptive analysis displays some differences among FC dimensions within and between survey rounds. The number of respondents agreeing with the items of Agency beliefs before the workshop was relatively low, yet it increased after the workshop. The descriptive analysis indicates that there is potentiality of workshop experience to contribute to Agency beliefs and Systems perception dimensions. However, it does not demonstrate individual change of FC between survey rounds.

The statistical analysis not showing impact on participants' FC after the workshop may be because of various reasons. First, the participants had fair abilities to think about futures openly and responsibly already before attending the workshop, which is displayed in the high number of respondents agreeing with some items of Time perception, Openness to alternatives, and Concern for others. This may have lessened the potential effects of

workshops on the measured total FC. Second, although FC can develop through learning [2], a single workshop event may not be sufficient to produce a measurable change. This reflects to the study of Nygrén [45] noting that in-depth perceptions are unlikely to change drastically due to one workshop event. There is a quantitative pre-post survey study showing that futures workshop can increase the awareness of climate change mitigation and adaptation strategies [54]. However, as the FC model is based on relatively stable personality traits [1], this type of pre-post experimental setting, where the survey is repeated within a fairly short time period, may not be ideal. This problem could be overcome by conducting a series of workshops with the same participants, so that the likelihood of a significant change in FC could occur. However, it might be difficult to obtain such long-term commitment from the participants. Third, the small sample size necessary for the workshops to function properly limits the possibility of statistical testing. Organizing many workshops with different participants would increase the number of observations for the purposes of pre-post surveys and enable more refined analysis.

The qualitative analyses of follow-up survey and interviews, on the other hand, show that the workshop experience is absorbed into participants' daily reality, provoking their uses of futures in different ways. The analyses allow for describing how workshop experience facilitates thinking of futures broadly and differently while evoking observations on using them. While there is rich curiosity towards the futures, one's own practices and possibilities for creating futures are being assessed and contested. In addition, sharing with others is intimately embedded in those thoughts about futures and self. The experience of being a part continues beyond the workshop and underlines the meaning of participation as more than a brief temporary situation.

Although compact, qualitative data have provided intriguing insights into the ways in which participatory futures may operate. The analysis of follow-up survey and interviews does not offer proof of the direct impacts of futures workshops but rather describes the possible uses of the experience of the participants. Given the time gap, participants might have framed their experiences differently if the follow-up survey and interviews were conducted shortly after the workshops. On the other hand, time gave perspective on what stayed and mattered when the experience integrated into their daily practices.

Contribution

To discern whether participatory processes function as they are supposed to, evaluation of the process is essential [9]. Therefore, this study draws attention from workshop outputs to the participants and the process,

providing a new perspective for futures participation. The results of the study suggest that to empower balanced futures engagement, the workshops should offer encouragement to make envisioned decisions within the plenitude of open futures. However, it seems unlikely that all FC dimensions or features of agency can be supported in one participatory event.

Rather, this type of examination provides grounds for defining what the process intends to offer to participants. Ideally, the evaluation would continue throughout the participatory process in a transparent and reflexive manner [9]. For this purpose, the FC scale could be used as a learning tool for both participants and researchers during the process. Likewise, the five “seeds of changing” can serve to consider and communicate participatory targets and empowerment assumptions. Although interpreted as manifestations of agency in farming, they offer a basis for exploring the use of futures also in other participatory contexts.

In addition, this study illuminates how futures are part of the small and big choices in farming. Based on the results, it seems that farmers intuitively, yet somewhat implicitly, apply both anticipation-for-the-future (AfF) and anticipation-for-emergence (AfE) [40] to how they think futures. In AfF, futures are imagined as a goal that can be pursued with careful planning, whereas AfE uses futures to embrace the complexity and novelty of the present [40, 41]. Research on futures thinking is key to understanding how futures are embedded in, for example, farmers’ interpretations such as issue awareness and risk perceptions, which set the motivation to adopt environmental behavior [25] and willingness to adapt to climate change [56]. To further study how to support farmers’ futures thinking in relation to their knowledge, attitudes, and practices, the KAP model [33] could be used. There is evidence that perceptions and knowledge of climate change relate to farmers’ intentions to adopt mitigation and adaptation practices but less so to actual behavior [44]. With regard to both intended and actual adoption, self-confidence and the sense of one’s own capabilities to perform those practices appear more important [44]. Together with the results of this study, this implies that with wide and open futures thinking, intentionality to develop farming practices can be boosted. However, to support farmers’ decision-making, the self-reflectiveness of agency, particularly self-efficacy to deal with the flow of emergent futures, is central.

