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Inner Development Goals and the Meaning, Awareness and Purpose (MAP) Model for Climate Coaching

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ABSTRACT

In the initial study, two focus groups (n=11) scrutinized the five domains within the Inner Development Goals (IDG) framework, examining the essential skills for tackling challenging goals. They collaboratively crafted a streamlined 29-item measure (IDG-A), incorporating a novel sixth domain: organizational belonging. The second study assessed the IDG-A among employees from four organizations (n=39), exploring correlations between the 29 items, six domains, and overall scores. Significantly, many items, nearly all domains, and all domains in relation to the composite score exhibited meaningful correlations, suggesting strong single conceptual alignment. The third study employed findings from the first, leveraging the conceptual congruence of these domains, and motivational theories to shape the Meaning, Awareness, Purpose (MAP) model, designed to activate individuals for climate change goals by taking up climate action, and improving well-being. To assess MAP's effectiveness, two global organizations recruited employees interested in climate change, who underwent IDG-A assessments and were divided into a Carbon Literacy Training (CLT) group (n=10) who dissected strategies for climate action and created a project, or the MAP condition (n=6) emphasizing intrinsic motivation and merging individual and team climate actions to enhance well-being and communication. CLT involved a 15-hour course over 10 weeks, while MAP spanned 9 hours over 10 weeks. Post-intervention, both groups underwent IDG-A re-evaluation and interviews to gauge climate action engagement. Baseline IDG-A scores showed no group differences, with CLT showing no significant improvement. Conversely, MAP significantly improved (p=.004) and outperformed CLT (p=0.03). Interviews indicated personal changes for all, but uniquely, MAP reported enhanced team cohesion and improved well-being. In conclusion, this study proposes future research directions and practical applications.

Keywords: *Climate Coaching; Sustainability; Imagery Training; IDG*

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EMPIRICAL STUDY

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INTRODUCTION

Background

In an era increasingly focused on the United Nations Sustainable Development Goals (SDGs), it is evident that governments worldwide are actively pursuing these 17 macro-level objectives, including poverty alleviation, clean energy accessibility, and climate action (United Nations Climate Change, 2022; Leiserowitz et al., 2020). However, at the micro-level, organizations have lagged in translating these goals into tangible actions (Mio et al., 2020; Gifford, 2011), despite their potential and sector-specific expertise (Berrone et al., 2019).

A central challenge lies in bridging the gap between these global SDGs and their application within individual businesses, especially concerning employees who may question the impact of their efforts on such lofty goals. This disconnect can amplify mental health concerns when individuals perceive insufficient action addressing impending threats like droughts (Sartore et al., 2005). Effective goal pursuit requires personal and team resilience, coupled with various skills and qualities. Enter the Inner Development Goals (IDGs) framework, devised to identify essential attributes for tackling complex societal issues, particularly those underpinning the UN's Agenda 2030 and the 17 SDGs (Inner Development Goals, 2021). The IDG research involved 861 participants who were asked to enumerate 3-7 essential personal qualities for SDG attainment. The results distilled five overarching qualities: self-relationship, cognitive skills, care for others and the world, social skills, and the ability to drive change. The IDGs, rooted in both leadership development and sustainability, serve as a comprehensive framework for examining individual and collective attributes while considering organizational and institutional support (Inner Development Goals, 2021). The pertinence of the IDGs extends to both organizational and broader contexts, serving as a guiding framework for leadership and SDG development. To operationalize the IDGs within companies, several critical challenges must be addressed. These include assessing change, determining optimal empirical methods to activate individuals, and working groups, and fostering a motivational climate that sustains momentum beyond initial goal agreement. This is where climate educators and coaching psychologists come into play, leveraging their expertise to measure change, motivate employees toward micro-level business goals that impact SDGs, and guide stagnant teams toward progress.

A notable trend within organizational sustainability and climate change is that the impact of initiatives does not meet the intentions. Bain and Company (Davis-Peccoud, 2017) surveyed and interviewed 300 organizations, finding 98% of climate initiatives failed and 81% judged it to be of moderate value. Equally, Accenture (2022) found that 93% of companies are currently expected to miss their Net Zero targets. Research from Microsoft (2021) explored this broad trend and concluded that this failure to meet targets is "partly due to a failure to turn strategy into action and a scarcity of in-house skills". It is reasonable to conclude from these findings that the organizational change and workforce training and development programmes are not currently effective in many organizations. This underlines the need to look explicitly into the effectiveness of current initiatives; the theoretical framework underpinning them; and the potential for alternative approaches to adult development such as coaching and psychology to contribute to the approach employed by organizations.

While individual executive or one-to-one coaching boasts a high success rate (Jones et al., 2016), it is noteworthy that many team coaching programs encounter difficulties. A meta-analysis exploring the effectiveness of coaching programs in workplace settings (Wang et al., 2022) discovered that various models, including the well-known GROW (Goal, Reality, Options, and Will), POSITIVE (Purpose, Observations, Strategy, Insight, Team, Initiate, Value, and Encourage), and models like Cognitive Behavioral Coaching (CBC), exhibited equal effectiveness when addressing complex goals. Wang et al.

also argue that integrated models (e.g., CBC + GROW), which emphasize solution-oriented and strengths-based coaching, offer the most promise in the workplace context. However, there is still a need for a comprehensible and easily implementable integrated team model grounded in personal development that can be applied and refined to fit complex individual and team needs.

