International Journal of Project Management 44 (2026) 102829

Contents lists available at ScienceDirect

International Journal of Project Management

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

Mindful Scrum: Mobilising mindfulness practices to foster agility in project management teams

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ARTICLE INFO

Keywords:
Mindfulness
Scrum
Agile mindset
Agile project management
Teamwork
Resilience

ABSTRACT

Scrum, the most widely adopted agile project management framework, appears easier to understand than to implement. Facing repeated disruptions, Scrum teams often struggle to maintain focus, foster collaboration, and cultivate an agile mindset. This study investigates how mindfulness practices can influence agility in Scrum teams and how Mindful Moments can be integrated within Scrum, addressing an acknowledged research gap. Using an empirical qualitative research approach, data were collected through multiple online focus groups that replicated a Scrum-like process. The analysis identified specific mindfulness practices that positively influence agility, alongside notable challenges and conditions to be considered for the successful mobilisation of mindfulness practices. Scrum and mindfulness naturally complement each other: Scrum provides a structured foundation for integrating mindfulness, while the latter strengthens the agile mindset and Scrum values. An evolved Scrum framework entitled 'Mindful Scrum' is the outcome of this research.

1. Introduction

In today's fast-paced and complex environment, organisations are under increasing pressure to quickly adapt to changing conditions and customer requirements (Baran & Woznyj, 2020; Syamsuddin et al., 2024), especially the transformative impact of AI technologies are reshaping work processes and team dynamics (Diebold, 2025). Agile project management has emerged as a leading response to these challenges, offering adaptive methods such as Scrum that promote flexibility, iterative learning, and continuous stakeholder involvement (Tallon, 2019; Tolani et al., 2024). Scrum, in particular, as the most popular agile framework in project management (Masood et al., 2020; Schwaber & Sutherland, 2020), enables structured collaboration through time-boxed Sprints and defined roles in order to promote continuous improvement of the team's adaptability and responsiveness through regular reflection (Conforto et al., 2016; Malik et al., 2021).

However, despite Scrum's popularity, many Scrum teams struggle to realise its full potential. Research highlights a gap between 'doing agile', applying the routines, processes and roles of an agile method and 'being agile', embodying the Scrum values and cultivating an 'agile mindset' that underpins effective agile work (Eilers et al., 2020; Emmerich & Gericke, 2022; Rahman et al., 2018). Establishing an 'agile mindset' remains a challenge for many team members (Eilers et al., 2022), yet evidence suggests it can be developed through appropriate training and practice (Klünder et al., 2022; Ozkan et al., 2023).

In the literature, mindfulness practices have become a prominent approach to train mind and body, which has been proven to improve attention and foster creativity and cooperation between people (Allen & Kiburz, 2012; Good et al., 2016; Hülsheger et al., 2013). According to Kudesia (2019) individual mindfulness can be understood as a metacognitive practice that encompasses mindful attention and mindful conceptualisation and can be trained using appropriate practices. In turn, collective mindfulness refers to social interactions, group dynamics, and structural adaptations and describes increasing teams' ability to cope with unexpected events together (Weick & Sutcliffe, 2015). Research shows agile teams can demonstrate collective mindfulness abilities (Daniel et al., 2023; Vidgen & Wang, 2009). However, sustaining such practices in organisations is often challenging without specific rituals or routines (Kudesia & Lang, 2021; Reina et al., 2023; Sutcliffe et al., 2016).

Scrum is a project management framework that was designed to maximise value creation and develop adaptive solutions to complex problems. Its clear framework with defined processes, roles, and events provides a promising basis for mobilising mindfulness, but there is a lack of guidance in the literature on how these two concepts can be integrated.

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https://doi.org/10.1016/j.ijproman.2026.102829
Received 24 November 2024; Received in revised form 10 February 2026; Accepted 12 February 2026
Available online 13 February 2026

While prior studies such as den Heijer et al. (2017) provide initial insights into mindfulness during Scrum events, the mutual benefits of both concepts are largely unexplored, and there is a lack of approaches to integrate regular mindfulness practice into Scrum. Daniel et al. (2022, 2023) also emphasise the relevance of integrating mindfulness and its practices into agile project management. Building on this, this study fills this research gap by examining the following research questions:

RQ1: How can mindfulness practices influence agility in Scrum?
RQ2: How can regular mindfulness practices be integrated into Scrum team procedures?

To address these questions, this research connects individual and collective mindfulness: we examine how individual mindfulness practices influence the cognitive and emotional abilities of team members while also exploring how the structured Scrum framework enables the integration of these practices into team routines and fostering collective mindfulness capabilities. This perspective allows us to understand how individual practices and organisational structures mutually reinforce agility in Scrum teams and offers actionable insights.

Specifically, this work contributes by (i) identifying suitable mindfulness practices, (ii) aligning them with the Scrum process, and (iii) articulating how this alignment can foster agility in Scrum and normalise the practice of mindfulness in the workplace. Consequently, this research adds value to the metacognitive practice theory by demonstrating how mindfulness can be intertwined with organisational practices while providing practical guidance for Scrum teams.

Following this introduction, the article explores perspectives on agile project management and Scrum (2) and specific aspects of mindfulness (3). The empirical qualitative research methodology is described, followed by how the focus group discussions were conducted using an iterative Scrum-like approach (4). The findings come next (5) before the 'Mindful Scrum' framework is presented (6), and insights gained from the primary data are discussed (7). Finally, some (8) implications, (9) limitations, and (10) conclusions are offered.

2. Perspectives on Scrum project management and the agile mindset

Agility in project management is considered effective in adapting to changing conditions by actively engaging stakeholders and improving team performance (Conforto et al., 2016; Tallon, 2019). Team performance and satisfaction influence the success of agile projects (Adzgauskaite et al., 2025). Agility is used as an umbrella term for different practices and frameworks (Denning, 2016). Scrum is one of the most widely used agile frameworks; it maximises value creation through iterative cycles known as Sprints that allow for continuous feedback, cross-functional collaboration, and flexible adaptation to evolving project requirements (Schwaber & Sutherland, 2020; Sutherland, 2014). To stay adaptable to changes, the Scrum process is structured in Sprints, which are time-boxed iterations typically lasting one to four weeks. Each Sprint includes several recurring events. Sprint Planning is where the team selects and plans work for the upcoming Sprint. The Daily Scrum is a brief daily synchronisation meeting to coordinate activities. In the Sprint Review, completed work is demonstrated to stakeholders. Finally, the Sprint Retrospective provides space for the team to reflect on their process and identify improvements. These events allow teams to assess progress and realign goals as necessary.

The Scrum framework operationalises the Agile Manifesto's guiding values and principles for agile development (Beck et al., 2001; Sassa et al., 2023). Scrum defines roles, events, and artefacts, and emphasises five Scrum values: commitment, focus, openness, respect, and courage. These Scrum values are stable core beliefs. They do not change with different Sprints or teams. Values provide a foundation for how Scrum should be practised. The Scrum values are reinforced by the iterative Scrum way of working and the trust and accountability of the self-organised and non-hierarchical team, which includes three defined roles. The Scrum Master facilitates the Scrum process and removes impediments for the team. The Product Owner manages the product vision and prioritises work. The Developers are professionals creating the product increment (Schwaber & Sutherland, 2020; Sutherland, 2014).

Scrum is simple to understand but difficult to implement. As agile working often departs from prevailing organisational hierarchies and norms, organisations struggle with the agile transformation process because of cultural resistance and incomplete implementation of Scrum (Dikert et al., 2016; Eilers et al., 2022). These challenges are often more related to the agile mindset, also known as 'being agile', than to the agile methodology, referred to as 'doing agile' (Denning, 2016; Eilers et al., 2020).

Alongside the Scrum values, the agile mindset is a more dynamic phenomenon that refers to the attitudes, behaviours, and ways of thinking that teams and individuals demonstrate in their daily work to live up to the values. The debate about the relationship between both concepts is ongoing (Eilers et al., 2022; Klünder et al., 2022; Ozkan et al., 2023). The agile mindset, according to Eilers et al. (2022), embraces a *learning spirit* that includes openness, experimentation, and learning from mistakes to manage uncertainty—a *collaborative exchange* that values transparency, knowledge sharing, and teamwork across different perspectives. Such behaviour reflects psychological safety, where team members communicate mistakes early without fear of being rejected or punished (Edmondson, 1999; Newman et al., 2017). Further traits include *empowered self-guidance* that focuses on self-responsibility, adaptability, and swift decision-making and *customer co-creation* that prioritises customer feedback and rapid response to changing needs (Eilers et al., 2022; Ozkan et al., 2023).

Without an agile mindset, Scrum teams may mechanically follow Scrum rituals without embodying its underlying values; thus, teams follow Scrum formally but not in spirit (Gregory et al., 2016; Hoffmann, 2018; Masood et al., 2020)

A further challenge is integrating Scrum values hindered by the environment (Carvalho et al., 2017; Kalenda et al., 2018; van Waardenburg & van Vliet, 2013). Obstacles can often be traced to deficits in communication and psychological safety (Ahmed et al., 2018; Gregory et al., 2016; Malik et al., 2021) and to the difficulty of establishing self-organised, cross-functional teams that embody a cooperative spirit of openness, courage, and personal responsibility (Budiman et al., 2022; Eloranta et al., 2016; Gren et al., 2017). These obstacles prevent organisations and teams from realising the full benefits of 099iuj,Scrum, including agility, collective intelligence, and sustainable success (Dikert et al., 2016; Eilers et al., 2022).

