Futures 163 (2024) 103441

Contents lists available at ScienceDirect

Futures

journal homepage: www.elsevier.com/locate/futures

Futures empathy for foresight research and practice

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ARTICLE INFO

Keywords:
Empathy
Foresight
Futures Empathy
Scenario Planning
Future design

ABSTRACT

Foresight methods help us to think about the future and overcome a bias toward short-term thinking in decision making. However, many approaches to investigating the future tend to leave implicit how individuals involved in the interventions relate to the present and to the future in practice and over time. To address this gap, our study highlights the affordances of two methodologies —Scenario Planning and Future Design. In a pilot study combining these methods, we report the results of the novel hybridized approach applied in strategic planning workshops across four corporations. Initial reflections and learnings from the pilot case study and literature review helps to build understandings of the practical and theoretical workings of the methodological innovation. By investigating this combination of foresight methodologies, this research opens up new ways for thinking about futuring and proposes a theory of Futures Empathy. Futures Empathy harnesses a person's capacity for empathy in a novel way by applying it toward a future context. It consists of an iterative double looping process between self and a not yet existent future. Through imagination and reflection, foresight methods that build Futures Empathy can enhance personal connection and integration with a longer time horizon, thus overcoming presentism. By proposing a theory of Futures Empathy, we hope to contribute to better present and future relating in practice and over time across a multitude of foresight interventions.

1. Introduction

A range of cognitive biases affect decision making. These biases impact how individuals intuitively judge how probable an event is based in what information they are most easily able to bring to mind (Bradfield, 2008, p 8; Tversky and Kahneman 1986). For example, "availability heuristics" describe a tendency to rely on the information that is easiest to recall. However, this overreliance on recall short-circuits imagination. Foresight interventions, broadly speaking, are rooted in methodological innovations correcting presentism (Loewenstein & Elster, 1992), recency, familiarity, and saliency biases (Bradfield, 2008).

Foresight methods can bring plausible, unintended future outcomes of a given decision pathway into a present decision-making context. In doing so, they help to transform (Burt & Nair, 2020), rather than perpetuate patterns of thinking and assumptions derived from past experience. Using structured processes individuals and groups are invited to consider, "instances and events that are not stored in memory" and imagine something other than "established" worlds (Bradfield, 2008, p 6). Using the future to think about the present differently, or to create pathways for novel futures, requires moving beyond what is easy to recall (and also hence lodged in

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https://doi.org/10.1016/j.futures.2024.103441
Received 27 October 2023; Received in revised form 12 June 2024; Accepted 25 July 2024
Available online 3 August 2024
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the past) in order to build new future directions. Increasing the aperture of the present, through imagination rather than recall, additionally opens up new ways of thinking that could create opportunities to change the future that will emerge.

Foresight activities "do their work" by scaffolding a conversation between individual cognitive process and group imagining. Toggling between individual and group sensemaking processes "imagination for transformation [is an] *interdependent cognitive and social processes[]* that create[s] representations of present and possible future states of the world that can inform public deliberation, policy, decision making, and behavior from the individual to the global scale" (Moore & Milkoreit, 2020, p. 1, emphasis added). Despite the acknowledgement that subjectivity is important in futuring practices (Lazurko et al., 2023), many approaches to investigating the future leave implicit how individuals involved in the interventions relate to the present and to the future in practice and over time (e.g. Andersen et al., 2021; Gordon, 2020). Because of the way individuals in a group engage in dynamic exchange in futuring practices, a greater attention to individual's experiences and intersubjectivities in designing foresight practices might enhance the success of foresight endeavors.

Scenario Planning researchers have theorized about how Scenario Planning enhances robust decision making in the present (Bradfield et al., 2005; Chermack, 2005, 2022; Lindgren & Bandhold, 2003; Ramirez et al., 2017; Wack, 1985), but mechanisms for "reflexivity" (Lazurko et al., 2023) therein have been largely ignored. Future Design hints toward a theory of present-self and future-self relating with praxis designed to help people imagine future generations' perspectives in decisions (Hara et al., 2019a; Hara et al., 2023; Saijo, 2019). However, Future Design leaves unresolved how this relating could happen in other foresight contexts more generally or how to build this type of relating over time as an anticipatory competence.

In addition to relating across present and future selves, a theory for foresight practice ought to also guide practice toward iterations of present and future constructing that expand perceptions of the future in the present to build more coherent futures – both individually, and collectively – through foresight practice. Such a theory would be useful to guide practice across

multiple foresight interventions and would helpfully augment other attempts to articulate

theories of decision making, value judgement and learning processes that explain how scenario practice works (Burt & van der Heijden, 2008).

We think that taken together, Future Design and Scenario Planning can accommodate a richer, fuller depiction of the future to address this gap. Wasserman et al. (2018) made a first step toward juxtaposing foresight methods after a Future Design workshop at ASU among Scenario Planning researchers and Future Design researchers. Uwasu et al. (2020) followed, by combining Future Design and Scenarios in research. While Timilsina et al. (2020) titled a similar piece, in actuality their work focused on combinations of visioning and backcasting and Future Design, not Scenario Planning.

In the rest of this paper, we proceed by presenting Scenario Planning, Future Design and a pilot study to combine the two. We conclude with a proposal for a theory of Futures Empathy we think could improve relating across present and future selves, while increasing present-future coherence in foresight practice.

2. Background

2.1. Scenario Planning

Scenario Planning is a future oriented method that engages multiple, plausible, futures from which to consider decisions in the present (Burt, 2023; Schoemaker, 2022; Chermack, 2022; Chermack, 2011; Wack, 1985). Scenario Planning is one of the oldest foresight methods and offers a tried and tested method that targets short-term thinking cognitive biases (Bradfield, 2008; Meissner & Wulf, 2013), and has a wide arena for application across a range of decision environments (Asselt & Klooster, 2012; Burt, 2023; Millennium Ecosystem Assessment, 2005; Ramirez et al., 2017; P. J. H. Schoemaker & van der Heijden, 1992). Scenario Planning methods are widely defined and include scenarios about desirable future visions and backcasting (Bai et al., 2016; González-González et al., 2023; Iwaniec et al., 2020; Näyhä, 2021; Sustar et al., 2020), experimentation with personas (Gall et al., 2023; Sahakian et al., 2023; Vallet et al., 2020), and scenarios in design thinking (Schwarz et al., 2023). By focusing attention on multiple plausible futures, integrating unknowns and complex dynamics from the external environment into a present decision-making context, Scenario Planning helps to overcome short-sightedness and an over-focusing on the present.