A solution-focused approach to coaching is generally the most effective for setting and achieving shared goals. Most carbon literacy training programs in organizations typically commence with learning styles in the workplace, adapt knowledge (i.e., understanding the effects of climate change), and culminate with a project that demonstrates knowledge (Srkoc et al., 2021). This solution-focused approach, centered on specific goals, bears similarities to person-centric coaching models like GROW and POSITIVE, which provide straightforward frameworks for coaches to follow. However, carbon literacy training often neglects the challenges associated with integrating learning or goals related to complex, systemic issues such as climate change into standard business operations. It also fails to address the merging of personal and interpersonal motivation effectively. Consequently, there is a need for an innovative model that places individuals and teams at the center, effectively combining intrinsic motivation, purpose-driven values, adaptive goal setting, and team cohesion.

One well-established and enduring behavioral approach often used in coaching is Motivational Interviewing (MI; Miller & Rollnick, 2012), which prioritizes intrinsic motivation in all interactions. MI begins with the development of personal and often team self-awareness, subsequently addressing ambivalence and goal setting, and ultimately leading to motivation and planning. MI has yielded positive results in encouraging personal climate-centered behaviors, such as energy conservation (Endrejat et al., 2017), and can be delivered to individuals, groups, and communities (Güntner et al., 2019). Although MI alone is a powerful method for pursuing challenging goals, its combination with imagery training has been shown to enhance motivation even further (Solbrig et al., 2018; Rhodes et al., 2021).

When MI is combined with imagery, it becomes Functional Imagery Training (FIT), originally developed to support individuals in pursuing challenging goals. From FIT, an applied model, known as Applied Imagery for Motivation (AIM; Rhodes & May, 2021), emerged. AIM breaks down significant challenges into manageable process tasks, primarily employing imagery to evoke motivation and devise strategies to overcome hurdles. While the AIM model has not yet been applied to climate goals, it has demonstrated effectiveness in enhancing team performance (Rhodes et al., 2020), and imagery training has been associated with increased pro-environmental behaviors (Boomsma et al., 2016). Consequently, an intrinsically motivated, goal-centered approach grounded in imagery appears to be a logical starting point when developing a model that can be easily deployed with teams.

In this study, we have honed several models, approaches, and techniques, including GROW, POSITIVE, CBT, CBC, MI, and the AIM model, into a new framework that can be delivered by psychologists, coaches, or climate moderators. This framework is named MAP, signifying Meaning, Awareness, and Purpose. MAP serves as the foundation for our climate coaching framework, employing person-centered conversations to explore motivation and personal meaning. This exploration primarily focuses on developing a sense of responsibility by connecting personal motivation to adaptive behaviors. This process involves two key components: awareness, which explores what actions can be taken to act responsibly or engage in nature initiatives, and imagery training, which envisions what change will look like. There is existing evidence (e.g., Mayer & Frantz, 2004; Whitburn et al., 2020) underscoring the significance of a connection with nature in promoting ethical and sustainable behaviors. Whitburn et al. (2020) suggest that additional evidence is needed to fully grasp causation, as it is believed that measures that encompass affect, cognition, and behavior in building a connection with nature will be the most effective at driving pro-environmental behavior. This aligns with the

pathways to nature connection (Rickard & White, 2021), which include multisensory connection, meaning, compassion, and beauty. This profound connection with nature is more likely to stimulate motivation and, consequently, action. Lastly, the concept of purpose considers how actions will impact others. When combined with imagery, it can evoke goal-directed action. By delving into personal motivation and connecting it to adaptive behaviors, we anticipate tangible actions will result (van Valkengoed & Steg, 2019). Furthermore, when teams collaboratively develop actions based on discussions about meaning, awareness, and purpose, they are likely to create more effective processes as they work toward challenging goals. This, in turn, will enhance self-understanding, thinking skills, social skills, and the development of explicit communication systems, ultimately improving well-being and enabling change. These factors can be partially traced through the IDG framework (Inner Development Goals, 2022).

While the MAP model serves as the overarching approach to facilitate communication, it requires careful navigation within corporate organizations. Systems thinking, a well-documented concept (Senge, 2014), offers a more holistic approach to understanding the interplay between the system, encompassing organizational structure, employee needs, and relationships, the behaviors that occur within it, and the resulting outcomes. Climate change is fundamentally a systemic issue, necessitating a deeper exploration and comprehension of the system for climate-related goals to be achieved. Therefore, the MAP model has been developed within the context of systems thinking, firmly rooted in the complexity of climate change and the organizational environment.

This series of pilot studies serves three progressive purposes. Firstly, our primary objective is to develop an adapted version of the Inner Development Goals (IDGs) framework using focus groups. This adaptation aims to facilitate the measurement of personal qualities and skills associated with inner development. Secondly, employing a small sample, we conducted a trial of the adapted IDG, referred to as IDG-A, to ascertain its appropriateness and suitability for assessing personal qualities. Our intention is to make this scale available for organizations to use freely in their assessments. We hypothesize that the domains within IDG-A will not exhibit significant correlations, given their constructive variation. However, we anticipate that the combined item average score for each domain will demonstrate a significant correlation with the total combined average score.

Thirdly, in alignment with the conventions of exploratory research (Sherlock-Storey et al., 2013), we aimed to develop and implement a coaching model, denoted as the MAP model, designed for coaches working with teams. This model is designed to offer a structured yet adaptable framework capable of accommodating individuals with diverse goals within organizations striving to achieve SDG outcomes. To assess the effectiveness of the MAP model, we conducted a comparative analysis. Specifically, we compared a team that received traditional carbon literacy training coaching with a similar team that underwent MAP coaching. We utilized IDG-A to measure baseline and post-intervention skills and qualities. Our hypothesis posits that a significant difference will emerge between the two groups after the training, with the MAP group achieving higher scores than the carbon literacy group. Additionally, we conducted post-intervention interviews to evaluate whether behavioral intentions translated into enduring implementation and to gauge participants' perceptions regarding the effectiveness of their efforts toward larger SDGs.