Scrum is intentionally incomplete as it contains only the essential components to implement its theory (Schwaber & Sutherland, 2020), and it can be combined with complementary tools, practices, or methods (Garcia et al., 2022; Hron & Obwegeser, 2018; Masood et al., 2020). In this regard, one study added pre-meeting mindfulness practices to Daily Scrum meetings in Scrum. den Heijer et al. (2017) showed that practising three-minute breathing exercises positively influences the effectiveness of Daily Scrum stand-up meetings.

Mindfulness practices appears to be particularly useful in teams for 'being agile' (den Heijer et al., 2017; McAvoy et al., 2013) and could support theory building in agile software development (Matook et al., 2008) as well as help organisations to achieve flexibility and reliability in solution development when mindfulness is integrated into agile methods (Daniel et al., 2023; Nagle et al., 2011). Our research investigates this promising approach of integrating mindfulness practices into Scrum in more detail. The following section describes how mindfulness is understood in this study.

3. Perspectives on mindfulness

3.1. Individual mindfulness as a meta cognitive practice to train the mind for personal agility

Mindfulness has become increasingly prominent in organisational literature because of its proven effects on job satisfaction, well-being, attention regulation, team dynamics, and decision-making (Good et al., 2016; Hülsheger et al., 2013; Reina & Kudesia, 2020). Reina et al. (2023) claim that mindfulness practices can infuse mindful behaviour among colleagues in the workplace by improving communication, empathy, and mutual understanding among team members.

Mindfulness can be defined at different levels, for example, for individuals (individual mindfulness) or teams and organisations (collective mindfulness) (Sutcliffe et al., 2016). Individual mindfulness refers to human cognition and body perceptions, while collective mindfulness refers to social interactions, cultural integration, and structural adaptations in organisations (Kabat-Zinn, 2013; Weick & Sutcliffe, 2015).

Historically, individual mindfulness has been defined through two complementary perspectives: Eastern and Western (Good et al., 2016; Weick & Putnam, 2006). The Eastern perspective emphasises mindful attention as the process of detaching oneself from automatic thoughts and habitual patterns and developing a non-judgemental awareness of the present moment, which promotes emotional regulation, mental clarity, and the absence of irrelevant information (Bishop et al., 2004; Brown & Ryan, 2003; Kabat-Zinn et al., 2009). In contrast, the Western perspective emphasises mindful conceptualisation as cognitive flexibility that promotes contextual sensitivity and a novel and adaptive categorisation (Langer, 1989, 2014; Sternberg, 2000) promoting the refinement of concepts and the creation of new meanings rather than inhibiting thinking (Weick & Putnam, 2006).

Kudesia (2019) combined these two perspectives in his integrated view of mindfulness as a metacognitive practice, in which individual mindfulness involves the ability to switch between modes of mindful attention and mindful conceptualisation depending on the context. Specifically, Kudesia (2019) defines individual mindfulness as a meta cognitive practice in which 'people adjust their information processing to their current situation […] by monitoring shifts between absorbed and deliberative modes of engagement' (Kudesia, 2019, p. 412; Kudesia & Nyima, 2015). To understand how metacognition is put into practice, the training of mindfulness and its metacognition is important (Kudesia, 2019).

Individual mindfulness can be trained by formal and informal practices, both of which are essential for cultivating awareness of the present moment, emotional regulation, and cognitive flexibility, thus becoming more mindful (Jamieson & Tuckey, 2017). Formal practices such as body scans, focused breathing, and open monitoring meditations (Dhiman, 2008) are usually structured and last between 15 and 60 minutes. They are primarily associated with mindful attention, improving self-regulation and situational awareness. In contrast, reflective practices such as journaling, dyads, and questioning dialogues promote mindful conceptualisation by encouraging meaning-making, perspective-taking, and the creation of new meanings (Matko & Sedlmeier, 2019). Informal practices are short, lasting only a few seconds to minutes, embedded in everyday life and environments helping to consolidate mindfulness as a lived experience, such as conscious breathing before a phone call or walking consciously from one meeting to another (Kabat-Zinn, 2013).

Mindfulness practices unfold their positive effects most effectively when practised regularly and with a purposeful intention, attention, and attitude (Shapiro et al., 2006). In addition to achieving inner peace and clarity, especially in mindful attention mode, attitudes such as non-judgement, patience, beginner's mind, trust, non-striving, acceptance, letting go, gratitude and generosity are also cultivated (Kabat-Zinn, 2013). These interconnected attitudes are not only beneficial for individual development but are also in line with the core values of Scrum, such as openness, focus, and respect (Schwaber & Sutherland, 2020). Alongside the many benefits of regular individual mindfulness practice, the ability to train the mind and to cultivate certain attitudes appears useful for application in Scrum and, in particular, for developing an agile mindset. Mielke (2021) argues that mindfulness practices improve openness and knowledge sharing within organisations, initially at the individual level and subsequently at the collective level, thereby promoting greater organisational agility and resilience.

3.2. Collective mindfulness: development and benefits for organisations

Collective mindfulness describes the ability of an organisation or team to manage unexpected events together and refers to social interactions, group dynamics, and structural adaptations (Weick & Sutcliffe, 2015). Managing unexpected events and becoming mindful collectively means becoming more agile and, therefore, more adaptable and flexible in a complex world (Vogus & Sutcliffe, 2012). "According to Weick et al. (1999) and Weick and Sutcliffe (2015), the concept of collective mindfulness is grounded on five pillars: (1) preoccupation with failure by regularly and robustly discussing potential threats to reliability, (2) reluctance to simplify interpretations by developing a subtle and current understanding of the context by frequently questioning the adequacy of existing assumptions and considering reliable alternatives, (3) sensitivity to operations by integrating these (points 1 & 2) understandings into an up-to-date big picture and interacting between strategy and operation, (4) commitment to resilience by recognising the inevitability of setbacks and thoroughly analysing, coping with, and learning from them, and (5) deferring to expertise rather than authority when making important decisions (Vogus & Sutcliffe, 2012; Weick et al., 1999; Weick & Sutcliffe, 2015)." (Mielke, 2021, p. 29).

Collective mindfulness can be developed by integrating various measures on the individual and the cultural and the structural level of an organisation, such as offering metacognitive mindfulness practices to allow employees to observe their situational sensemaking (Kudesia, 2019), conducting team development measures to integrate Weick et al.'s (1999; 2015) five principles, and setting up a role that is solely responsible for fostering individual and collective mindfulness in the organisation.

There is ample evidence on the benefits of collective mindfulness. Some studies illustrate that collective mindfulness increases innovation (Vogus & Welbourne, 2003), leads to better allocation of resources (Wilson et al., 2011), improved customer satisfaction (Ndubisi, 2012), and lower staff fluctuations (Vogus et al., 2014). Further studies have found that collective mindfulness improves safety, quality, and reliability (Vogus & Sutcliffe, 2007a, 2007b), leading to greater organisational reliability (LaPorte & Consolini, 1991; Schulman, 1993; Weick & Roberts, 1993) and more effective responses to disasters (Bigley & Roberts, 2001) and near-disasters (Rerup, 2009), as well as traumas (Klein et al., 2006).

Collective mindfulness abilities are demonstrated in agile teams (Daniel et al., 2023; Vidgen & Wang, 2009), which show the relevance to study agility in connection with mindfulness. However, developing collective mindfulness is challenging and a continuous endeavour that needs structural and cultural adaptations (Vogus & Sutcliffe, 2012; Weick & Sutcliffe, 2007). It, therefore, seems fruitful to investigate how Scrum teams can integrate mindfulness practices into their workflows, not as isolated measures but as routine mechanisms that improve attention, emotional regulation, collaboration, and learning at both individual and collective levels, which is the subject of this research.

4. Method

4.1. Research design

An empirical qualitative research approach has been followed as the phenomenon is comparably new, explorative, and interpretative

(Hollstein, 2006). Being empirical, knowledge is built by experiences and through the collection of data linked to a phenomenon to understand it more deeply (Given, 2008). Mindfulness practices are a first-person phenomenon (Garland, 2013) primarily experienced by the person involved (Depraz et al., 2003).

In project management, qualitative research is recognised as it helps to capture lived experiences among employees and relationships between teams and organisations (Fernandes et al., 2015; Masood et al., 2020; Smyth & Morris, 2007).

In the present research, focus groups building on open-ended questions were organised to collect data to understand mindfulness and Scrum from the lens of participants experienced with both. Focus groups are useful when a specific theme is explored collectively (Bell & Bryman, 2007). The participants discussed the connection between mindfulness and agility in a collaborative co-discovery dynamic (Cross & Warwick-Booth, 2016; Loxton, 2021; Morgan, 1996).