Some scholars have described the process of challenging assumptions that occurs in scenario planning as "changing mental models" (Glick et al., 2012); a potential mechanism for scenarios' uptake and success occurring through a process of "unlearning" (Burt & Nair, 2020). By inviting "strategic conversation" (van der Heijden, 1996, 41) or "dissociative jolts" (Burt et al., 2021) participants in Scenario Planning activities negotiate across different stakeholder experiences and worldviews. Such conversations open up space for normative future building (Pelling et al., 2023; Robinson et al., 2011; Swart et al., 2004; Timilsina et al., 2020; Wiek & Iwaniec, 2014) and help reveal participants' assumptions about the world, to overcome conflicts (Burt et al., 2021), reduce overconfidence (Meissner & Wulf, 2013; Schoemaker & van der Heijden, 1992), confirmation (Meissner and Wulf, 2013; Bradfield, 2008), and framing (Meissner & Wulf, 2013) and other biases plaguing decision making. Scenario Planning helps to expand individual cognitive capacity and group sense making by supporting the development of alternative conceptual frameworks for thinking about the future that integrate uncertainty and complexity into decision making (for a full review of scenario planning, see Cordova-Pozo & Rouwette, 2023).

Scenarios about high impact future uncertainty cannot be validated as true based on current evidence. The validity of scenarios relates to how they inform new perspectives or shed light on decision making. One way scenarios build legitimacy and actionable weight is through their relatability and anchoring to individual mindsets (T. Chermack, 2011, p. 162; Selin, 2006). From this perspective, scenarios would be most useful when people can *empathize* on multiple intersubjective levels. Such empathy requires the scenario to be plausible (Ramírez & Selin, 2014; Urueña, 2019; Wiek et al., 2013) as well as a site for personal connection with "the

future".

2.2. Future Design

Future Design is another future-oriented method that invites conversation between the present and the future by asking participants to imagine and role play that they are living in the future (Kamijo et al., 2017; Nakagawa & Saijo, 2020a; Saijo, 2019; M. E. Shahen et al., 2021). Future Design (Saijo, 2019) intends to resolve conflicting interests between current and future generations that emerge from presentism (Nakagawa & Saijo, 2020a).

Hara et al. (2019) provide an early example of how a foresight effort aimed at reconciling possible intergenerational conflicts through a deliberation practice involving an "imaginary future generation" to deliberate with a present generation group arrived at consensus. In one experiment, the groups deliberated separately, and then together, to arrive at consensus on policy prioritizations and vision setting for the year 2060 (Hara et al., 2019a, 1). More than half of the measures chosen through consensus originated in the imaginary future generation group (Hara et al., 2019a, 2). Hara at al. (2019) conclude that using an imaginary future generation in deliberation can shift decision-making preferences in favor of future generations. The authors argue that their Future Design approach helps to overcome human shortsightedness (Hara et al., 2019a; Sapolsky, 2012) and bring future generation values into present day policy negotiations. Future Design is widely applied in R&D (Hara, Kuroda et al., 2023), policy design (Hara, Nomaguchi et al., 2023; Kamijo et al., 2017; Shahen et al., 2021), and participatory environmental planning (Hara et al., 2019a; Nakagawa & Saijo, 2020a; Hara, Naya et al., 2023).

By enacting multiple future orientations, intersubjectively, by way of role playing a future generation, researchers of this method argue that the creation of a "third self" emerges which has different future knowledge than a "present self" (Nakagawa and Saijo 2020, 6). The "future self" and "present self" integrate to form a "third self" who considers present decision contexts with internally consistent values across their present and future "selves". According to Future Design researchers, this third self contextualizes decisions about the future, based on personal present and imagined future values, instead of only from the perspective of their present values (Nakagawa & Saijo, 2020a, p. 6). The intersubjective "third self" that emerges is coherent with the present self and can exhibit "futurability".

Future Design researchers define "futurability" as "an intrinsic instinct to care for future generations" (Nakagawa & Saijo, 2020a, p. 5). Future Design hypothesizes that a person exhibits "futurability" when they forego actions in the present in order to benefit future generations and, as a result, experience an increase in happiness (Saijo, 2019, p. 5). The authors found a strong correlation between "disengagement from the present" and "supportive attitude toward future generations" constructs and hypothesize causality: "once individuals disengage from the present to take the future generation's perspective, they are more likely to be *empathetic* to future generations" (Nakagawa and Saijo, 2020b, 15, emphasis added). Future Design (Saijo, 2019) as a methodology, then, is rooted in one aspect of empathy – perspective taking (Pandit et al., 2021; M. Shahen et al., 2020; M. E. Shahen et al., 2020; Shahrier et al., 2017).

2.3. Summary

Future Design is a theoretically intriguing foresight method, that, like Scenario Planning, is designed to correct for presentism (Nakagawa & Saijo, 2020b). Future Design is different in that it intends to resolve intergenerational conflicts that emerge from presentism, for example when a person values the present at the cost of future generations. Future Design intends to intervene in present decisions in order to impact future generations' robustness. Scenario Planning, on the other hand, intervenes in order to impact present day robustness in the face of emerging and dynamic uncertainty. When it comes to empathy, Scenario Planning relies on relatability and plausibility; whereas Future Design focuses on perspective taking.

Scenario Planning thus, uses multiple, plausible, *plural futures* to expand beyond present day assumptions about how the future

Table 1
Summary Table of Scenario Planning and Future Design.