The Present Study

This research unfolded in two concurrent facets: the transformation of the IDG framework into a practical measurement instrument and the development of the MAP model, followed by its comparison to a control intervention. Consequently, this research encompasses three distinct studies. The first study focused on the creation of the adapted IDG-A measurement tool; a process facilitated by

conducting focus group sessions. Subsequently, in the second study, we recruited a small sample and tested the appropriateness of the IDG-A items and considered how the measure should be used and fed back to participants. Finally, the third study involved the recruitment of participants from two organizations, who were then subjected to either a carbon literacy intervention or the MAP intervention. The effectiveness of these interventions was evaluated using the IDG-A and post-intervention interviews.

Given the multifaceted nature of this interdisciplinary research, characterized by various operational components, we adopted a pragmatic, critical realist, and constructivist approach. Throughout the research, we remained grounded in the exploration of 'real' structures, 'actual' events, and 'empirical' perceptions (Hoddy, 2019).

Ethical approval for this research was granted by the institutional ethics committee of the lead author. It is essential to note that this initial pilot project was not preregistered, and data analysis plans were not submitted prior to data collection. Nevertheless, we made a concerted effort to adhere to the transparency and openness guidelines outlined by Nosek et al. (2015), including purposeful participant selection and facilitating access to data and corresponding code wherever possible.

STUDY ONE

The genesis of our research lay in crafting a measurement tool rooted in the pre-existing IDG framework. Our objective was to moderate open discussions using focus groups to curate a set of items that could be readily employed by any organization to evaluate inner goals through personal skills and qualities, thereby serving as a catalyst for meaningful climate dialogues and proactive measures. This measurement instrument is denoted as the IDG-Adapted (IDG-A), signifying its evolution from the original framework.

Participants

To develop the IDG-A, the lead author moderated two focus groups with a purposeful sample of climate coaches external to this project (n=5, M_{age}=41.2, SD=6.9, Female=3, Male=2) who had extensive experience (+7 years) working with corporate organizations, and a group of six Chief Executive Officers (CEO's) (M_{age}=54.77, SD=7.39, Female=1, Male=5) based in America (n=5) and Europe (n=1). All participants in these focus groups were recruited opportunistically due to their established connections with members of the research team. Participants were provided with research details, including the study's objectives, and granted written ethical consent before the initial session.

Procedure

The procedure consisted of two distinct online focus group sessions, each lasting 1.5 hours. These sessions were voice recorded and were centered around a discussion of the IDG framework (Inner Development Goals, 2022a). The primary objective was to enhance and adapt this framework into a set of questions that could be effectively utilized by climate coaches and organizations. These questions were intended to pinpoint personal qualities suitable for refinement during climate coaching sessions. In accordance with Tong et al.'s (2007) recommendations for optimizing qualitative research, all relevant criteria were meticulously addressed across three domains: the research team and reflexivity, study design, and analysis. Additionally, the groups were encouraged to provide insights into the IDG framework, critique its individual components, and offer clarification where necessary. It is worth noting that the IDG framework had its origins in focus groups that involved over 3000 participants (IDG, 2021).

The IDG framework encompasses 23 transformational skills categorized into five domains: relationship to self, cognitive skills, caring for others and the world, social skills, and driving change. In light of these domains being established during the original framework research, the lead author sought interpretations through confirmatory quotes extracted from the current focus group discussions. This process aimed to strike a balance between providing objective descriptions of emerging themes/domains and maintaining a phenomenological perspective. The theoretical approach of Interpretative Phenomenological Analysis (IPA, cf. Smith, 2011) guided the study's design and had a profound impact on the development of the IDG-A. The voice recordings of the focus group sessions were transcribed verbatim, with quotes that supported each question in the IDG-A meticulously highlighted. Subsequently, the entire set of adapted items was shared with the focus group members to ensure precise meaning and to solicit their feedback. At this point, the transcripts and audio, but not the finished IDG-A were shared with researcher five who did the same task of sifting through the quotes to create their own IDG-A measure. When this was complete the two researchers discussed the end measure and shared the IDG-A with quotes to the participants for feedback and clarity.

Results and Discussion

The outcomes of the focus groups demonstrated a unanimous consensus on the significance of the five IDG domains, a consensus substantiated by discussions and quotes identified through IPA. These deliberations led to the refinement of specific items deemed suitable for inclusion into the IDG-A. The IDG-A encompassed five key domains, with the following number of items allocated to each: relationship to self (five items), cognitive skills (five items), caring for others and the world (four items), social skills (five items), and driving change (four items). Moreover, the focus group discussions gave rise to an entirely new domain, which added a sixth domain to the IDG-A: organizational belonging (six items). This additional domain emerged in response to feedback from the focus groups, who perceived the need for a broader perspective that could holistically connect an individual's inner goals with those of the team and organization.

We recognize the potential for bias as we sifted through quotes to match them with the already identified IDG framework and sought to establish a link between remaining quotes and general themes of discussion. To remain as objective as possible, as domain quotes and items were being discussed in the focus groups with the single research moderator, a second researcher did a similar task post-focus group discussion with only the audio and transcripts to analyze. That way they remained unbiased from the sessions and could make their own judgements without influence. The researcher independent of the focus group confirmed the location of a new domain which she named: culture connection. This was discussed with participants and changed to organizational belonging as participants felt it was a better fit.

The six additional questions introduced within this new organizational belonging domain were as follows: (1) "My values and goals align with my organization's and teams'," (2) "I have a clear understanding of my role, autonomy, and a sense of accountability," (3) "Stressful situations are addressed collectively within a culture of support, compassion, and learning," (4) "Contributing and feeling heard and valued in meetings is straightforward," (5) "Team strategy is discussed and communicated, fostering a sense of team belonging," and (6) "I actively contribute to the collective vision, have well-defined objectives, and can monitor progress for both myself and the team."