4.2. Data collection procedure

As shown in Fig. 1, an iterative process modelled inspired by Scrum was followed. The data collection process was divided into three sessions, similar to Sprints in Scrum. One session comprises separated focus groups and a collective review. During the sessions, the participants worked on the same questions in focus groups that were running in parallel. Once the participants returned from their focus group session, the results were then presented to all participants in the review session before the next session started. This divergent and convergent approach allowed to cross-fertilise ideas on an ongoing basis. Every participant had the possibility to share personal experiences and perspectives. Through this Scrum-like process, three iterations were done.

The entire data collection process was done virtually and was facilitated by an experienced independent agile coach. This allowed the researchers to avoid influencing the participants and to fully focus on the data collection process itself, which started with an 'intro', in which the agenda, the process, and the functioning of breakout rooms were explained to the participants. The first session lasted thirty minutes and comprised three focus groups with five, six and six participants. The aim was on building a comparable understanding of what mindfulness means, different mindfulness practices, their benefits, and challenges. In each focus group, there was at least one experienced agile practitioner and one experienced mindfulness practitioner. One participant (#13 - indicated in Table 1) only participated in the first session, while the remaining sixteen participants attended all three sessions. The second session lasted approximately 20 minutes, and the focus groups were mixed again to encourage exchange and idea generation. There were four focus groups with four participants each. The aim was to explore suitable mindfulness practices in the Scrum process. The third and final session lasted approximately 20 minutes, and the focus group's composition was the same as in the second session to maintain a stable working environment and promote deeper discussions. The aim was to identify enabling factors for the successful integration of mindfulness practices into the rhythm and routines of Scrum to foster overall agility. At the end of the data collection event, a final plenary, also referred to as 'outro', was done to review and summarise the insights gained during the three sessions. All participants were gathered together. This 'outro' was not structured as a formal Scrum retrospective but served as an exploratory, hybrid format to consolidate learning outcomes and collect spontaneous, retrospective contributions from participants.

The digital video conferencing system Zoom (Zoom.us, 2021) was used to collect data. Parallel sessions were managed using Zoom's breakout room feature, which allowed us to record multiple focus groups simultaneously. From a technical perspective, we used additional Zoom accounts for each breakout room to ensure recording. This was done by sending different avatars (Zoom accounts) into every focus group, allowing us to efficiently produce more high-quality recording material in a fraction of the usual time. To enrich the data collection

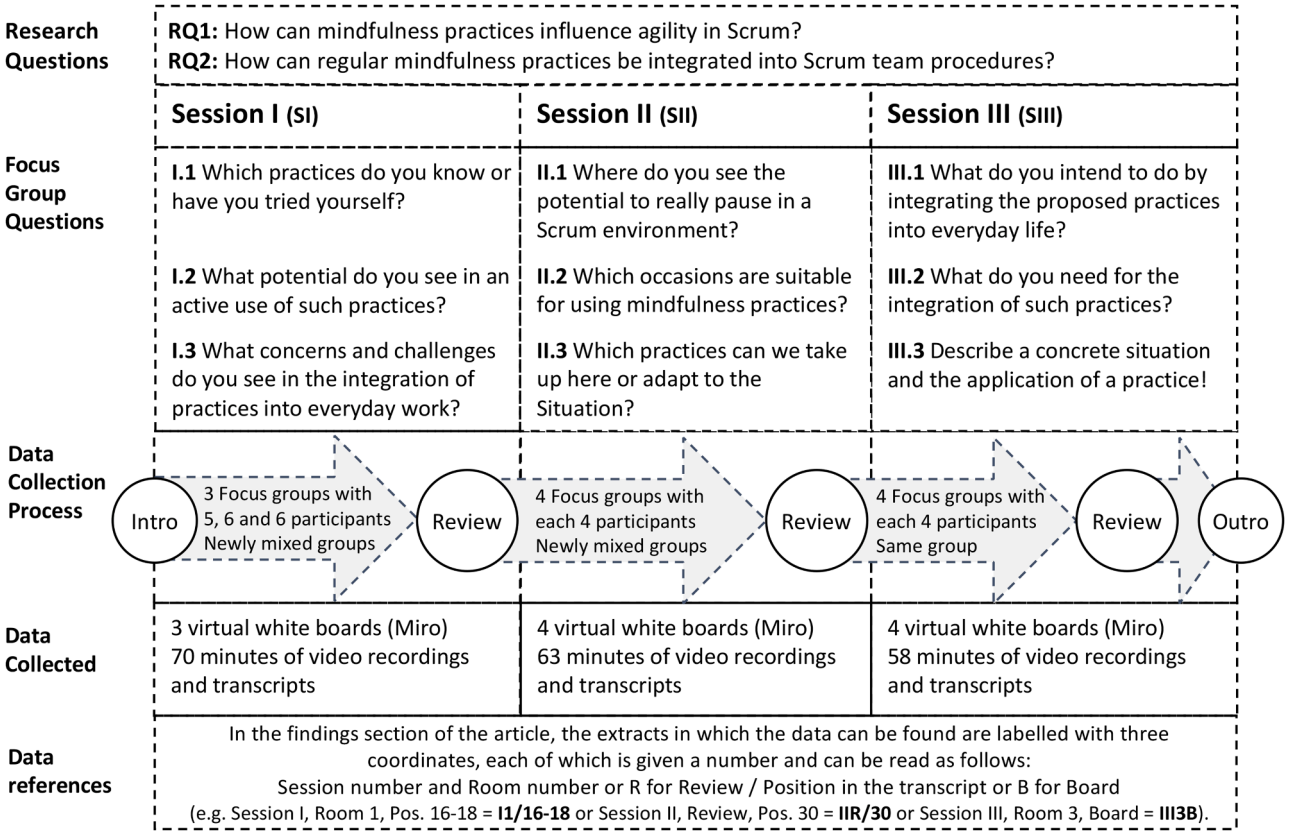

Fig. 1. Methodological design - modelled on the Scrum process.

Table 1
Overview of participants' characteristics (* participant only attended the first session).

#	Age	Job Role / Position	Agile / Scrum Experience (Years)	Mindfulness Personal Practice (Years)	Mindfulness Professional Experience (Years)
1	40	Agile Coach & Mindfulness Trainer	10	24	11
2	53	Agile Coach	14	4	4
3	35	Consultant	8	0	0
4	41	Scrum Master & Mediator	6	4	4
5	56	Project Manager & Scrum Master	12	5	2
6	35	Scrum Master & Agile Coach	6	12	5
7	51	Scrum Master	10	4	0
8	47	Mindfulness Trainer & Agile Coach	20	12	8
9	35	Product Manager	4	4	0
10	43	Scrum Master	14	2	0
11	46	Agile Coach, Consultant & Trainer	14	2	0
12	34	Agile Coach	14	5	4
13	43	Agile Coach*	16	2	0
14	61	Agile Teacher, Mentor & Coach	20	8	8
15	34	Consultant	12	3	0
16	50	Coach & Mindfulness Trainer	2	10	5
17	53	Coach	10	10	2

further, the research team prepared whiteboards in the online tool Miro (Miro.com, 2021), which allowed the participants to work on the questions simultaneously. This enabled visual collaboration and interactive participation in real time, which promoted collaborative group dynamics in a distributed focus group situation. Each breakout room had its own Miro board. The participants could use this board to collect ideas, summarise their answers and visualise them using virtual sticky notes or other visual functions within Miro. This also enabled efficient digital documentation of the participants' contributions, in addition to the transcripts from the recordings.

This efficient data collection method made it possible to generate more than 3 hours of video recordings and 11 Miro Boards for further analysis. The parallel focus groups, the iterative process, and agile facilitation proved to be timesaving, and the inclusion of brief mindfulness exercises before each session served as retrieval aids designed to highlight contextual experiences of mindfulness in Scrum, in line with state-dependent memory effects (Smith & Vela, 2001). The same process done in person would have taken significantly more time for all involved and may not have harvested as much usable content. This rather novel approach does not appear commonly used in articles of reference.

4.3. Sample and participant characteristics

The participants were recruited and selected purposefully via the online networking platforms LinkedIn and Xing based on specific criteria relevant to the research questions (Bell & Bryman, 2007). Core criteria were experience with Scrum and agile working and mindfulness experience in personal and work settings. To identify suitable participants, we searched profiles mentioning professional roles and certificates such as Scrum Master, Agile Coach, Mindfulness Trainer, and their combinations. During the selection process, the participants were asked directly how many years of experience they had in agile methods and Scrum, how many years they had been practising mindfulness exercises, and how many years of experience they had in applying mindfulness practices in a work-related context. Only those participants with several years of professional experience in Scrum and/or mindfulness practice were included in the sample. Table 1 provides a structured summary of participant characteristics.

The participants were 17 experts (10 women, 7 men) aged between 34 and 61 years (average 45 years) with different professional backgrounds, reflecting a cross-section of industries relevant to agile and Scrum practices. The participants represented a wide range of industries, including IT, automotive, public sector, enterprise software, as well as coaching and consulting. All participants gave their consent, were voluntary and not remunerated.