Scenario Planning (Wack, 1985; Chermack, 2011)	**Future Design** (Saijo, 2019)
Plural Futures	*Plural Futures*
Expands future perspective with multiple, plausible futures	**Expands conceptualizations about the future to multiple individual imaginary future worlds**
Complexity	*Complexity*
Widens the consideration of complexity in dynamic systems	Does not account for interconnections in complex dynamic social-ecological systems
Personal Values	*Personal Values*
No systemic way to bring individual's values into futuring	**Explicitly brings personal values into futuring process**
Intersubjective Perspectives	*Intersubjective Perspectives*
Not inclusive of intersubjective experience and individual's values in future imaginary	**Integrates individual intersubjective perspectives and identities in future imaginary**
Uncertainty	*Uncertainty*
Integrates uncertainty from external environment	Does not systematically account for future uncertainty
Empathy	*Empathy*
Scenarios are most useful when people can empathize with them	**Relies on empathic skill of perspective taking**

might unfold. Through these plural futures, *complexity* and a broader systems perspective, present considerations are widened to include unknowns in the *external environment*. However, with its focus on systematically exploring the most impactful and most uncertain drivers of change in the external environment, opportunities for integrating an individual's own personal values and intersubjective experiences are limited. How to integrate subjectivity and personal values into the process of developing scenarios, to date, remains a challenge (Lazurko et al., 2023). In Future Design, a person imagines themselves as a person in a future generation, and constructs their own unique future world from their own *intersubjective perspective*, worldview, and *personal values* therein. However, Future Design does not systematically account for interconnections in complex, dynamic social-ecological-technical systems, or future uncertainty in the external environment. These comparisons are summarized below in Table 1.

Comparing these two methodologies highlights the affordances of each; highlighting the limitations reveals opportunities for greater synergy.

To contribute to building a theory for foresight practice, we sought to combine Scenario Planning and Future Design for their largely complimentary affordances (Table 1). In the pilot case, study we report on below, we tracked a Scenario Planning project and deployed a pre- and post-test in order to learn more about the impacts of Scenario Planning interventions alongside Future Design. In doing so we aim to contribute to a theory to better present and future self relating and present-future coherence in foresight practice.

3. Pilot section

3.1. Case study

This pilot case study describes and analyzes a novel intervention combining Future Design and Scenario Planning across four corporate strategy sessions. The Scenario Planning and Future Design interventions occurred in the summer of 2019 across four different private corporations pursuing strategic planning prioritization and agenda setting goals. Each corporation had a select group of executive leadership, including CEOs, and employees at the strategic planning sessions. The select group that participated in the intervention across the four sites totaled approximately 80 individuals, who we henceforth refer to as participants.

The process was led by one of the co-authors with support of advanced PhD students in the Organizational Learning and Change Management Ph.D. in a graduate-level class tailored around learning Scenario Planning. Each Scenario Planning exercise happened at a different site. The research-based intervention was designed to contribute material benefit to the participating corporations and allow the graduate researchers to learn Scenario Planning in applied contexts. These case studies created the opportunity for the combination of Future Design and Scenario Planning.

As a way to study this novel, hybridized approach in an applied context, while still delivering material benefits to business strategic planning process, the Future Design intervention was added onto the conventional Scenario Planning intervention. Study exemption and approval was granted by Colorado State University institutional review board[1]; all participants provided informed consent to take part in the co-creation of the future scenarios and pre – post surveys. The surveys were derived from Future Design constructs to measure, "futurability" and deployed to better understand how well participants were able to disengage from the present and take the perspective of someone living in the future during the exercises (Nakagawa & Saijo, 2020a, p. 5).

3.2. Methods

3.2.1. The intervention: hybridization of Scenario Planning and Future Design

3.2.1.1. Phases 1 through 4: Scenario Planning. The Scenario Planning and Future Design Intervention took place over the course of two days and five workshop phases. First participants generated drivers and scenario matrices based on the drivers which were considered by the group to be the most impactful and uncertain (**Phase 1 & 2**). Under Dr. Thomas Chermack's supervision, researchers wrote scenarios based on executive leadership's input. Participants were asked if the scenarios were plausible, relevant and challenging (**Phase 3**). The researchers updated the written scenarios with alterations to the narratives based on this feedback. After participants had tested their strategic plans and investment decisions through the scenario matrix to evaluate the robustness of the plans across the different plausible, possible futures (**Phase 4**), we began the Future Design portion of the workshop.

3.2.1.2. Phases 5 through 8: Future Design. During the Future Design portion of the workshop, participants were asked to close their eyes and imagine they had time-traveled to the year 2060 (**Phase 5**). During this part of the activity, participants were asked to imagine the future from their own perspective and not think about the previous scenarios. In line with the Future Design method, participants were asked to consider the far future from their own perspective so that individual imagination and exploration of personally created futures could surface their own values, subjectively. Next, participants created a rich picture of the future world they had imagined and were asked to describe its look and feel, as well as the state of society, technology, the environment, economic and political dimensions of their world (**Phase 6**). Participant groups were prompted to imagine their company as flourishing in this far future world and were asked to consider what contributed most to their longevity (**Phase 7**). After conversation and reflection among the group, the final step in the Future Design activity was to come back to the five-year scenarios from the scenario matrix and re-evaluate the robustness of

[1] Protocol ID: 19–8721 H; Principal Investigator: Dr. Thomas Chermack

their strategic plans and reflect on additional considerations they might have missed in the first round of scenario activities (**Phase 8**). (For a more detailed script of what was used for Phases 5–8, see Appendix 1: Future Design Intervention.).

3.3. Data collection & analysis

At the time of this research, there was no formal survey to evaluate the impact of Future Design. Curious to empirically to investigate the Future Design and Scenario Planning combination, authors Drs. Lambert, Selin and Chermack employed an earlier version of a reliable and valid survey instrument that measures the psychological construct "disengagement from the present" (Nakagawa & Saijo, 2020a). In the time since the pilot study was completed, Nakagawa and Saijo (2020) defined two psychological constructs "disengagement from the present" and "supportive attitude toward future generations" to describe the model for the psychological process behind "futurability" (Saijo, 2019) that is the desired outcome of Future Design workshops. In our research, the "disengagement from the present" survey questions for the pre-survey aimed at understanding how well participants were able to fully imagine themselves in the future. Post-test questions matched the pre-test with a shift in tense to reflect the participants' experience in the past. Survey questions are presented in Table 2.

Anonymization was maintained for all participant survey data. Survey data was analyzed using statistical analysis software SPSS to generate descriptive statistics and measure changes between pre and post tests using a t-test.

At the end of the foresight workshops, open-ended follow-up interviews were conducted with three of the executive leadership participants from one of the four case study sites. Interviewees are here forth referred to as Interviewee A, Interviewee B, and Interviewee C. The open-ended qualitative interviews were designed to probe the participants' reflections on their experience and more general impressions of the workshop. All participants, including interviewees, took the pre and post surveys (elaborated above). The interviews began with an open conversation about how the participant experienced the workshop, how they thought their team experienced the workshop and whether there were any noteworthy moments that changed the way they were thinking about their strategic planning as a result of the foresight work we did together. Notes were transcribed live, by hand, during the interviews and key themes were synthesized using inductive analysis to highlight insights that emerged (Thomas, 2003).