The focus groups unanimously endorsed the suitability of the questionnaire for assessing the skills and qualities of individuals engaged in change initiatives, affirming that the quotes accurately captured the intended meanings. While our initial intent was to make the transcripts available for critique, participants expressed a preference for non-disclosure. Therefore, direct quotes often

reported when using IPA are not available. The total number of items incorporated into the IDG-A amounted to 29.

STUDY TWO

Participants and Procedure

A total of 39 participants (M_{age}= 30.95, SD=10.46, Females=14, Males=25) were purposefully recruited from four global finance organizations known to authors one, two and five in this research paper. All participants provided informed ethical consent before independently completing the IDG-A through an online survey platform. Subsequently, the results were individually debriefed to each participant via the same online platform. An attempt was made to have participants complete a retest within a one-week window; however, only seven respondents did so. Therefore, the retest data is not reported due to the limited number of responses.

Measures

The IDG-A was converted to an online platform, necessitating participants to provide their email address (for feedback and follow up purposes), age, gender, and organizational affiliation. Respondents used a Likert scale for scoring of the 29 items, ranging from 1 (strongly disagree) to 5 (strongly agree). The complete IDG-A questionnaire can be found in **Appendix 1**.

Results and Discussion

The IDG-A had significant correlations between many of the 29 individual items. The complete correlation matrix breakdown by item and total average scores (including confidence intervals) is available here: https://osf.io/8ewz9/?view_only=8a5114adf5bb4f60888651a2beb9e655. Each of the domain specific individual items significantly correlated with the domain combined average score. The domain combined average scores and correlations between each domain are available in **Table 1**, with the only domain not correlating occurring between domain two and three. **Table 1** also shows the significant correlations between each domain and the combined item average score.

Table 1. IDG Means, Standard Deviations, Confidence Intervals, and Correlations for the Six Dimensions and Average Total Score.

Variable	M	SD	1	2	3	4	5	6
1. Relation to Self	3.98	0.55						
2. Thinking	3.81	0.52	.69**					
			[.48,.83]					
3. Thinking of Others	4.01	0.43	.35*	.29				
			[.04,.60]	[-.0,.56]				
4. Social Skills	4.04	0.49	.52**	.57**	.47**			
			[.25,.72]	[.32,.75]	[.18,.68]			
5. Social Change	3.72	0.62	.36*	.51**	.29	.50**		
			[.05,.61]	[.23,.71]	[-.03,.55]	[.22,.70]		
6. Org'nal Belonging	3.60	0.63	.59**	.46**	.40*	.42**	.33*	
			[.33,.76]	[.18,.68]	[.10,.64]	[.12,.65]	[.02,.59]	
7. Combined Average Score	3.86	0.40	.81**	.81**	.58**	.77**	.67**	.75**
			[.67,.90]	[.67,.90]	[.33,.76]	[.61,.88]	[.46,.82]	[.57,.86]

*Note. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates p < .05. ** indicates p < .01.*

Given the notable correlations observed among IDG-A items, domains, and the combined average score, it appears improbable to delineate the IDG-A into six distinct constructs. While a targeted intervention concentrating on each domain individually might yield specific improvements, it seems more plausible that any effect on one domain would likely influence another. To investigate the potential for interventions to alter IDG-A scores, the climate change coaching project was devised, with a particular emphasis on merging the six domains during the MAP intervention.

We hypothesized that the domains of the IDG-A would not significantly correlate but were incorrect. It is evident that when using the IDG-A the combined total score serves as a suitable indicator of inner development. However, it remains worthwhile to investigate whether climate interventions exert any discernible impact on specific domains, and if so, which domains are most affected.

Future research should focus on roughly 200 respondents per item (Kline, 2023) which would allow for a sufficient confirmatory factor analysis, especially when items are split over six conceptually different domains. Pilot study measures form the gateway for additional research (Carmines & Zeller, 1979), but with the data presented it is likely that personal qualities and skills fall into one inner development factor. Therefore, in its current state, the IDG-A should be primarily used to promote self-understanding and engage individuals in sustainability conversations focused on change.

STUDY THREE

In study three, we introduced the MAP intervention, which was administered to the experimental group, while the active control group underwent Carbon Literacy Training (CLT). To gauge the effectiveness of each intervention, we employed the IDG-A and conducted follow-up interviews.

Participants

Organizations were recruited through an invitation which was circulated through social media (LinkedIn) and the personal business networks of the coaches. Most of the interest in participating came through personal business networks and leading to discussions with 18 businesses. The selection of organizations was based on suitability (business of more than 100 employees with a clear commitment to Net Zero or sustainability); appetite (they wished to participate); and ability to proceed within the timescale of the project. As a result of this exercise, two businesses, one based in North America (with approximately two and a half-thousand employees) and one in the United Kingdom (approximately six hundred employees) who both made a clear public commitment to Net Zero were recruited. Each organization had an Environmental and Social Governance (ESG) or a Net Zero team, with most participants coming from that department. The North American organization consisted of 10 participants (M_{age}= 35.0, SD=11.29) with seven females and three males. The British organization contained six participants (M_{age}=28.83, SD=8.04) of which four were female and two were male. The organization and each participant gave consent before the study commenced.

Procedure and Measures

The c-suite teams (executive level managers such as the Chief Executive Officer and Chief Operations Manager) of the American (n=9) and British (n=8) organizations had an initial one-hour online meeting with the coaching team. The c-suite teams discussed their personal and organizational values, and a shared organizational sustainability goal linked to the SDGs (in both cases): carbon neutrality. Both c-suite teams independently decided to include sustainability as an organizational core value and would support any employee-based initiative that would benefit the company's climate goals. The

organizations offered our programme to employees engaged within Environmental, Social, and Governance (ESG) in the organization who volunteered to participate.