4.4. Data analysis

To analyse the qualitative data and answer the research questions, we have used the iterative approach of the Gioia et al. (2013) methodology, which provides a rigorous framework for inductive concept development. This approach allowed to generate new knowledge from qualitative data in an open but also systematic way (Gioia, 2021).

The level of analysis are the 'mindfulness practices' discussed by the participants and their embedding within Scrum team routines, examining both their influence on individual capacities, such as focus, emotional regulation, and self-awareness, as well as their contribution to collective team dynamics and organisational outcomes, such as collaboration, resilience, and agility.

Practices can be seen as one starting point for social and organisational inquiry (Nicolini, 2009), as it serves as a connector between the individual and the collective levels. Visible practices allow us to investigate the influence mindfulness has on agility in Scrum and how the practices can be integrated into the Scrum process. Gioia et al.'s (2013) structure of first-order concepts, second-order themes, and aggregated dimensions was a great source of inspiration to organise the data and the practices.

The analysis process began by viewing the video recordings, analysing the transcripts created from them, and exploring the Miro board artefacts. All data sources were imported into the MAXQDA content analysis and evaluation software, which helped to structure and code the large amount of data (Loxton, 2021; MAXQDA, 2021; Rädiker & Kuckartz, 2020).

In the first step, sections of the transcripts relevant to the research questions were highlighted. This was done in an iterative and open manner known from open coding. New (sub)codes are developed based on the data (Corbin & Strauss, 2015; Glaser & Strauss, 2009).

These highlighted sections were inductively coded into first-order concepts, closely following the language used by the participants (e.g. 'Minute to Arrive; Focused Mindfulness, etc.') and afterwards further refined.

Similarities and differences between quotes were contrasted. Once the data were initially coded, we started to articulate second-order themes (e.g. 'Mindfulness Practices in Scrum Situations'), in which we aggregated and organised the first-order concepts by interpreting emerging patterns and recurring motifs in the data. If we could not find a consensus regarding which first-order concept belonged to the second-order theme, we revisited the data and the context and found an agreement.

Finally, another round of iterative consolidation led to the second-order themes into aggregated dimensions such as 'Mindfulness Practices and their influence on agility in Scrum' to capture the overarching conceptual contributions.

To ensure the quality and trustworthiness of this study, the research team triangulated the data collection methods: transcripts and discussions as documented on the digital whiteboards (Miro Boards). The transcription of such and the use of MAXQDA allowed the research team

to code collaboratively, discuss themes, and interpret the data together. The intensive exchange helped to question assumptions and generate a consensus. Transparency of the findings is ensured by allocating precise references to the data used (e.g. Session I, Room 1, Pos. 16–18 = I1/16–18) and is made visible in Fig. 1 above under Section 4.2.

The resulting data structure, shown in Fig. 2 in the following findings section, visualises the analytical path from the raw qualitative data to the aggregated theoretical results and supports the transparency and rigour of our analysis. This allowed us to identify connections between mindfulness and agility, laying the foundation for the presentation of the findings and their discussion in the following sections.

5. Findings

The findings of the data analysis are presented in Fig. 2 and visualise the structured dimensions between mindfulness practices and agility, the results of which are presented below.

5.1. Understanding how mindfulness practices fit specific Scrum situations

In the focus group Sprints, applicable and relevant mindfulness practices were discussed. The value of mental training practices or various forms of meditation was underlined (II1/70;I1/75). The participants said that any meeting or event was suitable (IR/31), especially the first meeting of the day, as preparation for a difficult meeting or at the beginning of a more extended meeting (II1B). The participants agree that mindfulness practices are suitable in virtual meetings in the home office (II4B), training courses (I3/30), 'Sprint Planning' (II3/63), which are meetings to agree on tasks for the next weeks, 'Daily Scrum' (II2/49) that are short morning meetings to update every team member, and 'Sprint Retrospective' (II1/31), which is a get together of all team members to reflect on collaboration. The focus group participants also saw the 'Sprint Reviews' (II3/63;II4/69) in which achievements and failures of the Sprint tasks were reviewed, and transitions between Sprints (II1/87) and 'Backlog Refinements' between stories (II1/29)

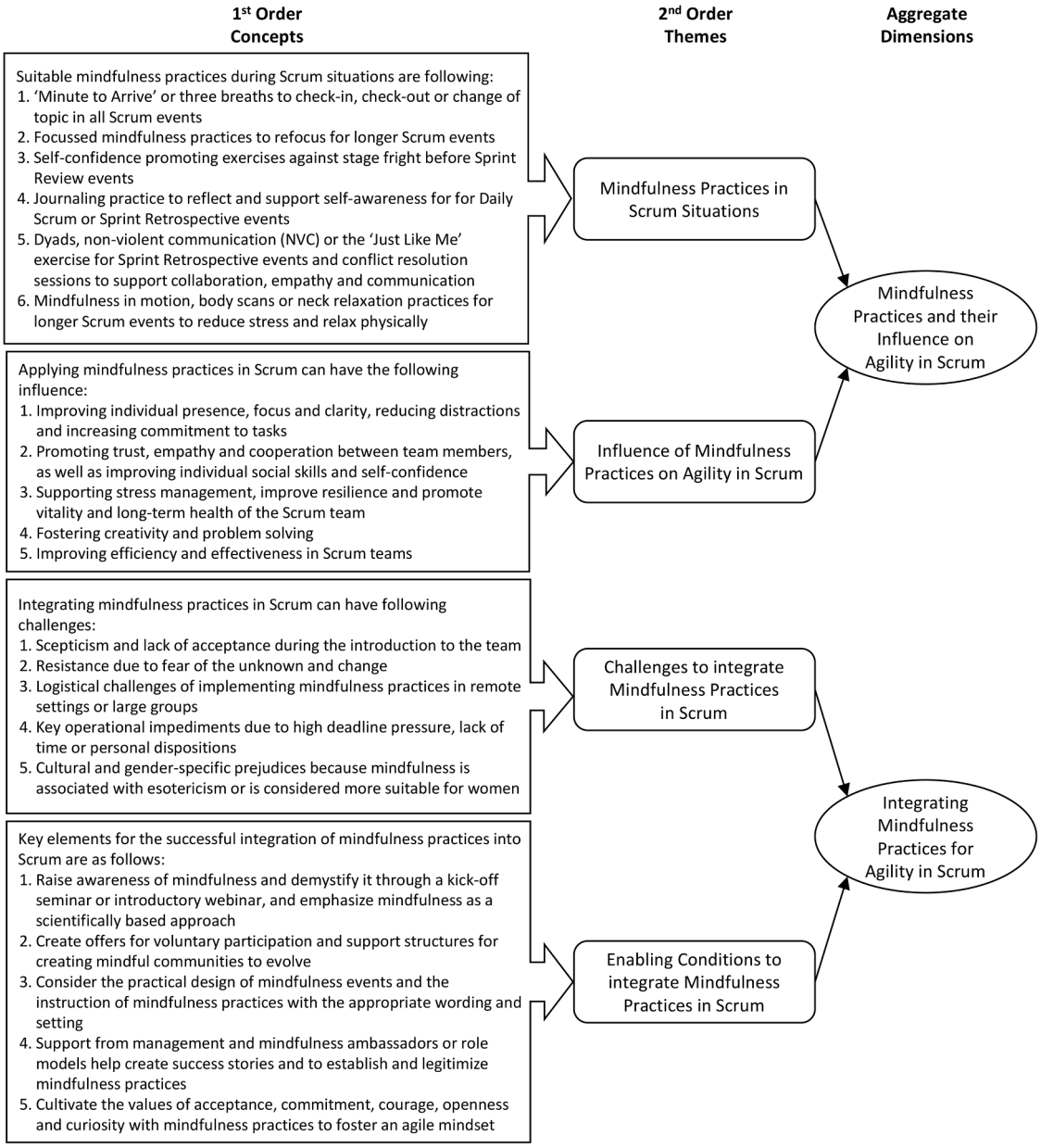

Fig. 2. Findings - illustration inspired by Gioia methodology (Gioia et al., 2013).

were useful opportunities for mindfulness practices. Mindfulness practices are helpful in meetings when topics change or new topics are initiated (IIR/8-10), or between meetings (IIR/10), or when there is still some time leftover or during the lunch break (I3/44).

The participants insisted on the 'Minute to Arrive' exercise (II3/63), in which, before the meeting began, they shared a minute of quiet time together to increase focus for the duration of the meeting (II4/33). This was also called 'Check-In' by some participants. 'Check-In' or 'Check-Out' was also mentioned as a situation and as a practice (III2/69;I3/52). For 'Check-Out' at the end of meetings, it was also raised to use 'Reflection Questions' or to tell a 'Story' (I3/52–53;III4/41).

According to the participants, before or after heated meetings, one should use a 'Minute to Arrive' with breathing practices and closing eyes to ground everyone (III1/121) or do a short pause and a breathing exercise when topics change in a meeting (III2/70).