4. Results

4.1. Quantitative results

Analysis of the quantitative data revealed that there were no quantitatively measurable changes across the group between the pre/post surveys at the level of the 'futurability' measurement. However, comparing the difference in means between pre and post groups through a paired dependent t-test revealed statistically significant change across six of the survey questions as individual items. A negative t-score indicates a statistically significant and small decrease across the means of the groups compared before and after implying that the intervention led to a decrease, not increase in participants responses to the questions.

The figure below shows the results from comparing pre and post means across the group for the surveys. Question sets with statistically significant decreases are shaded grey in Table 3 below.

Statistical analysis revealed that the means of the "futurability" constructs before and after the intervention were mostly equal, with no statistically significant change between pre and post-tests for question pairs four, five and seven, but showed a decrease between pre and post-tests for question pairs one, two, three, six, eight, and nine.

Table 2
Pre and Post Survey Questions.

Question	Pre-test	Post-test
1	I think I can put myself into the perspective of someone else living in the future.	I felt as if I was living in 2060 and I was a different person.
2	I can imagine the year 2019 as being in the past.	I felt as if the year 2019 were in the past.
3	It will be inspiring to consider the perspective of a person from the future.	I was inspired by what it was like to be a future person.
4	I will be able to feel like I am actually living in the future.	I gradually felt as if I were living inside the future world which I was articulating.
5	I will be able to concentrate on discussions, putting aside my daily complaints and worries.	I concentrated on conversations, putting aside my daily complaints and worries.
6	I will be able to recognize which group members are and are not acting as future people.	I recognized which group members were and were not acting as future people.
7	I will be able to express ideas to others which I would have hesitated to do in the normal environment.	I expressed ideas to others which I would have hesitated to do in the normal environment.
8	I will be open to the opinions of others that I might deny in the present environment.	I positively heard opinions of others which I would have denied in the normal environment.
9	I will be brave enough to express stronger opinions than I usually do.	I was brave enough to express stronger opinions than I usually do.

Table 3
Paired Sample Test Results Comparing Pre and Post-test means.

Paired Samples Test			
		Significances	
	t	One-Sided p	Two-Sided p
Q1 I can put myself into the perspective of someone else living in the future *I felt as if I was living in 2060 and I was a different person*	−2.010	.027	.054
Q2 I can imagine the year 2019 as being in the past *I felt as if the year 2019 were in the past*	−2.911	.003	.007
Q3 It will be inspiring to consider the perspective of a person from the future. *I was inspired by what it was like to be a future person*	−2.218	.017	.035
Q4 I will be able to feel like I am actually living in the future. *I gradually felt as if I were living inside the future world which I was articulating*	−1.158	.129	.257
Q5 I will be able to concentrate on discussions, putting aside my daily complaints and worries *I concentrated on conversations, putting aside my complaints and worries*	.420	.339	.677
Q6 I will be able to recognize which group members are and are not acting as future people *I recognized which group members were and were not acting as future people*	−2.268	.016	.031
Q7 I will be able to express ideas to others which I would have hesitated to do in the normal environment *I expressed ideas to others which I would have hesitated to do in the normal environment*	−1.045	.152	.305
Q8 I will be open to the opinions of others that I might deny in the present environment *I positively heard opinions of others which I would have denied in the normal environment*	−2.144	.020	.041
Q9 I will be brave enough to express stronger opinions than I usually do *I was brave enough to express stronger opinions than I normally do*	−1.992	.028	.056

Pre-test questions are marked with Q markers and post-test questions are italicized. Statistical significance is marked by grey shading.

4.2. Qualitative results

4.2.1. Evidence of "a bigger present" through "more openness & creativity" in FD + SP combination

A thematic coding analysis of the qualitative data revealed that the Future Design and Scenario Planning combination sparked new thinking about the future in present, thus revealing a "bigger present". Evidence based on interviews suggest the longer-than 5-year-horizon, applied during the Future Design activity, supported more openness and creativity toward the future among participants that wasn't available during the Scenario Planning portion of the activity. This was reflected across all three interviewees. Describing a newfound openness toward the future, Interviewee C described the lack of control they perceived their organization might have in 2060, removing present barriers to thinking. They reported: "funny that we put so [many] barriers on the 5 years because we think we have control of that but [when] we think about 2060, we have no control." The contrast between the "barriers on the 5 years" that emerge due to a sense of control over the future, that are lifted when they "think about 2060" or the longer-term future hint at the way a "bigger present" may be available as a result of Future Design activities in the workshop.

Interviewee A shared their experience with the Future Design and Scenario Planning combination helped to "open up" their imagination about what would be possible in the future: "some of the scenarios didn't necessarily seem realistic to [the executive leadership team] because they didn't think it could happen in 5 years, but the jump to 2060 was an easier - an anything is acceptable time frame - and I think that it was really helpful to think about our company's future from this perspective and helped us see what we are doing right now differently". Interviewee A suggested considering the 2060 portion of the activity first because it allowed "for more flow of ideas". Interviewee B said, "if we hadn't done the Future Design, I wouldn't have known that we had missed things in our scenarios". Interviewee A, remarking on the multiplicity of perspectives about the future that were in the room after the Future Design Phases of the workshop, describes: "while there wasn't consensus on what we would be doing, there was consensus on what we wouldn't be doing, and that was helpful".

Further highlighting the theme of openness and creativity, interviewee B said that there was "more creativity in the conversations and kinds of discussions the groups had during the Future Design portion" of the activity that hadn't been present in the group before the final phases of the workshop. The CFO relayed in so many words that their team was able to think further "outside of the box" during this final Future Design discussion and that that stayed with the team when they had their company debrief. All of these excerpts suggest that the Future Design portion of the activity supported more openness and creativity in thinking about the future among participants and helped to construct a "bigger present" through the process.

5. Pilot study discussion

5.1. Discussion of pilot results

5.1.1. 'Disengagement from the present' construct: no effect?