All participants had an initial online briefing session lasting for one hour where they were informed of the research project, discussed personal goals and hobbies, and completed the IDG-A. The American group was randomly allocated as the control group, receiving the CLT programme, whilst the experimental (British) group received the MAP model (explained below). A total of five discussion workshops led by an experienced coach were conducted for both intervention groups, delivered at least one week apart. The rationale for this break was based on the work of Poincare (1913) who suggested that ideas should involve a preparation period, incubation of problems and solutions, illumination due to new ideas, and verification of a solution. For this process to be followed, there must be enough time for teams to explore ideas, act, and reflect.

At the end of the CLT and MAP delivery, both groups met separately online. In this session the participants were retested on the IDG-A and the follow-up interview was conducted to discuss progress with projects/initiatives. Furthermore, in this interview to assess pro-environmental behaviors, the questions asked to the participants were taken from Soliman and Wilson's (2017) suggestions: explain your environmental responsibility, how do you gather sustainability related information, explain how you engage in social media, and what are your shared action/major climate related decisions? However, where possible, open questioning was used to draw out behavioural intentions and implementations. This interview was used to determine overall program effectiveness.

Six months later, a final follow-up interview occurred with the two organizational Heads of ESG for both companies to discuss return on investment and behavioural implementations focused on the initially agreed target of becoming carbon neutral.

Carbon Literacy Training

The CLT programme (for full learning objectives see Carbon Literacy Project, 2023) has 5 key elements, each delivered at least a week apart through live online training. Element One (7 hours): Learning Methods, consisted of social learning within workplace environments, group enquiry, and positivity. Element Two (2 hours): Knowledge, including greenhouse gases, communicating carbon literacy, and the effect of climate change. Element Three (2 hours): Values, fairness and equity, working with others, and mindset. Element Four (2 hours): Action, discussing significant action in the workplace, community, and researching our carbon footprint. Element Five (2 hours): Processes, systems thinking and a research project. The delivered content was engaging to evoke discussion with some parts delivered in a lecture format where a core topic was explored (e.g., what's a greenhouse gas?), and some parts required reflection, fact finding (e.g., what local projects can I get involved in?), and application (e.g., create a way I can reduce my carbon footprint). A trained female executive coach (Age=44) with seven years working with organizations and trained via a carbon literacy provider delivered the intervention over 10 weeks.

### Meaning, Awareness and Purpose (MAP) Model

The conversations with the focus group participants, the six IDG-A domains, and the general overarching person-centered approach to work from values through to behaviors constructed the MAP model (Prust, 2005). Although six coaches (F=2, M=4) initially developed the content of the intervention sessions and general research design, the four male coaches (M_{age}=47, SD=7.31) delivered the MAP interventions. All coaches were members of the Coaching Climate Alliance with a minimum of 5 years' experience working with organizations. The coaches were based in Britain (n=2), Canada (n=1), and Australia (n=1).

Using motivational theories (e.g., Deci & Ryan, 2008), the research team decided to focus on personal meaning and intrinsic motivation before introducing climate change awareness. This meant

that we gave the participants time to share what was of importance to them, from their values first, which would (and did) engage the groups in meaningful discussion. We also used imagery training because of its impact on pro-environmental behaviors (Boomsma et al., 2016) and mental health including life satisfaction (Turner et al., 2020).

Like the CLT condition, all sessions were live and online. The first 3 hours engaged in the discussion of individual values, mindset, attitudes to change, cognitions, and behaviors (Rokeach, 1973). We created the MAP model (see **Figure 1**) as an overview of the key process when discussing: (1) individual meaning (why is climate change important to me?), (2) individual awareness (of existing and future personal sustainability behaviors and motivation, a discussion about personal values and common values, and finally a focus on personal action) and (3) individual purpose (how do my goals impact others?). Within the MAP model, we taught imagery to the team using the AIM model (see Rhodes & May, 2022) to further explore mindsets, attitudes and cognitions. Throughout each of the sessions, we used the spirit of motivational interviewing (Miller & Rollnick, 2012; Endrejat et al., 2017) to evoke change talk and utilize imagery to plan ways to overcome individual obstacles, focus on strengths and develop a personal action-based goal (the dotted circle within the MAP model). The first session ended with participants being asked to imagine and find a picture of their place of awe; where they feel connected with nature. Participants were invited to engage in a practice of nature connection (Rickard & White, 2021) in between the first and second sessions.