The simple act of stillness, whether with eyes closed or opened, was emphasised as a mindfulness practice (II3/92). In general, breathing exercises, closing eyes, asking reflecting questions, listening to music, or telling mindfulness stories were mentioned as suitable practices (II1/31).

Mindfulness practices such as journaling, where employees write freely and reflect on experiences, thoughts, and feelings as well as affirmations, and activities aimed at recognising and managing one's emotional states, were noted as powerful tools (I1/38;I3/34). Mindful communication practices, usually in dyads, such as nonviolent communications, mindful conversations with reflective feedback, and exercises to improve self-awareness and self-reflection were identified (I1/20;II4/54), especially exercises such as 'Just like me' (I3/19;I1/64–72). In the 'Just like me' practice, the participants recognise strengths and weaknesses of humans around them. The intention is to connect with each other.

For the 'Sprint Review', the participants suggested using affirmations, in which a positive self-talk or breathing practices were conducted before presenting results in the Sprint Review for more self-confidence and against stage fright (II1/70–86). The participants also talked about giving 'good' feedback to improve its quality for the Reviews (IIR/18) and using nonviolent communication, a communication concept by Marshal Rosenberg (Rosenberg & Chopra, 2015), in Reviews (III4B). They also said that it made sense to use nonviolent communication in every meeting with regular training (III3/119).

For the 'Sprint Retrospective' (short: 'Retro'), the participants brought up using dyads with Mindful Listening or in a two-way conversation, or Mindful Listening itself (II4/51–53). Dyads are usually 10 to 30 minutes long, in which at least 2 people listen attentively, kind and non-judgemental to what is being said. In addition, it was said that journaling could be useful to reflect on what happened in the last days and for using it in the Retro (II4/35-40). Alternatively, to start the Retro with a breathing exercise (I1/58), especially in the Retro phase, one should 'set the stage' to use breathing exercises with music (III3/100).

A variety of physical relaxation practices, including autogenic training, where purposeful muscles are contracted and relaxed, as well as different eye and neck muscle relaxation techniques, and body scans were discussed (I1/36,64,76;I3/34,37). During a body scan, attention wanders from one body part to the other by noticing everything as it is in a non-judgemental manner. Mindfulness in motion, yoga, or mindful execution of everyday actions, such as sitting correctly or mindful eating, were discussed as critical for integrating mindfulness into daily life (I1/16;II4/41).

The participants also talked about integrating practices into the lunch break, such as walking or offering guided mindfulness exercises across all teams (I3/44). A wish to have a toolbox with identified practices was expressed, similar to a hero's pose, breathing, and body postures for concentration, as well as shoulder or neck relaxation, or affirmations for these situations (III1B).

5.2. Exploring the influence of mindfulness practices on Scrum teams

In the focus group Sprints, the participants not only discussed the practical application of mindfulness practices in Scrum situations but also addressed the influence of regular mindfulness practice in Scrum teams. They agreed on the positive influence of regular mindfulness practice on individual presence as well as on the focus and clarity of Scrum team members.

Mindfulness was advocated as a valuable tool for managing conflict (I1/70), avoiding escalation (II2/21) and maintaining fairness (II2B), for example, when a situation of upset arose (II3/86). It was also said that it could be used for setbacks (II2/65) and for dealing with disappointments (III1/128) and also for dealing with anger and rage (I3/19), especially if there were emotional topics (II2/49) or stressful situations (I3/10). Additionally, it is also helpful when things get very turbulent in meetings (II1B).

The participants confirm that mindfulness strengthens concentration (III1/44) and allows an improved awareness of situations (IIR/8). One interviewee emphasises that a moment of pause promotes focus and clarity, allowing individuals to redirect their thoughts and intentions and 'teach your brain […] to focus' effectively (IR/9). The focus and clarity gained help distance oneself from the distractions of the environment (IIR/4). Notably, mindfulness promotes better self-reflection, which can be achieved by taking more time to think deeply and consider things more thoroughly (III4/8).

One participant underlines that mindfulness practices increase self-confidence (II1/70) and improve the ability to perceive one's own needs (III4/11). This increased self-awareness promotes self-compassion and enables individuals to take pride in their daily work outcomes (IIR/4) and remain resilient when results do not meet expectations (IIR/18). It was also noted that mindfulness practices could support self-compassion by encouraging individuals to connect with their 'inner child', fostering a deeper sense of understanding and care for oneself (IR/19).

The participants were convinced that regular mindfulness practices have a positive influence on empathy and social skills in Scrum teams and promote greater collaboration and long-term efficiency. Mindfulness improves the ability of team members to perceive and understand each other not only as colleagues but also as individuals, which promotes collaboration over competition (III4/5). This argument is supported by other attendees, who believe that mindfulness could support cooperation, exchange, and learning (II2/78;I3B).

Practising mindfulness allows higher awareness of a team's talents (III2/26) and improves team loyalty (III4/7) and team spirit (III2/12). Furthermore, mindfulness can also break down barriers (II2/80) and build bridges between people (III2/27c32), by letting people grow and stick together (III2/15), especially for commitment to goals (III2/26) and for working together (III1/35). It was discussed that this also served as a common communication basis for developing transparency (II2/80) and a better feedback culture (III4/9–10). Finally, it was said, 'this creates a more honest way of dealing with each other, that everyone perhaps also reveals a part of themselves, how they feel at the moment. Perhaps a different kind of error culture will emerge' (III4/6).

The resilience and vitality of Scrum teams was another aspect of the positive influence of regular mindfulness practice that the participants discussed. It was argued that mindfulness could help with stress management and stress regulation (III3/42), to relieve or better deal with pressure (I3/10), and to reduce stage fright, especially before presentations (II1/81). One participant emphasised that the fast-paced nature of Scrum could lead to burnout, but the inclusion of mindfulness exercises could mitigate this risk by 'maintaining long-term employee health and satisfaction' (I1/80). The participants also said that mindfulness practices help relax and recover (II1/39,43) and to relieve pressure in their daily work routine (III4/17). Notably, mindfulness improves the ability to deal with pressure and simultaneously promotes empathy and objectivity, which has a positive effect on team

and group dynamics (I3/10). It was emphasised that mindfulness helped to stay present and centred, especially in stressful situations (I3/10), which could be facilitated by a non-judgemental attitude and 'letting go of things that burden you' (II4/27).

The participants state that mindfulness promotes tranquillity and enables the individual to face various stressful situations with more calm and composure (I1/83; I3/10). References were also made to the potential benefits of mindfulness, such as promoting a positive mood and contributing to the mental health and overall happiness of employees when such practices are made accessible (IR/9). Notably, a key result of mindfulness is an increased sense of satisfaction with oneself and one's environment (IR/19). It was emphasised that mindfulness could bring variety to the monotonous routines often occurring when working alone in the home office (I1/74).

The focus group participants also highlighted the beneficial aspects of creativity in finding solutions for Scrum teams when doing mindfulness practices. In their conversations, one participant described a situation in which they were able to find solutions to the problems they were facing in moments of distance and silence (IR/19;III3/29).

The focus groups also discussed the beneficial contribution of regular mindfulness practice to the efficiency and effectiveness of Scrum teams. The participants agreed that mindfulness could help increase performance and outcome (III1/45–52) and optimise the process (III4/13–16). For example, one interviewee notes that a more relaxed and reflective team tends to make fewer mistakes (III4/17). Another participant emphasises that mindfulness increases effectiveness and notes that its impact is particularly evident during the Sprint Review when the results are presented to stakeholders (III3/57).

5.3. Acknowledging the efforts needed to integrate mindfulness in Scrum

Mobilising mindfulness practices to support agility in Scrum does not come without effort to integrate the practices and also alleviate barriers or resistance.

The participants reported concerns about adopting mindfulness, expressing scepticism (II1/53,55) and a lack of acceptance (IR/23) or commitment (I3/35). Mindfulness practices might overwhelm employees, with specific reference to the alienation that some team members may feel towards 'meditation' at work (I3/37).

The participants noted resistance when introducing mindfulness practices (II4/48,61) and explained it by the fear of the unknown and of change (I1/109–111;III4/39). One participant even referred to this as 'encroaching' (I1/61). Whereupon the participants discussed that it could be intrusive (II3/57) and could lead to a split in the team if one was obliged to practise (IR/23). Another interviewee argues that some people are reticent to open up to others (I3/21).

The logistical challenges in remote settings or large groups were mentioned (II3/64;I3/35). Not every team member could be willing to join a mindfulness practice. The physical separation associated with remote work and the dynamics of large teams were argued to be challenges for joint mindfulness activities, potentially leading to difficulties in promoting openness among team members (I3/21).

The participants also talked about main operational obstacles to practising mindfulness in Scrum teams. They emphasise that high deadline pressure, a lack of time, and personal dispositions often lead to neglecting mindfulness practices. Many felt overwhelmed by their workload and had 'no time' for such activities (I1B; I2/46; II1/85). Mindfulness practices were sometimes seen as no longer necessary or forgotten when projects were running smoothly (I1/40,114).