Future Design researchers have found that the activity of imaginatively inhabiting the future, deliberating, and then coming back to the present, creates a new intersubjective identity in those who make the mental journey. As a result, the process cultivates a new type of personal knowledge about the future in the present (Hara et al., 2019b, p. 10). The individuals who undergo the mental time-travel journey to inhabit reality from this different temporal perspective view symbolic objects in the present, like institutions, in a new light. In the Scenario Planning and Future Design pilot study, participants said they were able to think more openly and see beyond what they

had initially been able to see in the Scenario Planning activity. Future Design scholarship would suggest that any new perspectives about the scenarios that emerged, were in part, a result of a process of "disengagement from the present".

The Future Design researchers' construct 'disengagement from the present' survey questions are intended to measure the extent to which participants are fully immersed in the future and completely disengaged from the present. It appears that participants in this pilot study did not experience such a deep "disengagement from the present" in the intervention. However, while questions measuring the more extreme versions of "disengagement from the present" revealed no difference, while the questions focusing on 'slight shifts' revealed statistically significant decreases. Future Design interventions often take place over multiple days and deeply immersive experiences. Given the short duration of the Future Design part of the intervention, it is not surprising to see no effect only or a small response shift effect in the results.

5.1.2. Response shift bias and 'disengagement from present' results

A counter-intuitive explanation of these results could be response shift bias (Howard, 1980) in which participants responses underrepresent changes due to the closeness of the experience, i.e. the person's internal frame for considering the questions changes between the pre and post survey shifts the results. If the results measuring a small decrease are due to response bias, it would indicate that the experience of the intervention contributed to a more honest evaluation relative to the future in the post survey than the pre survey. The suggestion of some level of "disengagement from the present" signaled in the qualitative analysis hints toward this interpretation, rather than an interpretation that the quantitative measurement is accurately capturing a decrease in engagement from the present. Based on the qualitative results, we are inclined to think that the Future Design activity helped participants expand their orientation to the scenarios in the present moment. This further suggesting that response bias could be responsible for the very small decrease measured in the pre/post surveys. More research would need to be conducted to confirm this interpretation.

5.1.3. qualitative insight reveals some 'disengagement from present' effect

Even without quantitative evidence of a shift between pre and post intervention, the qualitative interviews indicate that participants did feel some level of disengagement from the present that was helpful for their ability to expand their orientation to the present moment. The longer time horizon from 2060 that helped to expand the present with more openness and creativity, and conceptualizing of the future, hints toward an element of 'disengagement from the present' at play. Further research and interviews would be required to substantiate this claim.

Furthermore, each of the different phases, and especially Phase 8 –revising the scenarios at the end— was intended to add diversity and individual creative perspectives to the worlds established during the earlier Scenario Planning portion of the workshop. These intersubjective differences across the multiple imagined future landscapes are part of where the Future Design method draws its strengths. Interviewee A's comment about consensus that the future is different from the present, but no consensus on what the future looks like, reflects that the Future Design aspect of the intervention brought its intended multiplicity of intersubjectivities into the room.

5.2. Discussion of pilot study limitations

While there was an observable difference in the group with regards to a shift in experience that occurred after going through the Future Design visioning activity, further research would be needed to clarify if this was the Future Design approach, specifically, or the longer time horizon which contributed to this unlocking of new ideas, or some other confounding factor or explanation.

Finally, the pilot study indicates that hybrid Scenario Planning – Future Design activities might require a longer amount of time than a single short intervention. Given the promising qualitative results, future research might benefit from more time for the Future Design part of the intervention. As was the case in this pilot study, corporate, interventions must be fit into tight windows and aim to be memorable by creating "an experience" over the course of a short period that fits within executives' demanding work schedule. In our case we had to shorten the experimental Future Design portion to a fifteen-minute activity within the larger Scenario Planning intervention. The pilot results suggests, at minimum, the need to do more than a fifteen-minute intervention if one aims to support people to "disengage with the present" in workshop settings. Further research would require longer periods of integration of the Future Design intervention and more iterative processes to ignite deeper thinking about future generations' perspectives.

Despite the insufficiency of our pilot intervention's impact, the study provides a rich ground from which to theorize the affordances of combining the methods with regard to a broader theory of intersubjective relating for foresight practice.

6. Discussion

6.1. Temporality

Future Design and Scenario Planning methods employ multiple temporal orientations. In this section, we refer to the location in time when a person situates themselves while they imagine the future as the "temporal orientation" of the instructing method. The combination of Scenario Planning and Future Design initiates the production of a temporal framework within which to understand the combining, comparing and contrasting of these methods.

In the pilot study, a temporal looping process occurred through a mix of Future Design and Scenario Planning when participants imagined that they were living in a future world, and then brought that future perspective back to the present moment in the interrogation of the four scenario worlds the groups created in the earlier Scenario Planning stages of the workshop. Both Scenario Planning

and Future Design engage temporal looping in different ways. In Scenario Planning, the looping from the future to the present comes in the form of plausibility checThe qualitative assessment revealed that the combining of the methods and moving from present, to future, back to present, to think about the future, led to experience of a "bigger present" (coded as "more openness and creativity about the future") in the imaginations of participants. Further research is needed to substantiate a more nuanced understanding of how this can be built and studied further in foresight practice. The next section on temporality is an attempt to contribute to such effort.

Generally, approaches to Scenario Planning interrogate highly impactful future uncertainties and are *generally* temporally situated somewhere in the present to think *about the future.* Thinking about the future *to impact the present,* Scenario Planning strategically maximizes present robustness in the face of intractable uncertainties. Future Design, as a methodology, however, is defined by an explicit meta-cognitive displacement of individuals from their situatedness in the present to think from the future *about the present.* Thinking about the future, in the present, *to impact the future*, Future Design uses acts of imagination to interrogate the present by temporally re-situating individuals in the future. Negotiations of present and future relating, then, occur as individuals process their present-and future-selves, as well as among the group where negotiations occur. Both methods move from present to future at different stages, and in different ways.

The benefit of beginning with thinking from the present, as is the case with Scenario Planning, is that it supports moving beyond cognitive biases in decisions and illuminates unexamined assumptions that go unquestioned (these mental models are subsequently out of sync with the external world in which a decision environment is embedded). The benefit of beginning with thinking from the far, far future, as can be the case with Future Design, is that different values and orientations toward the present can be considered from a personal, future perspective.