Figure 1. The MAP Model. The coaching process which progresses from discussing individual meaning through to personal action, then on to team meaning and team action. After one cycle, the individual and the team operate together, thus making the numbers and direction of the process moot.
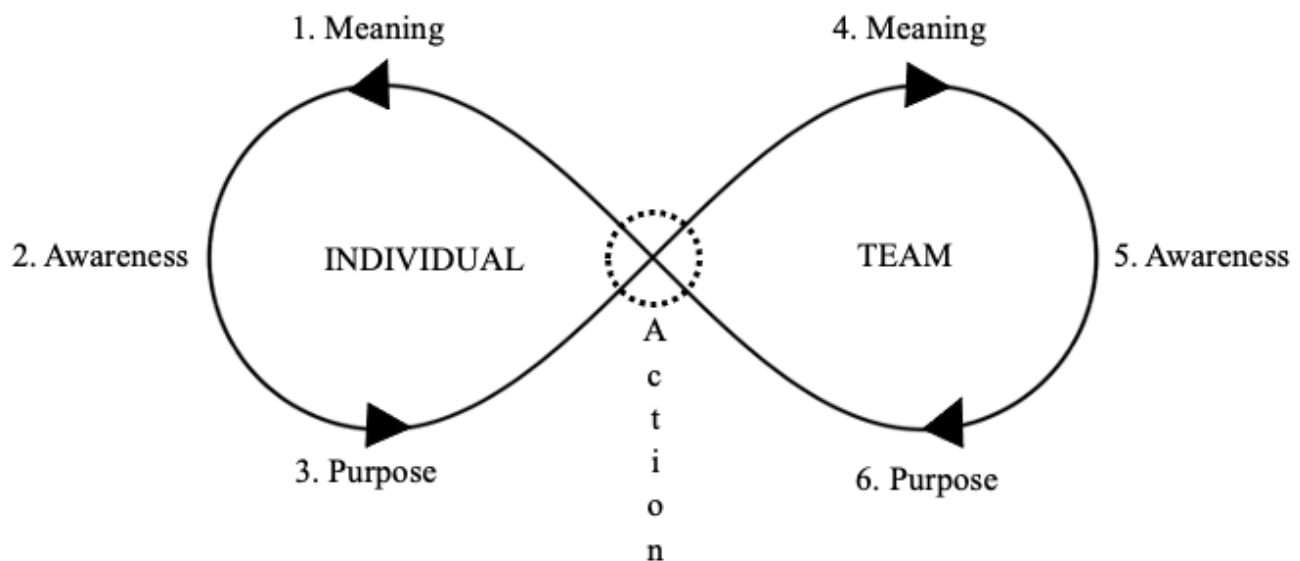
Session two, again three hours long, focused on: (4) team meaning (why is climate change important to us?), (5) team awareness (what existing initiatives are we engaged in such as cycle to work schemes, what is our shared goal, and what is our systems thinking approach), and (6) team purpose (how does our shared goal impact others?). Imagery was again used throughout sessions to explore mindset (Duchi et al., 2020), what action would be like, imagining succeeding (and failing) the teams' purposeful goal, and setting performance milestones to track progress. This session, although imagery centered used components of the GROW and POSITIVE models to evoke motivation. The coaching team

ended the session by discussing systems thinking (Arnold & Wade, 2015) and implementing action learning (Reynolds, 2011) approaches which aim to solve problems through action and reflection.

The final three coaching sessions were conducted a week apart for one hour per workshop and acted as boosters to support actions. These boosters are essential when using motivational interviewing with imagery for behaviour change (Rhodes et al., 2021). The booster sessions discussed a shared goal, role clarity and acceptance, general plan development using imagery, timelining to include exploratory action phases, reflections, and ways to maintain momentum when starting to work towards goals (Grover & Rhodes, 2023). It is worth mentioning that at no point did any of the coaches provide a solution to the group's shared goal, the individuals developed actions independently.

Data Analysis

A histogram of total scores on the IDG-A found a minimal skew score of 0.17. Therefore, data analysis was conducted under parametric conditions. All statistics were conducted in R and the code and outputs available here: https://osf.io/sdaq2/?view_only=9e42112ebdff4e078e1e1325f7dc8650

Results - Intervention Differences

Comparing the two conditions at baseline, there were no significant differences between the CLT and MAP groups between any of the six domains and average score $F_{(1,14)}=0.03$, ges=0.001, p=0.87. Paired contrasts for the control and experimental groups can be found in **Table 2** with significant differences detected in bold. The effect size for the significant score in the CLT group is: d=0.329, and for the MAP condition: thinking of others, d=4.99, organizational belonging, d=2.01, and for combined average score, d=2.4.

Differences between the Carbon Literacy Training and MAP conditions at the end of the study were significant between the six dimensions and average score $F_{(1,14)}=4.94$, ges=0.17, p=0.04. Post-hoc tests showed significant differences only in Domain six: Organizational Belonging, $t_{(14)}=4.09$, d=1.97, p=0.001, and combined average score, $t_{(11)}=2.47$, d=1.13, p=0.03.

Results - Interviews

Group interviews with all participants yielded positive and complimentary feedback regarding the program and its delivery methods. In the CLT group (n=8), participants collaboratively worked on an internal project aimed at raising employee awareness using posters and workshops. One participant expressed their perspective, stating, "This gave us a great sense of togetherness, and because some information was displayed in the office, it felt like we were being taken seriously." When probed about their behavioral intentions, participants noted that they had developed "a greater sense of personal awareness and responsibility toward climate goals." We asked if the intervention enhanced well-being and the participants unanimously said that they perceive better informed when having climate related communication, and an improved "nature connection."

During an interview with the CLT group's Head of ESG six months later, she characterized the experience as resembling a project with a defined beginning and endpoint. She acknowledged that the workshops had provided a shared goal but also recognized that once that goal was achieved, participants reverted to their regular duties. She considered it a "partial success" and expressed confidence that, with more coaching, they could have "continued working toward their zero-carbon targets". She also said that: "investment into training is necessary but we aren't yet seeing any return on past expenses. These things take time."

Table 2. IDG scores for group by time, including paired contrasts between time points.

Group	Dimension	Time	M	SD	T(df)	P value
Carbon Literacy	Relationship to self	Baseline	3.72	0.77	0.5(9)	0.62
		Final	3.66	0.69		
	Thinking	Baseline	3.74	0.61	0.45(9)	0.66
		Final	3.78	0.5		
	Thinking of Others	Baseline	3.83	0.51	1.26(9)	0.24
		Final	3.67	0.43		
	Social Skills	Baseline	4.04	0.62	1.59(9)	0.15
		Final	3.86	0.53		
	Social Change	Baseline	3.7	0.71	0.8(9)	0.44
		Final	3.65	0.7		
	Organizational Belonging	Baseline	3.1	0.52	2.7(9)	**0.024**
		Final	3.28	0.57		
	Average Score	Baseline	3.66	0.51	0.44(9)	0.67
		Final	3.64	0.46		
MAP	Relationship to self	Baseline	3.83	0.2	2.17(5)	0.082
		Final	4.1	0.17		
	Thinking	Baseline	3.67	0.41	1.62(5)	0.17
		Final	4.07	0.3		
	Thinking of Others	Baseline	3.71	0.4	2.71(5)	**0.04**
		Final	3.92	0.44		
	Social Skills	Baseline	3.97	0.08	1(5)	0.36
		Final	4.03	0.2		
	Social Change	Baseline	3.5	0.57	1.58(5)	0.17
		Final	3.67	0.38		
	Organizational Belonging	Baseline	3.44	0.42	4.26(5)	**0.008**
		Final	4.19	0.32		
	Average Score	Baseline	3.68	0.16	5.06(5)	**0.004**
		Final	4.02	0.12		

Notes: Values in bold indicate significance.