The discussions show that some cultural and biassed perceptions can hinder the adoption of mindfulness practices. Some participants have hinted that mindfulness may be associated with esotericism (I1/61–62) or perceived as being more suitable for women (IR/19,23), leading to additional hesitation among male team members.

The conditions for integrating mindfulness practices in Scrum teams build on the challenges described above. The participants emphasised the importance of initiating mindfulness integration with a kick-off seminar or introductory webinar on mindfulness (I3/42,44) to raise awareness and demystify mindfulness (IR/23) as well as explain its purpose and benefits (III3/110;III2/51). Explaining the science-based dimension of mindfulness helps shift the perception from esoteric to essential (III4/29–33).

The participants agree that volunteering should be encouraged to respect individual preferences and promote a non-coercive environment in which everyone can participate out of genuine interest. Mindfulness exercises should be understood as invitations so that no one feels obliged to participate (II3/57;III4/29–49). Training, information sessions, and other activities should remain optional (III1/66). It was also emphasised that dedicated time and free space were necessary so that participants could engage without being rushed or constrained (III2/50).

One focus group participant mentioned setting dates, offering mindfulness practices (IR/19), or even creating mindfulness groups with meetings for everyone in the organisation to join, exchange experiences, and practice mindfulness together (I3/19;II3/57). Some participants support creating mindfulness groups or an 'Agile Mindfulness Community' within the organisation that facilitates regular practice, experience exchange, and support networks (III4/38–39;IIIR/22). From experience, it is argued that sometimes using mindfulness practices is more appropriate for calming down rather than activation exercises in teams, depending on the situation (I3B). One participant argues that in the beginning, there is no need to adapt or extend the usual Scrum events, processes, and roles but that it could be useful later when scaling mindfulness in the team or beyond (III2/50).

For the practical design of mindfulness events and the instruction of mindfulness practices, the participants indicate that choosing the right words and signs to introduce and teach mindfulness is crucial (III4B;I3/39). Terms such as meditation should be used carefully, as many still associate a negative connotation with it. Blended learning platforms, instructions, and media (videos and audios) can be helpful for self-learning and deepening knowledge on mindfulness and Scrum (III1B). When designing mindfulness sessions, it is beneficial to timebox sessions by limiting them to 25 or 50 minutes (I3/53) and to begin with shorter sessions (I3/37). These shorter sessions can be just 10 or 15 minutes long. It was stated to keep it simple and just start practising (III2/52; III4/25).

Management support and the presence of mindfulness ambassadors or role models within the organisation were mentioned as crucial for gaining traction and legitimising mindfulness practices (III1/87;III2/50). Having management support (III1/87) and regular offers to practise mindfulness can convince interested employees (I1/63;III1/95) and simplify the rollout of mindfulness significantly. Further, ambassadors who spread word, organise events, and are respected are helpful (III1/95). Alternatively, positive role models can help to ignite the spark (III2/50). Finally, creating enthusiasm from the bottom up to convince others can be useful (III1/99).

The participants underline that acceptance, commitment, courage, openness, and curiosity are essential for successfully applying and integrating mindfulness practices in a Scrum environment, aligning closely with the principles of the 'agile mindset' and the values outlined in the Scrum Guide (I3/37;III3/93;III1/77;III3/73;III2/50;II1/56). In this regard, one participant argues that mindfulness serves as a 'bridge between "doing agile" and "being agile"' and that agility has 'to do with the [appropriate] mindset' (III2/27–32). To show a relation and connection between Scrum, mindfulness, and agility, we have created the 'Mindful Scrum' framework that will be presented next.

6. Mindful Scrum: a conceptual framework

The positive effects of mindfulness on agility and teamwork in Scrum appear to require regular practice. This seems to be a significant challenge to overcome. It may raise controversies among the different communities of practice on both sides of the fence, Scrum and

mindfulness experts, until they possibly become familiar with both Scrum and mindfulness, respectively.

To bring mindfulness and agility closer together, nine mindfulness practices were, therefore, identified that were mentioned repeatedly by several participants and could be mobilised across the Scrum cycles. They encompass metacognitive practices such as focused meditations, mindfulness in motion, or communication practices in pairs (dyads). Table 2 proposes suitable (1) practices and (2) how these are defined by the participants, and in the literature, (3) the suggested influence on agility that the participants have pointed out, as well as (4) how they have mobilised the Mindful Moments (hereafter 'MiMo') when unfolding a Scrum process. These practices are all known and described in more detail in the 'Mindfulness-Based Stress Reduction' curriculum (Kabat-Zinn, 2013) or the 'Search Inside Yourself' programme (Tan, 2012), as well as in the research by Matko and Sedlmeier (2019). Both the data collected and the literature concur on their relevance in the Scrum cycle.

To further mitigate potential controversies and resistance, this article proposes to evolve the Scrum framework and display how mindfulness can be of direct relevance, leading to acknowledge that, in contrast, Scrum can serve as a container for mindfulness practices. Fig. 3 provides a visual overview of how the mindfulness practices presented in Table 2 can be mobilised during Scrum and proposes an evolved Scrum framework entitled 'Mindful Scrum', which is explained further below.

The Mindful Scrum Framework builds on the principles described in the Scrum Guide (Schwaber & Sutherland, 2020) and adds elements to complete the framework.

First, Fig. 3 displays the Scrum process and points to the formal mindfulness practices reported by the participants in this study, which are referred to as MiMo from Table 2, such as #1 Minute to Arrive, #6 Journaling, or #8 Mindfulness in Motion. MiMo are added according to the Scrum events shown, such as Sprint Planning (MiMo A), Daily Scrum (MiMo B), Sprint Review (MiMo C), or Sprint Retrospective (MiMo D), as well as between Scrum events (MiMo E). In addition to these formal mindfulness practices, the participants also mentioned other informal mindfulness practices, such as mindfully performing everyday activities or mindful eating, which can be easily integrated into daily work routines. Furthermore, techniques that are not directly related to mindfulness are also mentioned, such as nonviolent communication (Rosenberg, 2002), which seem also to have a positive influence on team dynamics and appear useful for further investigation in the agility context.

Second, the Scrum team should propose its 'Definition of Mindfulness' in order to establish a common understanding of what mindfulness means to them and how they would like to be more mindful. This could be done in the Sprint Retrospective or in workshops that are repeated over time.

Third, during the Sprint Retrospective, the Scrum team agrees on their 'Mindful Intention' for the next Sprint. These are mindfulness practices that they agree upon and that they would like to repeat during the Sprint. Repetition allows to develop routines, and by regularly changing these routines, flexibility is trained.

The final element is the integration of a new role, the 'Mindful Mentor'. This person is responsible for inviting the Scrum team to engage and participate in the MiMo. The Mindful Mentor also helps to overcome the above challenges described when integrating mindfulness in the organisation. According to Weick and Sutcliffe (2015), such a new role would be a structural adjustment to achieving a more mindful team that promotes collective mindfulness. An open question for future research is whether the Mindful Mentor should be a Scrum team member, a role in itself (similar to the Scrum Master) or an external expert who is maybe guiding various Mindful Scrum teams as a Mindful Mentor.

With the introduction of these four structural elements into Scrum and taking into account the above findings, integration can begin. Teams should be approached individually and start with simple, step-by-step mindfulness practices to facilitate adoption and build momentum and

Table 2
Mindfulness Practices and their influence on Agility and use in Scrum.

Mindfulness Practices	Mindful Moments (MiMo) Cited by Participants and as defined in the Literature	Influence on Agility Cited by Participants	Suggestions From Participants to Use MiMo in Scrum
#1 Minute to Arrive	Short pause at the beginning of events, 1–3 minutes of silence, breathing, self-reflection, to re-centre oneself, develop presence (Tan, 2012; Saintot & Lehtonen, 2023).	Focus; distance; clarity; concentration; presence; and collaboration.	Sprint Planning; Daily Scrum; Sprint Retrospective.
#2 Focused Mindfulness	10–20 minutes of focusing, non-judgementally, in a kind manner on a specific object, the breath or bodily sensations. Refocus when distracted (Kabat-Zinn, 2013; Tan, 2012).	Concentration; present moment; mental distractions; stress management individually and collectively.	Daily Scrum; before or during longer events, e.g., in Sprint Planning events; mindful weekly time out for the team.
#3 Open Monitoring Mindfulness	For 10–20 minutes: observation of thoughts, feelings, sensations. In a non-judgemental way, without focusing on a single object or attachment. Be curious, cultivate a beginner's mind (Lutz et al., 2008).	Awareness; flexibility; adaptability; openness to new ideas; creativity. Relevant in ideation and problem-solving.	Sprint Retrospectives; raise awareness of areas for improvement; use regularly.
#4 Self-Confidence Exercises	Self-confidence exercises: affirmations work, 5–10 minutes of embodiment, dignified posture, visualisations, self-affirming and compassionate sentences, e.g. "May I be well" (Carney et al., 2010; Neff, 2023).	Kindness; self-confidence; team resilience.	Before presentations or events; Sprint Reviews; ahead of challenging tasks.
#5 Dyads	10–30 minutes in duo, attentive listening, a kind and non-judgemental mindset, including debriefing (Kabat-Zinn, 2013; Tan, 2012).	Listening; nonviolent communication; empathy; trust; mutual understanding.	Improvement sessions; Sprint Retrospectives; conflict resolution; ideation.
#6 Journaling	Free writing, reflections on experiences, thoughts and feelings. Writing down reactions, tasks, questions, or problems to explore the mind (Pennebaker & Seagal, 1999; Tan, 2012).	Self-reflection; unconscious beliefs; thought patterns; continuous improvement; adaptability.	Start and end of day; before or during the Sprint Retrospective.