The authors acknowledge that in reality, and in practice, developing scenarios exists in a fluidity that moves through different time phases, rather than a linear from present to future orientation. Recent developments in the literature acknowledge multiple temporalities can be at play and in practice foresight activities can activate a "temporary suspension of present circumstance" to explore potential future pathways in the present (Das, 2019, p. 3). While traditional forecasting implies the "flow of time is linear: past to present to future", "scenario practices, by contrast" imply "the flow of time is multi-directional (e.g. past and future into the present) and iterative" (Wilkinson, 2009, p. 108). Many unsolved issues arise during the development of scenarios that require individuals to have an 'openness disposition' and to hold multiple, potentially conflicting ideas and temporalities simultaneously (Burt et al., 2017). As such, multiple temporalities and "entangled time" are inextricable to all foresight methodologies and practice (Terry et al., 2024).

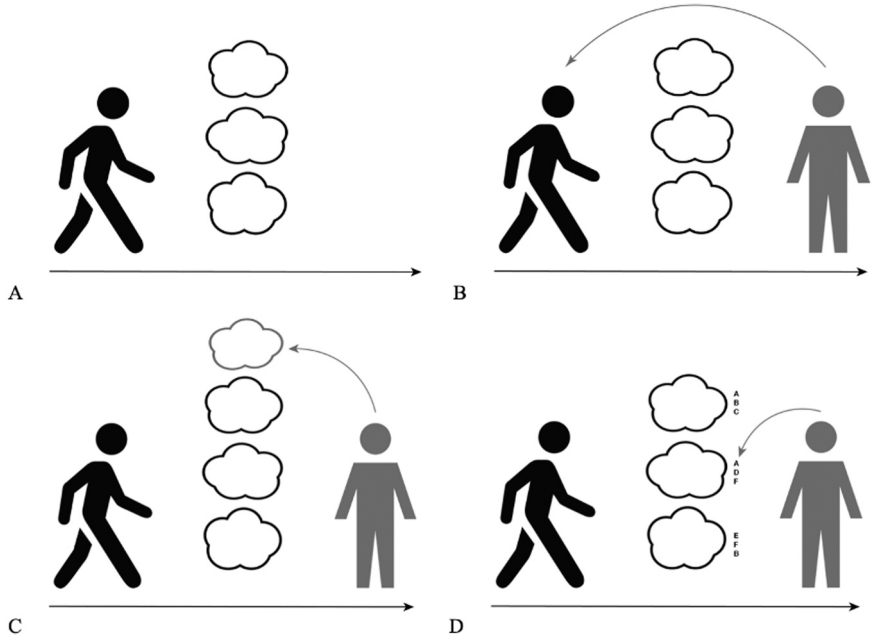

Fig. 1. Temporal Orientation Map: displays temporal orientation from perspective of Scenario Planning, Future Design and hybridized Scenario Planning and Future Design foresight practices. Fig. 1 shows a proposal for differentiating temporal orientations in Scenario Planning and Future Design (Graphic image digitally rendered by Wasserman et al. (2018)). In Fig. 1, **Part A** represents Scenario Planning as usual: a person in the present goes through a structured process to construct multiple plausible futures – even though a person will experience multiple temporalities in the process, the temporal location of the self, unless otherwise instructed, remains in the present. **Part B** represents Future Design as usual: a person imagines themselves in the future, then as this future-self, goes through a structured process from the future to construct a possible future. Cognitively inhabiting the future, they engage in deliberation with other people situated in the present –together the groups deliberate about the future. **Part C** considers a combination of A & B in which an imaginary future-self adds a scenario to the set of scenarios constructed by the rest of the group who has constructed the scenario set from the temporal location of the present. **Part D** considers a combination of A and B in which an imaginary future-self reflexively engages the scenarios created from the present and updates the scenarios with additional, novel, considerations. The pilot study combination of Scenario Planning and Future Design most closely maps onto Part D of Fig. 1.

Yet, it is important to note that in the context of futures studies, what makes the future unique, and tractable, is that it is unknowable, and has yet to occur; since time cannot actually be neatly separated as such, futures studies take interest in the aspect of the future which is in constant creation. As such, there may be no clear way to demark the past, from the present, from the future (Nordmann, 2014). Still, the orientation from present to future is often assumed in the structuring of the Scenario Planning foresight intervention activities, when, even when thinking about the future, individuals are not asked to explicitly shift their temporal location.

Exaggerating and defining difference in temporal orientation between Scenario Planning and Future Design opens up space for imagining different configurations of how these methods could interrelate to explore practical and theoretical affordances of their combination. Comparing temporal orientation between Scenario Planning and Future Design helps to sequence a deeper understanding of how temporal orientation might move, in real time, when these methods are combined in practice. In other words, differentiating the temporal orientation structures a sequential process from otherwise undifferentiated multiple temporalities when Scenario Planning and Future Design are combined. Keeping these temporalities separate, also helps to identify *when* specific mechanisms related to each method are occurring. Differentiating both methods by temporal orientation, then, leads to the development of a conceptual map, described below (Fig. 1).

6.2. Empathy

Earlier we observed how Future Design and Scenario Planning each engage different aspects of empathy to overcome cognitive bias. Recall that scenarios need to be empathizable to help constituents break their present frame and reveal potential vulnerabilities to and strategically prepare for complexity and intractable uncertainty. Future Design relies on empathy by having participants interact in perspective taking as imaginary future generations to reach beyond presentism (this essentially underlies Hara et al.'s (2019b) concept of 'futurability').

What is often colloquially referred to as "empathy" is actually "interpersonal empathy" (Davis, 1980). Interpersonal empathy can