Conclusions

This study demonstrates that although participation is inherently valuable for futures research, it should not be held obvious what the processes offer

to participants. Participatory futures do not automatically translate into actions or change afterwards [17] and may sometimes even create an illusion of empowerment [43]. We should notice and feel the tension between not pushing towards any certain futures while assuming empowerment for something to change, even hoping for sustainability to be realized. This seems characteristic to participatory futures processes and is well illustrated in the concluding notion by Milojević and Inayatullah ([42] p.13): “It is now for each individual person who participated, as well as the organisations that were involved, to ensure the songlines bring the new futures into life.” The void of “starting to ensure the songlines” that perhaps evidently follows participatory processes calls for scopes that carry beyond the occasion, like mutual creation for futures heritage [55], conscious understanding of how and why futures are imagined, i.e., futures literacy [41], or emotional involvement with action research [60]. As also a finding of this study, it calls for futures participation as more than just a temporal researcher-led event.

Following this, I argue that participatory futures should perform deeper self-consideration as anticipatory practice, as positioned by Korsmeyer et al. [30]. As they state, with feminist engagement, “*how we craft and perform these methods of anticipation is worth as much interrogation as what we learn from the visions themselves*” (p. 2, italics in original). This should lay the basis for a more equal co-creation of processes with and by the participants. As Alminde and Warming [3] note, from a political democratic perspective, everyone involved in certain processes and communities, including research projects, should have the possibility to influence them. When working with sensitive issues or marginalized groups, co-creating space for trust and free speech needs to be paid careful attention but is similarly essential for enabling the imagination of new innovative ideas in all cases [3]. Empowerment is embedded in the humility of all involved as a responsibility that is reflected throughout the process [11]. This makes clear that identifying and dismantling power structures and the pre-settled roles of the researcher and the participant [53] should be considered regardless of the purpose of the workshop.

Obviously, it is not simple to carry out methodological co-creation, impactful participation, and careful evaluation simultaneously, with ambitious research objectives. However, these should not be handled as separate added tasks but embraced as an ethical commitment to be attentive to how and why someone’s futures are discussed. In all cases, being open and clear about the expectations and assumptions of futures empowerment of both the researcher and participants should be held as a bare minimum.

Abbreviations

SCT	Social cognitive theory
FC	Futures consciousness
CSA	Climate-smart agriculture
AfF, AfE	Anticipation-for-the-future, anticipation-for-emergence

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40309-024-00226-4>.

Additional file 1: Appendix A. Futures Consciousness scale.

Additional file 2: Appendix B. Follow-up survey of workshop experience.

Additional file 3: Appendix C. General structure of thematic interviews.

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Author's contributions

The author was solely responsible for all the work related to theoretical framework of research, planning, analyzing, writing, and editing of the manuscript. The author read and approved the final manuscript.

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Availability of data and materials

The data of this study is owned by Natural Resources Institute Finland (LUKE). Data is available from the corresponding author upon reasonable request and with the permission of the owner.

Declarations**Ethics approval and consent to participate**

This study uses survey and interview data produced in two futures workshops. All management of research data follows the principles of ethical self-assessment for the study of human subjects by the Finnish National Board of Research Integrity (TENK). Workshop participants were informed about the research objectives, privacy, and the use of data before attending, and an explicit informed consent for storing the data was asked from the interviewees and survey respondents.

Consent for publication

Not applicable.

Competing interests

The author declares no competing interests.

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