(*continued on next page*)

Table 2 (*continued*)

Mindfulness Practices	Mindful Moments (MiMo) Cited by Participants and as defined in the Literature	Influence on Agility Cited by Participants	Suggestions From Participants to Use MiMo in Scrum
#7 Breathing Exercises	1–10 minutes of conscious breathing, e.g., long exhalations or counting breaths (Grossman et al., 2004).	Calmness; refocus; stress; increased concentration; cognitive flexibility; emotional regulation.	Before meeting; new tasks; between events; when there is high tension or heated debate in the team.
#8 Mindfulness in Motion	3–20 minutes of mindful and intentional movement: walking, yoga, stretching (Kabat-Zinn, 2013; Teasdale et al., 1995).	Shift attention from mind to body; mindful awareness; just distance; body wisdom; attention and adaptability.	Before or during long meetings, e.g. Sprint Planning; during breaks or between Scrum activities.
#9 Reflective Inquiry	Inquiring with oneself or others (e.g., what did I/we learn today?); noticing the answers arising and how they came (Matko & Sedlmeier, 2019).	Evaluation of own thinking process; blind spots and judgements; open-mindedness; adaptability.	Before or during Sprint Planning or Retrospective; appreciate outcomes and plan improvements.

create routines (Kudesia & Lang, 2021; Reina et al., 2023). For example, as discussed by the participants, this could be achieved by holding scientifically based introductory workshops, creating voluntary practice opportunities and practice groups, designing appropriate interventions for the practices, and providing support from management as well as role models. All of this is encompassed and facilitated by the proposed 'Mindful Scrum' framework. The following section discusses and examines in more detail how mindfulness influences agility in Scrum and how Scrum influences mindfulness to underpin the proposed 'Mindful Scrum' framework.

7. Discussion

7.1. Mindfulness positively influences agility in Scrum

In the focus groups, the participants discussed how mindfulness improves the perception of team members as individuals and promotes exchange, learning, and collaboration over competition. The participants also emphasise that acceptance, commitment, courage, openness, and curiosity are essential for the successful adoption and integration of mindfulness practices in a Scrum environment. This is closely aligned with the principles of the 'agile mindset' and the Scrum values, showing that regular mindfulness practices can help team members in their journey of transitioning from 'doing agile' to truly 'being agile'. 'Being agile' refers to the inner processes of individuals such as their perception, sensemaking, and interpretation (Eilers et al., 2020). In specific mindfulness practices, that were also mentioned during the focus groups (e.g. #3 Open Monitoring, #9 Reflective Inquiry), the process of sensemaking (Weick, 1995) by observing the mind metacognitively is possible (Kudesia, 2019) and corresponds to a skill necessary for an 'agile mindset' to be cultivated and developed. This appears to imply that for the development of an agile mindset, the practice of mindfulness as metacognitive practice with the modes of mindful conceptualisation from a Western perspective and mindful attention from an Eastern perspective are a practical 'how to' become agile. In the context of agile project work, these two modes appear to fulfil different functions for Scrum teams, which can provide support in various situations and challenges. Mindfulness practices more related to mindful conceptualisation (Western perspective) such as #6 Journaling and #9 Reflective Inquiry promote cognitive flexibility (agile mindset) and new insights that are key competencies in retrospectives and planning when teams need to inspect their progress and adapt their approach. However, mindfulness practices more related to mindful attention (Eastern perspective), such as #1 Minute to Arrive, #2 Focused Mindfulness, and #7 Breathing Exercises, promote awareness of the present moment, regulation of attention, and basic attitudes such as patience, kindness, and openness. These qualities seem particularly beneficial for strengthening Scrum values and promoting an agile mindset, especially in fast-paced environments such as dailies or reviews, where presence and clarity are of utmost importance. In addition, structured dialogues (#5 Dyads) appear to combine both modes, combining deep listening (attention) with reflective articulation (conceptualisation). This dual-modal perspective enables a more tailored design of mindful

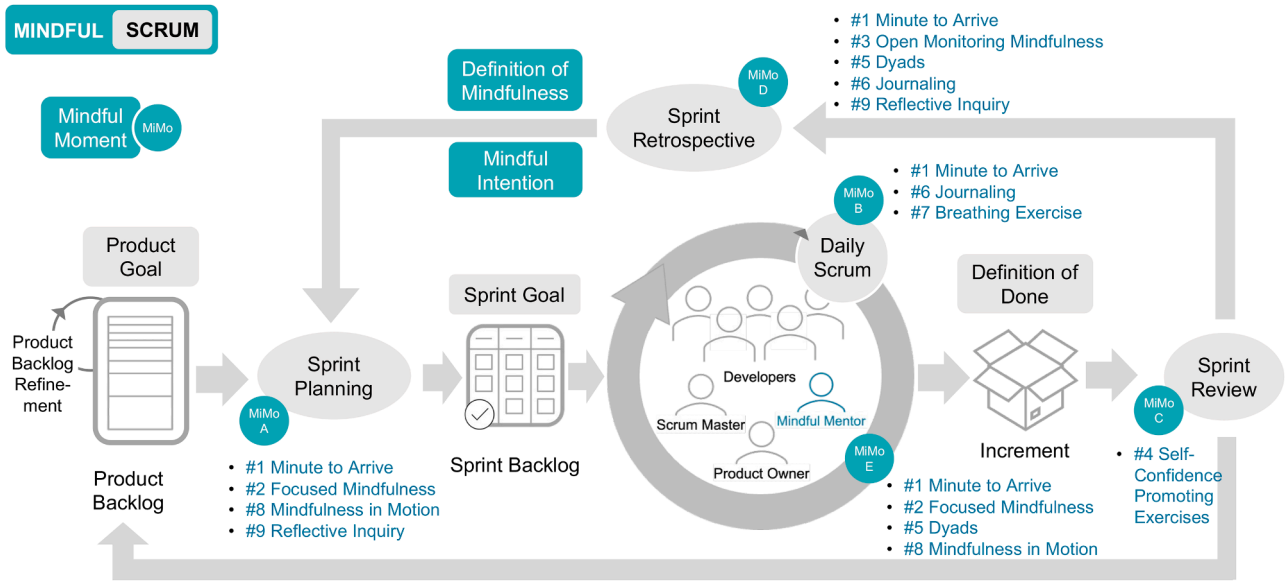

Fig. 3. Proposed evolution of the existing Scrum framework: Mindful Scrum.

interventions for Scrum teams and their 'Mindful Intention'. However, the line between attention and conceptualisation is often blurred in practice and should be explored further in the future, particularly which mindfulness modes are most effective for which Scrum events and under what conditions.

The belief that mindfulness practices positively influence agility in Scrum, were repeated several times within the focus groups. The study participants state that employees who learn mindfulness practices can emotionally and cognitively distance themselves more easily from problems and challenges (Good et al., 2016; Kabat-Zinn, 2013). Stress reduction and resilience are fundamental skills in an agile environment, where adapting to quick changes and reacting to stressors adequately is key for agility to be successful. This also seems to contribute to sustainable and longevity-oriented working, where employees do not get overworked and burnout. The Scrum Guide as well as the Agile Manifesto promote a sustainable pace in Sprints, where the long-term productivity of Scrum team members shall be ensured (Beck et al., 2001; Laanti, 2013; Schwaber & Sutherland, 2020). Somehow, the term 'Sprint' in itself is semantically misleading. Many associate sprinting with running full speed in the track and field sport. By promoting mindfulness in agile teams, a more resilient, long-term, and sustainable way of working could be fostered, as the participants also emphasise that mindfulness helps to deal with performance pressure, stage fright, and stress, thereby preventing burnout.

Another aspect focus group participants have discussed is that Scrum team members who learn mindfulness practices are more at ease to suspend their tendency to judge quickly and are more open to creating space for curiosity. When learning mindfulness practices, the notion of non-judging is part of (many) instructions that mindfulness facilitators keep reminding. It is challenging not to judge; however, being aware of one's own judgement allows one to adopt a more neutral and open perception (Kabat-Zinn, 2013). Being 'open' is one of the five Scrum values (Schwaber & Sutherland, 2020), and having a 'learning spirit' is one of four characteristics of the 'agile mindset' (Eilers et al., 2022). It can, therefore, be said that mindfulness appears to support agility in Scrum, with the participants also discussing the positive contribution of regular mindfulness practices to the efficiency and effectiveness of Scrum teams. For example, one focus group attendee mentioned the practice of taking the time to arrive into the group, called 'Minute to Arrive', helps to slow down, be aware of one's own judgement, and not jump to conclusions too quickly. Some studies agree that an 'agile mindset' can be trained, and mindfulness could be an approach here (Klünder et al., 2022; Lee, 2021; Ozkan et al., 2023; Reitz et al., 2020). We argue that mindfulness as a metacognitive practice allows employees to develop an agile mindset (being agile). Scrum offers a structured process, while mindfulness stimulates self-awareness and supports training an 'agile mindset'. The 'Mindful Scrum' framework is a guideline on how teams can integrate both: 'doing' and 'being' agile. In this way, our study empirically strengthens Kudesia's (2019) metacognitive practice theory, in which mindfulness becomes a valuable and stable part of organisations when it is intertwined with existing organisational practices (Kudesia & Lang, 2021). Our findings operationalise this theory by showing how mindfulness as a metacognitive practice can be successfully integrated with Scrum's structured framework.