Participants in the MAP group (n=6) offered insights into the coaching program's effectiveness. A participant commented: "connecting everyone on an emotional level first and then teaching a new skill, which we already had: imagery, was a great way to engage us." Participants appreciated the incorporation of systems thinking and the use of "booster sessions, as these elements introduced accountability to our self-established targets." When queried about climate-conscious behaviors, group members provided a list of personal changes, such as "upcycling furniture" and including messages in their email signatures encouraging recipients not to print unnecessary emails. We asked about participant well-being, and the group commented on better "personal understanding" related to values, how they "think of others", more "optimistic of social change", and that team communication and togetherness created "purpose driven actions."

Finally, we sought feedback from the MAP group's Head of ESG regarding the program. She explained that they encountered a challenge early in their action phase when creating a project aimed at connecting employees for climate discussions, as it became apparent that not all members of their organization shared the same level of sustainability interest or could commit time to attend the session.

However, she credited the coaching for enabling them to pivot and reconsider their planning and communication strategies, which subsequently influenced their overall approach to tackling challenging goals and having sustainability conversations.

Results and Discussion

Despite the small sample size, significant improvements, as hypothesized, were observed in the MAP condition when comparing baseline IDG-A combined average scores to scores after the intervention. Moreover, the MAP condition's combined average score showed a significant increase in comparison to the CLT condition. These improvements are also evident in the effect size, particularly in the comparison of post-intervention CLT and MAP variations between the combined average scores ($d=1.13$). Notably, for the MAP condition, the most substantial changes detected occurred between pre- and post-intervention for thinking of others ($d=4.99$), organizational belonging ($d=2.01$) and the combined average score ($d=2.4$). However, the combined average total score arguably serves as the most reliable indicator of personal change detected on the IDG-A. This does not imply that CLT is ineffective at initiating climate change initiatives; rather, it suggests that it may not significantly impact inner development goals. This could be attributed to the way the MAP program prioritized personal development and emotional connection initially (Jose Braun, 2022). It involved the development of intrinsically informed goals, training individuals' ability to imagine, and creating processes driven through systems thinking and action learning. Additionally, it may be influenced by how organizations react to initiatives developed by participants, such as supporting the display of posters or the introduction of workshops into the workday, and how other employees engage in conversations about the program. Another contributing factor is likely the explicit integration of nature connection through affect, cognition, and behavior within the MAP model. While CLT appears to be knowledge-focused, MAP is designed specifically to improve inner development goals, personal development, and well-being within a team.

The purpose of this study was to introduce and apply the MAP model. The integrated model, administered through MI (based on Endrejat et al., 2017), followed an infinity sequence that began with self-understanding and progressed to team action. The MAP infinity sequence represents the eventual connection between an individual's motivation and the team's rationale for climate action, situated within both a broader connection to nature and the system in which they operate. For practitioners using MAP, we recommend a deliberate approach to information presentation, with an initial focus on building personal meaning. Subsequently, awareness and imagery training can catalyze intention and create purpose and action. Once individuals connect with their inner goals, it is likely that they will find harmony with nature and a sense of control (Davidson & Kecinski, 2022). This sense of control fosters well-being as it aligns with action and meaningful conversations.

The application of the MAP model may seem straightforward but is complex to deliver for novice coaches. Practitioners who use MAP must be proficient in MI, with a particular focus on core skills like reflective listening (Passmore, 2020). They also need a deep understanding of how to train imagery (Rhodes & May, 2021) and systems thinking methods (Rebs et al., 2019). As an initial step, in collaboration with more organizations, we plan to develop a fidelity check (e.g., Wayne & Coggshall, 2022) for practitioners interested in using MAP. As a research team, we are committed to maintaining open access to content like the IDG-A for researchers, coaches, and organizations, similar to the developers of the original IDG program (Inner Development Goals, 2022b). Furthermore, we are collaborating with global movements like the Climate Coaching Association to disseminate the work completed (and ongoing) with companies as they reimagine climate change. We also extend a warm

welcome to coaches interested in learning more about using MAP as part of their ongoing professional development.

DISCUSSION

This project represents an interdisciplinary effort between coaches, organizations and psychologists to turn the IDG framework into a measurable tool, known as the IDG-A. Although it is crucial to exercise caution when utilizing this measure, primarily due to the item correlations, when employed as a single construct divided into general themes, it proves to be a valuable tool for enhancing personal understanding and for researchers seeking to discern changes resulting from interventions, as indicated by the combined average score.

Despite its contributions, this study does present several notable limitations. Firstly, there is a recognized need for further research using the IDG-A to establish its reliability and validity, thus elevating its academic rigor (Carmines & Zeller, 1979). This limitation underscores the foundation for our forthcoming research endeavors. Secondly, upon reflection, the coaching interventions—CLT in comparison to MAP—appear distinct when evaluating behavior change. This divergence arises from the CLT approach, which centers on knowledge dissemination through climate education workshops, personal awareness cultivation, and focused action within the framework of team research projects. In contrast, the MAP approach adopts a person-centered methodology, evoking intrinsic motivation through emotional engagement and fostering a shared sense of climate urgency using imagery training. Davidson and Kecinski (2022) emphasize that establishing an emotional connection with climate change represents a primary step toward behavior change, and that is what MAP does at its heart.