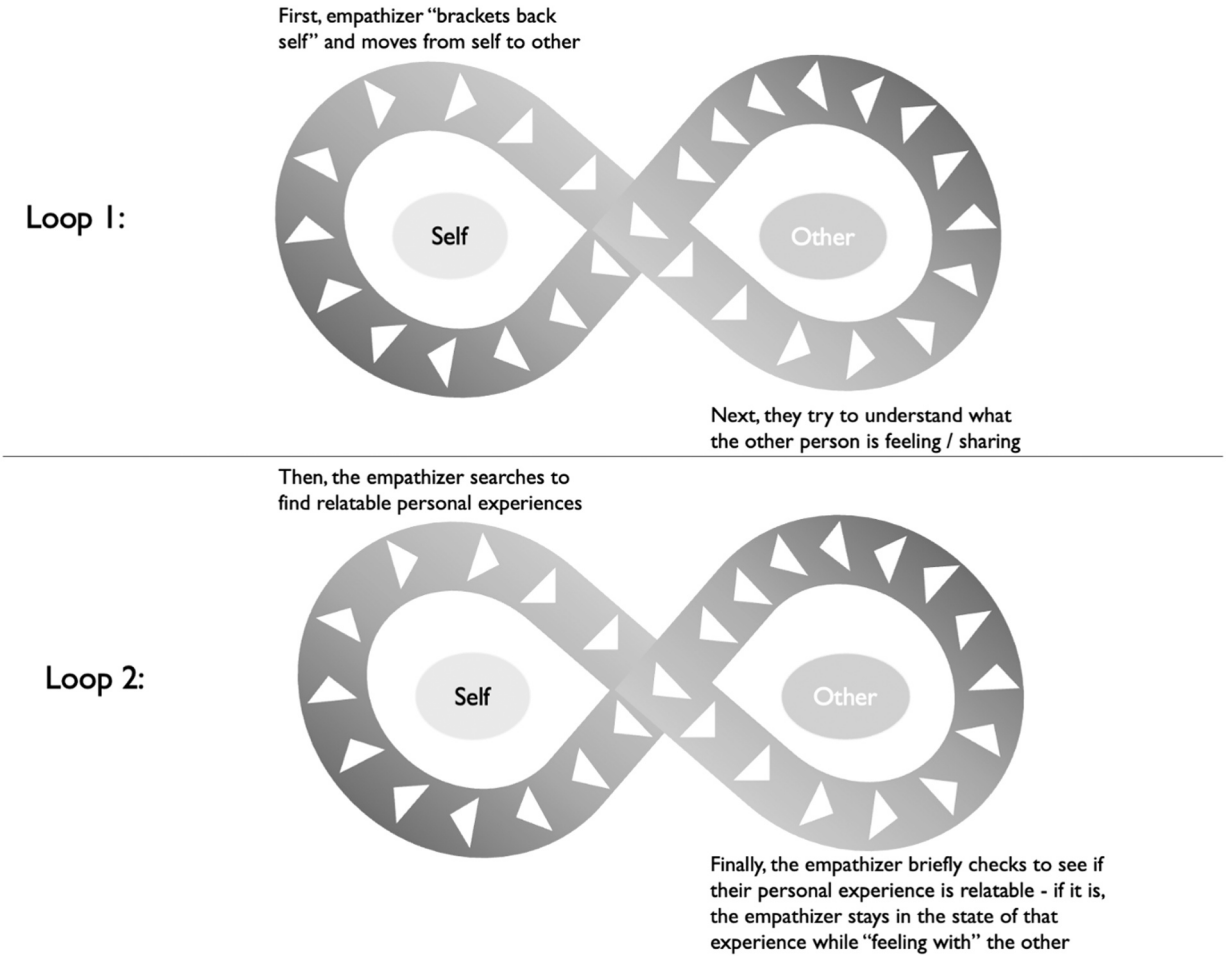

Fig. 2. Empathy. Through the process of looping from self to other, back to self, back to other, there is increased coherence between the self and the other with whom the self is trying to empathize.

be described through Iversen's (2019) model of a two-step, double looping process. In the first loop, a person engages their own capacity to feel toward another person's experience, in the second loop, they go back to their own experience, and then back to the other person. All five aspects of Davis' (1980) interpersonal empathy can be considered within Iversen's (2019) description of double looping:

The first loop requires the aspect of empathy which is affective, or unconscious, and the second loop requires thoughtful use of the aspects of empathy which are cognitive. In loop one, first, a person relates to another's experience either through affective mentalizing (imagination) or through automatic affective response in which a person leaves their own experience of reality to enter into relationship with another person's experience. Then, through self-other awareness (understanding that other person's experience is not the same as their own experience) and emotional regulation (not being so overcome with emotional response that they are unable to come back to their own experience as separate from the other person's) a person can engage in perspective-taking (Davis, 1980; Iversen, 2019). The move, in this first loop of relating, as shown in Fig. 2, requires that a person "bracket back their own experience and self" to better understand what the other person is saying and experiencing. Next, in loop two, a person comes back to their own experience, to internally explore if there are personal experiences that could help them to understand the feeling a person is sharing with them. Next, they must verify to see if what they are imagining indeed reflects that other person's experience. If the person verifies this resonates, then the person goes back to the other person holding this resonance of discomfort (or excitement) together. Thus, the second loop involves going from other person, back to self, and then back to the person, to share the in the feeling revealed by the person, together.

6.3. *Circling back: Futures Empathy*

Combining this relational "double looping" of empathy with our earlier reflections on temporal orientation we can scaffold a theoretical conceptualization of Futures Empathy that builds on the Scenario Planning-Future Design combination. First, a person must be able to imagine the future scenario world as plausible. Then, they must be able to place themselves within that future world and *empathize* with it. Having done so they can come back with a fresh orientation to the present based on having known or "felt" the other possible future world. Critically, the imagined future world must be plausible to be a trustworthy place from which to consider thinking differently about the present. In the context of foresight practice Futures Empathy thus changes a person's intersubjective state, by having them relate to other possible futures (Fig. 3).

A person begins in the present, relating to a not yet existent future. Then, while in relation to that future, the person considers how they might think differently about it in the present. This opened perspective enables them to construct a more coherent future.

Futures Empathy takes the "how to" elements of Scenario Planning and Future Design in foresight practice and combines them with insight into the psychological construct of empathy to offer a theoretically grounded "why". In this way, it offers scenario practice a way to more intentionally build more coherent, empathizable futures in the present. In addition, it expands Future Design's practice as a one-off intervention by situating it as an exercise in iterative temporal reorientation to make more coherent futures. Using Futures Empathy to intentionally build more coherent layers of intersubjective experience at the personal level expands the dynamism between individual imagination and collectively or culturally held narratives at the group level. Processes that move back and forth between individual imagination and collective narrative building co-constitute a reflexive Futures Empathy building process within which the individual and the collective can co-emerge.