Practising mindfulness promotes mutual understanding, empathy, cooperation, strengthens communication, trust, loyalty and team spirit, which is agreed upon by the focus group participants and also described in the literature, leading to improved quality of interpersonal relationships (Good et al., 2016; Mellor et al., 2016; Reina et al., 2023). Those traits are key for agility in Scrum and can be summarised as corresponding to respect. 'Respect' is another Scrum value (Schwaber & Sutherland, 2020) and a second characteristic of an 'agile mindset' referring to 'collaborative exchange' (Eilers et al., 2022). Mutual respect, knowledge sharing, and co-creating are vital for the success of agile processes and for delivering high-quality outputs, as the focus groups have also argued that this improves performance and outcomes. Taking the perspectives of others fosters understanding and openness. Combining this with a mindful, non-judgemental, open and kind attitude can support a core principle of psychological safety that people feel accepted for who they are (Edmondson, 1999; Leroy et al., 2013; Malik et al., 2021).

The world and its challenges have become too complex to be solved alone. Mindfulness practices such as Mindful Listening in dyads (#5) or mindful and nonviolent communication as mentioned by the participants may help to share the burden and promote a co-creative process when facing challenges.

Another reason why mindfulness practices positively influence Scrum, as agreed upon by the focus group participants, is that practising mindfulness trains the mind to concentrate, stimulates the brain to pause, regenerate, and then refocus. This allegedly promotes not only mindful attention but also mindful conceptualisation, as it enables people to concentrate better in order to think things through more deeply and consider them more thoroughly. The improved attention, focus, and concentration by regular mindfulness practice is supported by different studies (Lutz et al., 2004). 'Focus' is also a Scrum value.

Additionally, practising mindfulness can seemingly also influence the Scrum values 'Courage' and 'Commitment'. According to the participants' discussions, regular mindfulness practices allow team members to appreciate each other's talents, which can support team loyalty and a sense of team spirit. A team that is strongly connected to each other is more likely to be committed to achieving goals and courageous to solve problems together. Mindfulness practices seem to enable the creation of a team environment characterised by mutual respect and a courage to take risks, helping to build psychological safety by promoting self-confidence and the courage to address problems.

Integrating mindfulness practices in accordance with the present findings appears beneficial for living the five Scrum values of openness, respect, focus, commitment and courage.

7.2. *Scrum helps integrate mindfulness practices at work*

The Scrum framework provides guidelines on useful attitudes and containers that are particularly relevant to mindfulness. Several events (e.g. Sprint Planning, Daily Scrum, or Sprint Retrospective) enable a clear structure (Schwaber & Sutherland, 2020). Team members meet, exchange knowledge, and make decisions. Structures influence organisational culture and, in turn, people's behaviours. Thus, the existing Scrum framework has been extended by a new role of the 'Mindful Mentor' and new artefacts to help develop collective mindfulness. These new elements offer opportunities to experience mindfulness regularly and thus overcome the most significant challenge, which is motivation in regular practice.

Future research would be needed to be more specific on the mechanisms enabling this dynamic, in particular to explore the correspondence between the Scrum values and their actual impact on team dynamics.

Considering collective mindfulness, the structured Scrum format was perceived as impacting how employees communicate, interact, share knowledge and co-create. These elements directly shape collective mindfulness (Vogus & Sutcliffe, 2012). The Scrum framework, in combination with regular mindfulness practices, allows collective mindfulness to become a tangible experience in (project management) teams. The tangibility of collective mindfulness expresses itself in the form of a cognitive and social process that becomes obvious through the actions and interactions among individuals (Vogus & Sutcliffe, 2012). Teams are better at managing unexpected events by 'being agile' together. Several data points and elements of the present research help underpin this affirmation.

According to the concept of collective mindfulness in the work of Weick et al. (1999; 2015) and thematised in five principles, the third principle —'sensitivity to operations'—mirrors the need for proximity to the customer and/or the product. By planning Sprints and iteratively

changing needs and requirements of the operation and the customer, the Scrum team is very close to the customer's operations (Conforto et al., 2016; Schwaber & Sutherland, 2020). Scrum team members present their challenges and opportunities to build a collective understanding and an up-to-date big picture of the project. Moreover, 'customer co-creation', which is a third characteristic of an 'agile mindset', allows direct adaptations to changes (Eilers et al., 2022) and therefore the ability to manage unexpected events better.

Another important trait for 'sensitivity to operation' is to be concentrated and focused to reduce errors and mistakes (Weick et al., 1999; Weick & Sutcliffe, 2015). Mindfulness practices enhance concentration and focus. The participants discussed that a more relaxed and reflective team tended to make fewer mistakes, which supported this 'sensitivity to operations'.

Recognising the reflexivity of Scrum and mindfulness led to new insights that were not as clear prior to conducting this research and resulted in a deeper level of understanding. The proposed Mindful Scrum Framework is motivating for both academic work and practice, with multiple implications.

8. Implications and future research

Further research could help confirm and refine a number of the findings presented. The implications of this research are mainly twofold. First, the study expands the understanding of how mindfulness may influence agility in Scrum. The Mindful Scrum Framework is an overview that practitioners can apply to integrate mindfulness practices in Scrum teams to support agility. For academics, the Mindful Scrum Framework is a useful overview of points that could be investigated. Future research should explore which mindfulness practices are best suited to different contexts to ensure successful implementation, as well as which mindfulness practice is suitable for which mindful mode (attention or conceptualising). Especially considering that different practices bring different benefits (Trautwein et al., 2020). Our Mindful Scrum Framework can be a good starting point for further research. Thus far, we have used the Scrum framework as a basis for our research. It seems reasonable that mindfulness practices could also be conveniently associated with other agile methodologies such as Kanban, which should be investigated in the future.

Second, the method used—parallel online focus groups—shows that primary data can also be usefully collected remotely for complex topics with a strong sense of personal experience and intense interpersonal exchange. Modelling the collection of primary data following an agile iterative process helped both the participants and the researchers to gain useful field insights. This approach proved an efficient and advisable way to research comparable aspects in the future. By integrating mindfulness practices into Scrum, teams come across as better able to improve their performance, develop better mental well-being, and stimulate team dynamics and allow organisations to nurture a culture of openness, empathy and continuous learning, which are essential values for growing agile reflexes.

9. Limitations

The sample was recruited via social media. The participants did not know each other and did not form Scrum teams at work. Other studies could explore the possibility of having real teams used to practising either agile and/or mindfulness together to have comparable discussions, creating research protocols to further reveal the links between Scrum situations and mindfulness moments. Another dimension would also be to explore with groups physically present and not only interacting digitally. The length and the amount of the focus groups could be extended to strive for a more natural level of saturation in terms of data collected. Moreover, other data collection methods, such as observations or job shadowing, could bring additional insights to the collective level, such as changed behaviour or the use of artefacts. Finally, defining the scale to grow a more quantitative evaluation of the mutual impact of Scrum and mindfulness on one another would help clarify the synergies between the Scrum process and mindfulness practices.

10. Conclusion

This research indicates promising avenues when mindfulness and agility are brought together. It gives reasonable grounds to further pursue the exploration of the interplay at collective levels between Scrum and mindfulness. Agile projects are by design revolving around engineering collective processes and team interactions. By associating mindfulness and agile, the practice of mindfulness appears facilitated when linked to specific business process steps and situations. Consequently, there are indications that the participants become more experienced with mindfulness and may transport it beyond Scrum-based projects. Consequently, Mindful Scrum shows great potential to support project management by strengthening focus, collaboration, and resilience. This research demonstrates that mindfulness as a metacognitive practice can be successfully intertwined with organisational practices.

The synergies between Scrum and mindfulness show grounds for future research to explore in greater detail how their interplay could unlock new opportunities for growth, learning, and collective intelligence. It leads to envisioning the shift from merely 'doing agile' to truly 'being agile' and from wishing to be *mindful* at work to actually *practising mindfulness* at work.

CRediT authorship contribution statement

Alexander Ziebell: Writing – review & editing, Writing – original draft, Visualization, Validation, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Fabrice Mielke:** Writing – review & editing, Visualization, Validation, Supervision, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Valérie M. Saintot:** Writing – review & editing, Visualization, Validation, Supervision, Methodology.

Declaration of competing interest

None.

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