What this research effectively magnifies is the paramount importance of self-understanding as the initial step, characterized by personal meaning, awareness, and purpose, followed by concrete action. The MAP model is inherently rooted in the exploration of personal values, beliefs, attitudes, and cognitions (including imagery training; Rhodes & May, 2022). This approach is interwoven with various goal orientated models (e.g., GROW) and motivational theories (e.g., intrinsic motivation), all essential components for delving into the realms of meaning and purpose, which subsequently contribute to the formation of one's identity. MAP fosters a profound sense of personal connection and belonging to nature, individuals rejoin their teams with a heightened sense of urgency for change, likely resulting in better value-based decision-making and improved overall well-being. Teams that are emotionally charged for change possess the potential to clearly define a shared goal, identify meaning, become cognizant of their need for adaptation, ignite a collective sense of purpose, and finally, embark on decisive action.

CONCLUSION

In the context of mental health and well-being, this research highlights the significance of nurturing personal development and emotional connection as integral elements in motivating individuals and teams to engage in climate action. By placing emphasis on self-understanding and intrinsic motivation, interventions such as the MAP model hold promise for not only advancing climate initiatives but also contributing to the mental health and well-being of individuals and organizations alike. This interconnected approach aligns with the broader goals of promoting holistic mental health and fostering a sense of purpose in a world grappling with climate challenges. Further exploration of these connections between inner development, well-being, and climate action is warranted to advance both the field of mental health and our collective efforts toward sustainability.

DECLARATIONS

AVAILABILITY OF DATA AND MATERIALS
All data and materials are available through Open Science Framework.
- Correlations and original data is available here: https://osf.io/8ewz9/?view_only=8a5114adf5bb4f60888651a2beb9e655
- Intervention data is available here: https://osf.io/sdaq2/?view_only=9e42112ebdff4e078e1e1325f7dc8650

ETHICS APPROVAL AND CONSENT TO PARTICIPATE
Ethical approval was granted from the University of Plymouth, and each organization and all employees consented to participate in all parts of the study.

CONSENT FOR PUBLICATION
Not applicable.

COMPETING INTERESTS
The Authors declare they have no competing interests.

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APPENDIX 1

Inner Development Goals – Adapted (IDG-A)

Please circle one item per row	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1 I am aware of my values and purpose and am committed to my goals.	1	2	3	4	5
2 I act with sincerity, honesty, and integrity.	1	2	3	4	5
3 I have a willingness to be vulnerable and embrace change and consistently develop.	1	2	3	4	5
4 I am reflective with my own thoughts, feelings, and desires.	1	2	3	4	5
5 I can live in the here and now, without judgement and in a state of open-ended presence.	1	2	3	4	5
6 I critically review others' views, evidence and plans without bias.	1	2	3	4	5
7 I have an understanding of, and skills in, working with complex and systemic conditions and causalities.	1	2	3	4	5
8 I understand and actively make use of insights from differing perspectives.	1	2	3	4	5
9 I can make sense out of complex stories and patterns.	1	2	3	4	5
10 I have a long-term vision and can formulate goals and sustain commitment.	1	2	3	4	5
11 I relate to others and to the world with a basic sense of appreciation, gratitude, and joy.	1	2	3	4	5
12 I have a keen sense of being connected with and/or being a part of a larger whole, such as a community, humanity, or global ecosystem.	1	2	3	4	5
13 I act in accordance with the needs of the situation without concern for my own importance.	1	2	3	4	5
14 I relate to others, myself and nature with kindness, empathy and compassion and address related suffering.	1	2	3	4	5
15 I really listen to others to: foster genuine dialogue manage conflicts constructively, and to adapt communication to suit diverse groups.	1	2	3	4	5
16 I motivate others and help facilitate collaborative relationships with diverse individuals, characterized by psychological safety and genuine co-creation.	1	2	3	4	5
17 I am willing and competent to embrace diversity and include people and collectives with different views and backgrounds.	1	2	3	4	5

18	I show trust, create, and maintain trusting relationships.	1	2	3	4	5
19	I inspire and mobilize others to engage in shared purposes.	1	2	3	4	5
20	I stand up for values, make decisions, take decisive action and, if need be, challenge and disrupt existing structures and views.	1	2	3	4	5
21	I generate and develop original ideas, innovate and am willing to disrupt conventional patterns.	1	2	3	4	5
22	I sustain and communicate a sense of hope, positive attitude, and confidence in the possibility of meaningful change.	1	2	3	4	5
23	I stay engaged and remain determined and patient even when efforts take a long time to bear fruit.	1	2	3	4	5
24	My values and goals align to my organizations' and teams'.	1	2	3	4	5
25	I have detailed role clarity, autonomy and feel accountable.	1	2	3	4	5
26	Stressful situations are dealt with as a collective team and there is a culture of support, compassion, and learning.	1	2	3	4	5
27	It is easy to contribute and feel heard and valued in meetings.	1	2	3	4	5
28	Strategy is discussed and disseminated, and I have a sense of team belonging.	1	2	3	4	5
29	I contribute to the collective vision, have clear targets, and can track progress of myself and team.	1	2	3	4	5

Scoring

Domains	Items	Average Score
Domain 1. Being: Relationship to self	1-5	
Domain 2. Thinking: Cognitive Skills	6-10	
Domain 3. Relating: Caring for others and the world	11-14	
Domain 4. Collaborating: Social Skills	15-19	
Domain 5. Acting: Driving Social Change	20-24	
Domain 6. Organizational: Cultural Belonging	25-29	
Combined Average	1-29	