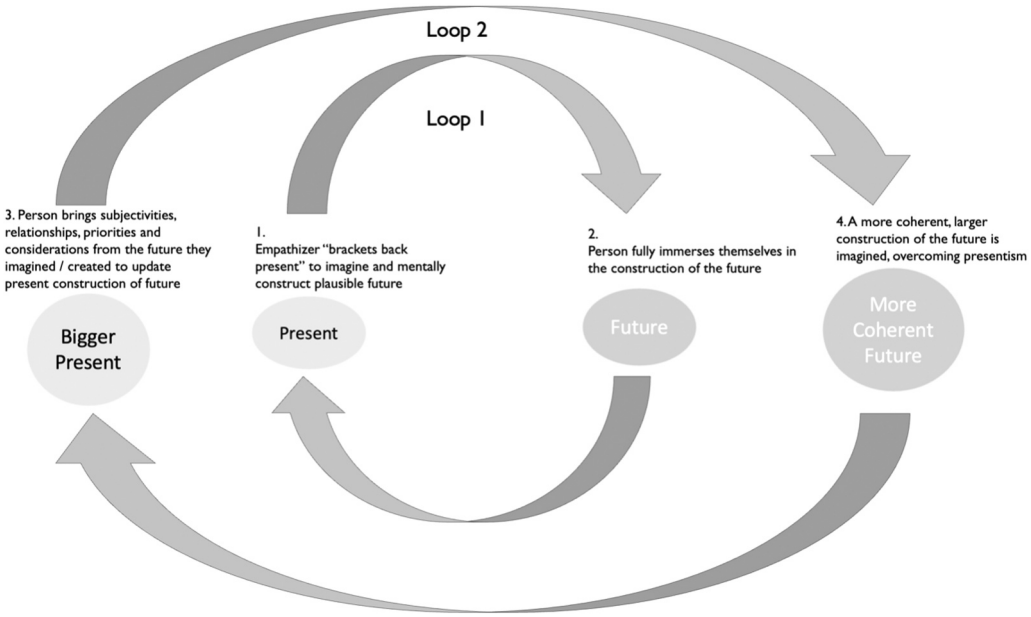

Fig. 3. Futures Empathy. Figure shows process of double looping empathy to describe process for creating Futures Empathy in foresight practice.

6.4. Construct proposal & future research

Our research opens the suggestion that building Futures Empathy in foresight interventions will require time and iteration. In addition, it requires a coherent way of measuring what participants may be experiencing in Futures Empathy interventions. We therefore suggest that future research build on Segal's (2018) expansion of interpersonal empathy to social empathy. This would mean creating two discrete, essential constructs. We propose the constructs

"Future Perspective Taking" and "Contextual Understanding of Intergenerational Interdependence". "Disengagement from the present" (Nakagawa & Saijo, 2020a) offers a starting place for measuring "Future Perspective Taking". "Supportive attitude toward future generations" (Nakagawa & Saijo, 2020a) and "future context" would offer a starting place future construct development and experimental validation tests for "Contextual Understanding of Intergenerational Interdependence". Developing appropriate measurement constructs and subconstructs for Futures Empathy in this way would support the further articulation and development of the theory as well as better tailor methods of foresight for applying it in practice.

7. Conclusion

Drawing on theories of empathy and preliminary empirical work done in this pilot study, we put forth a theory of Futures Empathy to guide foresight practice. By proposing a theory of Futures Empathy, we suggest a novel way to build more coherent present and future relating in practice. As a theory of foresight practice, Futures Empathy can serve to remind foresight practitioners to iteratively toggle between present and future contexts. By doing so, Futures Empathy can help participants of foresight interventions overcome cognitive biases like presentism's limitations.

Futures Empathy guides a reimagining of present and future worlds as a process of collective meaning making. Empathy is a powerful vehicle and the glue for social interaction. Futures Empathy offers a potent way to expand individual agency in collective processes by connecting people with their values and imaginings of the future. Connecting people to futures in this way increases intertemporal coherence. Increasing this coherence between the present self and the future self helps to support futuring processes that not only improve the present with insights from possible futures, but also of futures with insights of more coherent presents.

CRediT authorship contribution statement

Cynthia Selin: Writing – review & editing, Supervision, Funding acquisition. **Lauren Lambert:** Writing – review & editing, Writing – original draft, Validation, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Tom Chermack:** Supervision, Formal analysis.

Declaration of Competing Interest

None

Acknowledgements

I gratefully acknowledge the exchanges with Dr. Michael Bernstein and Dr. Marta Berbes and the reviewers which helped strengthen the manuscript.

Appendix 1: Future Design Intervention, Phases 5 through 8

Script for intervention:

Part I **Write on the board *it is 2060 and the world is….***

Now, we are going to shift gears a little bit. Instead of staying in our present selves and thinking about the future,

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we are going to pretend that we are in the future. Eventually, we will come back to the present with some perspective from the future.

.

For now, hold tight, as we step into this time machine and travel together to the year 2060. Close your eyes and imagine you have arrived. It is 2060… You have arrived as yourself, but in a future generation.

What is the world like?

What does it feel like?

What does it look like?

What is going on in current events? Politics? Environment? Technology?

Where do you live? What is your life like?

It is likely that the future world that you each imagine is different. That is okay. Your future world of 2060 might have elements from the scenarios we talked about today or might be completely different - there is no need for a cohesive collective vision of the future to emerge in this activity.

Take 5–7 min to scratch out on a piece of paper what the world looks like from your future generational self's perspective… (walk around answering any questions people have).

What is the world like?

What does it feel like?

What does it look like?

What is going on in current events? Politics? Environment? Technology?

Where do you live? What is your life like? (write these questions up on the board somewhere).

(have people share highlights with their tables or in small groups, time pending, 10–12 min for Part I).

Part II.

Imagine that in the future you have just sketched out, Company X has made it through the ups and downs and is still a brand name in our new year, 2061. Company X is thriving and flourishing. Standing in the shoes of this next generation of Company X employees, ask yourself:

What has contributed to your longevity?

What has happened that has enabled you to sustain your company?

What do people think when they hear "Company X"?

What has most enabled you to thrive and survive? What obstacles have you overcome?

(have group report out here, 10 min).

Okay, moving back to our current selves and the scenarios we have spent the day talking about, are there any discoveries or perspectives from our journey to 2060 that impact the way you would address or think about the 2025 scenarios? If so, which elements and how would they impact your decision making? What have you learned from the far, far future?

.

(have group report out here, time pending, save at least 2–3 min on this final question).

Inevitably, those that move through your organization in years to come will be impacted by the decisions you make today. This exercise was part of ongoing research we are doing in intergenerational perspectives and long-term sustainability. Thank you for your participation.

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